Ministry of Public Health
General Directorate of Preventive & Disease Control
CDC Directorate
National Tuberculosis Control Program

NATIONAL STRATEGIC PLAN FOR TUBERCULOSIS CONTROL IN AFGHANISTAN

It is Time to End TB

2021-2025

Contents

PREFACE

I am pleased to present the Afghanistan TB Control Program's National Strategic Plan (NSP) for the years 2021-2025. The plan is the result of a collaborative effort amongst National TB Control Program (NTP) team, National and international partners including WHO Afghanistan & EMRO, JICA, USAID, GFATM, UNDP, NGOs and private sector.

The NSP 2021-2025 is developed based on current situation of National TB control Program in line with MoPH NSP 2016-2020, and has addressed the key components of END TB Strategy, UNHLM 2018 declarations Afghanistan TB program review 2019. The current situation of TB control program was analyzed, various gaps are identified and strategic areas are designed accordingly. The plan identifies four pillar and eighteen strategic areas which include Improving universal access to quality TB care services, enhance TB case finding through active case findings among high risk group (IDPs, returnees, prisoners, drug addicts, HHC of confirmed TB cases, mentally ill and Diabetes patients), engage all care providers, strengthening TB laboratory network, enhance and sustain quality treatment services with high treatment success rates for drug susceptible and drug Resistant patients, patient support, pharmacovigilance, latent TB infection control, contact investigation, strengthen infection control, addressing TB/HIV, gender and human rights, enhance political commitment and build multi-sectoral approach with accountability, human recourse development , procurement and supply chain management, advocacy, communications and social mobilization (ACSM), TB surveillance, monitoring and evaluation and research and innovation for TB control.

On behalf of the MoPH, I would like to thank all those who participated in the development of this strategic plan. I would like to acknowledge Dr. Shah Wali Maroofi, CDC Director, Dr. Mohammad Khalid Seddiq NTP manager and his team (NTP National and provincial team), Dr. Isono, JICA Chief Advisor, WHO Stop TB Dr. Akhtar Muhammad for their hard work and contributions.

Best regards,

Dr. Bashir Ahmad Hamid
General Director of Preventive & Disease Control

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In developing this National Strategic Plan for the National TB Control Programme for the year 2021-2025, on behalf of the National TB control Program under leadership the Ministry of Public Health of the Islamic Republic of Afghanistan, I would like to thank and acknowledge the input and contributions of the following organisations and individuals:

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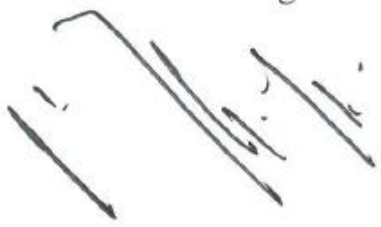
The National TB control program staff at national and provincial levels; Dr. Noor Agha Zahid, Acting National TB Coordinator, Dr. Lutfullah Manzoor, Urban DOTS Team Leader, Dr. Namatullah Ahmadzada, Head of New Initiative department, Dr. Mohammad Zaher Deldar, Head of laboratory department, Dr. Ahmad Khalid Rahin, Head of Drug management unit, Dr. Mohammad Kamin Ayoubi, Head of Training Department, and Dr. Hashimkhan Amirzada, MDR focal point.

I especially wish to thanks to Dr. Mir Habibullah Akhgar, General Head of HRD, ACSM and New Initiative departments for leading the process and translating the outcomes of the participatory work into this document.

I hope that the NSP 2021-2025 will provide guidance and direction to the NTP and stakeholders to move together in one direction.
The National TB Program is committed to working collaboratively with all partners to build a TB free country.

Best regards,

Dr. Mohammad Khalid Seddiq
National TB control Program Manager



ACRONYMS

ACSM	Advocacy, Communications and Social Mobilization
ADE	Adverse Drug Events
ADR	Adverse Drug Reaction
aDSM	active Drug Surveillance Monitoring
AHS	Afghanistan Health Survey
Am	Amikacin
AMS	Afghanistan Mortality Survey
ANPASH	Afghanistan National Program for Aids Sexual transmitted disease & Hepatitis
Bdq	Bedaquiline
BHC	Basic Health Center
BPHS	Basic Package of Health Services
CBA	Competency Based Assessment
CEO	Chief Executive Office
Cfz	Clofazamin
CHC	Comprehensive Health Centre
CHW	Community Health Worker
CNR	Case Notification Rate
COVID-19	
Cs	Cycloserin
CSO	Central Statistic Organization
CT-Scan	Computerized Tomography Scan
CXR	Chest X-Ray
DH	*District Hospital*
DIC	Drop In Center
Dlm	Delamanid
DOTS	Direct Observation Treatment Short course
DRS	Drug Resistant TB Surveillance
DR-TB	Drug Resistant Tuberculosis
DSM	Direct Sputum Microscopy
DST	Drug Susceptibility Test
DS-TB	Drug Susceptible TB
E	Ethambutol
ECG	Electronic Cardio Graph
ENRS	Electronic Register Nominal System
ENT	Ear Nose & Throat
EPHS	Essential Package of Hospital Services
EPI	Expanded Program for Immunization
EQA	External Quality Assurance
Eti	Ethoniodamid
EU	European Union
FAST	Find Actively Separate Treat
FHH	Family Health House
FLD	First Line Anti TB Drug
GD-EHIS	General Directorate of Evaluation of Health Information System

GoIRA	Government of Islamic Republic of Afghanistan
Hh	High Dose Isoniazid
HHC	House Hold Contact
HIV	Human Immune Deficiency Virus
HMIS	Health Management Information System
HRD	Human Resource Development
HRM	Human Resource Management
IDA	International Development Association
IDP	Internally Displaced People
IGRA	Interferon Gamma Release Assay
ILO	International Labor Organization
IOM	International Organization for Migration
IPEHS	Integrated Package of Essential Health Services
IPT	Isoniazid Preventive Therapy
IQA	Internal Quality Assurance
KAP	Knowledge Attitude and Practice
Lfx	Levofloxacin
Lnz	Linezolid
LPA	Line Probe Assay
LTBI	Latent TB Infection
M&E	Monitoring & Evaluation
MAF-TB	Multi-Sectoral Approach With Accountability Framework for TB
MC	Malaria Center
MCH	Mather and Child Health
MD	Medical Doctor
MDR	Multi Drug Resistant
Mfx	Moxifloxacin
MHT	Mobile Health Team
MoHE	Ministry of Higher Education
MoPH	Ministry of Public Health
MoRR	Ministry of Repatriate and Refugee
MoU	Memorandum of Understanding
MSC	Medicine Safety Committee
MTB	Mycobacterium Tuberculosis
NCD	Non Communicable Disease
NGO	Non-Government Organization
NMHRA	National Medicines & Healthcare Product Regulatory Authority
NMLCP	National Malaria and Lashmania Control Program
NRL	National Reference Laboratory
NSP	National Strategic Plan
NTP	National TB Control Program
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OPD	Out Patient Department
PHP	Private Health Provider
PLS	Provincial Laboratory Supervisor
PLWH	People Living with HIV

PMDT	Programmatic Management of Drug Resistant TB
PPHD	Provincial Public Health Directorate
PPM	Private Public Mix
PSCM	Procurement Supply Chain Management
PTC	Provincial TB Coordinator
PV	Pharmacovigilance
RMNCH	Reproductive Maternal Neonatal Child Health
RR	Rifampicin Resistant
RRL	Regional Reference Laboratory
SEHAT	System Enhancement for Health Action in Transition
SH	Special Hospital
SLD	Second Line Anti TB Drug
SM	Strengthening Mechanism
SOP	Standard Operational Procedure
sq. Km	square meter. Kelo meter
SRL	Supra Reference Laboratory
TB	Tuberculosis
TBIC	TB infection control
TBIS	Tuberculosis Information System
TGF	The Global Fund
TSR	Treatment Success Rate
TST	Tuberculin Skin Test
UN	United Nation
UNGA	United Nation General Assembly
UNHCR	United Nations High Commissioner for Refugees
UNHLM	United Nation High Level Meeting
USAID	United States Agency for International Development
VCCT	Voluntary Counselling Confidential and Testing
WB	World Bank
WHO	World Health Organization
Z	Pyrazinamide
ZN	Zeil Nelson

1: INTRODUCTION

1.1 Socioeconomic context:

Afghanistan is a land-locked country located in South Asia with harsh geography. The country was invaded by Russia in 1979 and erupted armed conflict that continued until late 2001. These turmoil and conflicts posed challenges such as extreme poverty, limited institutional capacity for development, weak leadership, weak management and governance capacity; political and economic instability. Even after these conflicts, there has been continuous political instability, which caused insecurity over the country.

The weather conditions are hard during spring and wintertime with frequent flooding in spring and summer and heavy snowfall in some parts of the country that consequently damages roads to beneficiaries to attend health facilities as well as interrupts supply, supervision and monitoring of some areas.

According to Central Statistic Organization (CSO), in 2019 it is estimated that the total population of 32.2 million is residents and 1.5 million living as nomads in a total geographical area of 647,500 sq. Km divided into 34 provinces (363 original Districts, 24 Temporary districts and 66 cities including 34 provincial center). While the WHO's Global TB Control Report 2019 uses 37 million population figure for 2018, based on the UN Population Division estimates. The average household size for Afghan family is Urban 7.2 and Rural 7.5. Approximately 76.1% of the population lives in rural areas. For age distribution, 47.7% (15.3 million) of population are under the age of 15 years while the population age 65 year and older are only 2.66%.

There has been certain exodus to urban areas during these years, including an increase in the number of internally displaced persons (IDPs) due to the security situation. The number of IDPs increased five-fold in less than 6 years, from 492,000 in 2012 to more than 1.5 million in 2016, and over 2.5 million in 2018. This affects the broader determinants of health, including living and working conditions, such as hygiene and crowding in urban areas, especially in Kabul, the capital city, resulting in an increasing risk of the spread of TB.

In recent years, Afghanistan has experienced an unprecedented return of highly vulnerable Afghans. The year 2016 marked a historical high number of Afghans returnees from neighboring countries, which was doubled compared the previous year, with over 620,000 refugee and undocumented returnees from Pakistan, and more than 440,000 undocumented returnees from Iran[1]. Thereafter, numbers of returnees have continued to increase and in 2018, Afghanistan witnessed the highest ever return on record with 773,125 undocumented Afghans returning from Iran. The extreme scale and continuous return of Afghans over the past three years alone is a primary driver of instability in Afghanistan. Given the scope of the conflict and ongoing challenges to peace and security, many returnees seek to settle in urban and pre-urban areas where service delivery is effectively overwhelmed. The rapid population growth in Afghanistan's cities has also meant that returnees, most of whom are unskilled and in many cases illiterate have very limited ability to find jobs in urban centers or are forced to work longer hours for less pay.

[1] ../../fmarroni.IOMINT/Documents/IOM Afghanistan- ARIS Phase II PRM Year 3 Oct 2019- Sep 2020 draft proposal-final- NB fm.docx - ftn1

There has been a marked increase in returnees from Iran after the COVID-19 pandemic. The sudden increase in returnees and demand for screening and care for COVID-19 patients is presenting a challenge for health services and may affect the care provided to TB patients. Safeguards should be in place to ensure continued full and uninterrupted services for presumptive and TB cases. It is critical that while COVID-19 pandemic is ongoing treatment for TB is not disrupted.

Health care facilities that diagnose and treat pulmonary diseases like TB are likely to receive many patients with COVID-19 during this pandemic. They could therefore represent a danger of transmission of both diseases. Patients being tested/treated for either condition should not be exposed unnecessarily to additional infection. Close cooperation and synergies will be required between TB, communicable disease and Emergency program dealing with COVID-19

1.2 General health context:

The overall health status of Afghanistan demonstrates slow, but steady improvement of the health care system. The key health indicators summarized in Table 1.

Table 1. Afghanistan health indicators

	Indicators	**value**	**year**	**Source**
1	Total Population (million)	32.2	2019	CSO
2	UN Population Division estimates (million)	37	2018	WHO 2019 report
3	Life Expectancy at Birth, males (year)	62-64	2010	AMS
4	Total Fertility Rate	5.1	2018	AHS
5	Infant Mortality Rate (per 1,000 live births)	50	2018	AMS
6	Under - 5 Mortality Rate (per 1,000 live births)	50	2018	AHS
7	Maternal Mortality Ratio (per 100,000 live births)	153	2018	AHS
8	Contraceptive Prevalence Rate (%)	17.4	2018	AHS
9	Skilled Antenatal Care (at least 1 visit) (%)	65.2	2018	AHS
10	Pregnant Women Receiving at least 2 Doses of Tetanus Toxoid (%)	70.8	2018	AHS
11	Skilled Birth Attendance (%)	58.8	2018	AHS
12	Exclusive Breastfeeding (%)[i]	57.5	2018	AHS
13	Third Dose of Pneta- valent Vaccine coverage (%)	60.8	2018	AHS
14	Measles Vaccination Rate (12-23 Months) (%)	64	2018	AHS
15	Children having received all vaccines (12-23 months) (%)	51.4	2018	AHS
16	Vitamin A Receipt in Last 6 Months (6-59 months) (%)	70.9	2018	AHS
17	HIV Prevalence among general population (%)	0.04	2016	ANPASH NSP-IV
18	Case notification rate for all TB cases per 100,000 population	137	2019	NTP
19	TB Treatment success Rate (%)	91	2019	NTP
20	Population use improved drinking water sources (%)	37.9	2018	AHS
21	Household using improved sanitation facilities (%)	32.3	2018	AHS
22	Proportion of Population having access to health services within less than two hours distance by means of transport	90.6	2018	AHS

In 2003, the MoPH made the decision with the support of donors, to change its role to a stewardship role. That decision resulted in the development and implementation of Basic Package of Health Services (BPHS). Provision of primary health care services based on this package have been contracted out to nongovernmental organizations (NGOs). *"The goal in developing the BPHS was to provide a standardized package of basic services that would form the core of service delivery in all health care facilities" (A Basic Package of Health Services for Afghanistan, 2005).*

In 2005, the BPHS was revised based on positive impacts on a number of health indicators (including maternal mortality, infant and under 5 mortalities, increased access to services, increased immunization coverage and increased TB DOTS coverage). The BPHS was further revised in 2010. For secondary and tertiary care services, an Essential Package of Hospital Services (EPHS) was later added with focusing on hospitals, improving their facilities and equipment, staff training and development and enhancing the referrals between different levels of the health system. Resultantly, 86.7% of total population can access to health care services within 2 hours by any means of transport and health indicators for Afghanistan have dramatically improved since the introduction of the BPHS and EPHS.

Since 2013, BPHS and EPHS had been implemented in the major health sector program: System Enhancement for Health Action in Transition (SEHAT), which was supported by the Government of Afghanistan, the World Bank (WB), European Union (EU), and the US Agency for International Development (USAID) with technical assistance by WHO. US$ 700 million were made available through the WB's International Development Association (IDA) as no-interest loan, and through the Afghanistan Reconstruction Trust Fund and the Global Financing Facility. Thereafter, the program was renewed as SEHATMANDI for 5-year period up to end on 30 June 2021. The objective of SEHATNMANDI is to increase the utilization and quality of health, nutrition, and family planning services across Afghanistan. It focuses on expansion and improvement of BPHS and the EPHS, and system strengthening.

The BPHS and EPHS are soon to be merged into an Integrated Package of Essential Health Services (IPEHS), which differs from its predecessors in placing more emphasis on non-communicable diseases and trauma, largely because the Burden of Disease analysis showed that these diseases and conditions were responsible for the bulk of Afghanistan's mortality and morbidity. Although roles of private sectors has been growing, still BPHS and EPHS plays key roles as public health sectors especially for lower wealth quintiles of the population. Types and roles of health facilities and hospitals in BPHS and EPHS are listed in Tables 2 &3.

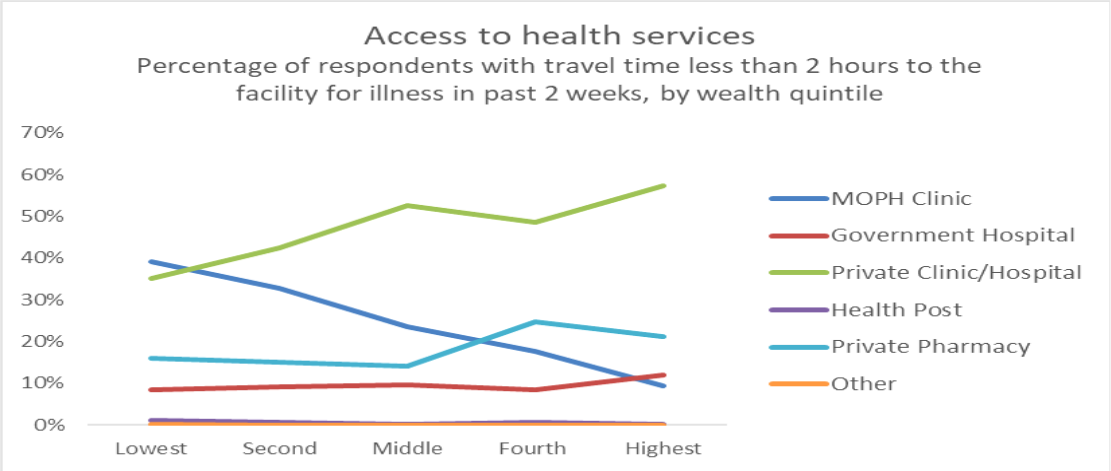


Figure 1 Access to health services (AHS 2018)

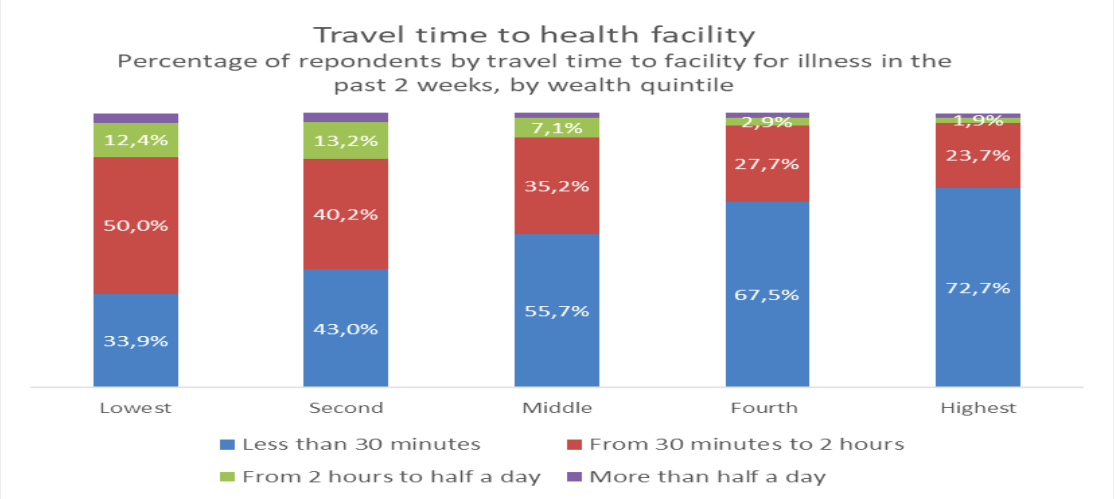


Figure 2 Travel time to health facility (AHS 2018)

Table 2: Type of health facilities for BPHS

Health Facility	Population Coverage	Staffing	Services
Health Post	1,000 to 1,500	Community health workers (1 male and 1 female),	- Diagnosis and treatment for malaria, diarrhoea, acute respiratory infection - Distribution of condoms &contraceptives - Health education and awareness - Referral of TB suspects& DOTS delivery - Growth promotion nutrition counselling and micronutrient supplementation
Sub Health Centre	3,000 – 7,000	1 Nurse, 1 community midwife, 1 Cleaner/Guard	- Health education, - Immunization, antenatal care, - family planning, - TB case detection and referral/follow up - Treat infectious disease (diarrhea/Pneumonia) - Referral of complicated cases
Basic Health Centre (BHC)	15,000 – 30,000	1 Nurse, 1 Midwife or auxiliary midwife 2 Vaccinators 1 Community Health Supervisor 2 Cleaner/Guards	- Preventive health care - Promotion of health services - Antenatal, delivery & postpartum care - Family planning - EPI - Growth monitoring - Management of childhood illnesses - Treatment of common diseases & TB, including DOTS - Distribution of essential drugs
Mobile Health Team (MHT)	NA	1 MD doctor 1 Community midwife 1 Driver, 1 Vaccinator	- In most cases same as services at BHC
Comprehensive Health Centre (CHC)	30,000 – 60,000	2 Medical doctors, 2 Nurses, 2 Midwives 1 Lab technicians 1 Pharmacy technician 2 Vaccinators 1 Community Health Supervisor 4 Cleaner/Guard 1 Administrator, 1 Driver	- Serious cases of childhood diseases - Treat complicated malaria cases - Inpatient & outpatient - Microscopic diagnosis and treatment of TB cases - Physiotherapy - Inpatient care - Laboratory services - Disability services - Mental health services
District Hospital (DH)	100,000 – 300,000 in up to 4 districts	4 Medical doctors 1 Female obstetrician/gynaecologist 1 Surgeon 1 Anaesthetist, 1 Paediatrician 10 Nurses, 4 Midwives 2 Laboratory technicians 1 X-ray technicians	As comprehensive health centres plus: - Major surgery - X-rays - Emergency obstetric care and Caesarean section - Maternity services - Disability services - Mental health services

		1 Pharmacist, 1 driver, 1 Dentist 2 vaccinator 1 Community Health Supervisor 2 Physiotherapist 6 Cleaner, Admin	

Hospitals are classified into three groups (District Hospitals, Provincial Hospitals and Regional Hospitals) according to size of the referral population, number of beds, workload and complexity of patient services offered: (Table 3)

- District hospitals (part of the BPHS)
- Provincial hospitals
- Regional hospitals

Table 3: Type of hospitals

Type of Hospital	Clinical & Diagnostic Services
District Hospital	▪ Inpatient (medicine, surgery, paediatric, obstetrics/gynaecology) ▪ Outpatient (includes immunization, mental health, dental) ▪ Basic laboratory (including sputum tests) and blood transfusion ▪ Hospital pharmacy ▪ Physiotherapy
Provincial Hospital	▪ Inpatient (medicine, surgery, paediatric, obstetrics/gynaecology) ▪ Outpatient (includes immunization, mental health, dental, basic ear/nose/throat(ENT)) ▪ 24-hour emergency department ▪ Hospital pharmacy ▪ Physiotherapy ▪ Basic laboratory (includes sputum tests) ▪ Blood transfusion and blood bank ▪ Basic ultrasonography and X-rays
Regional Hospital	▪ Inpatient (medicine, surgery, paediatric, obstetrics/gynaecology, ophthalmology, ENT, mental health/psychiatry, forensic medicine) ▪ Outpatient (includes immunization, mental health, dental) ▪ 24-hour emergency department ▪ Hospital pharmacy ▪ Physiotherapy ▪ Laboratory (includes sputum tests, culture & sensitivity tests) ▪ Blood transfusion and blood bank ▪ Ultrasonography, X-ray, endoscopy, CT-scan

Another group of hospitals, specialty hospitals are referral centers for tertiary medical care, are located primarily in Kabul. They provide education and training for health workers and act as referral hospitals for the provincial and regional hospitals. MoPH or Ministry of Higher Education (MoHE) is directly managing this group of hospitals. A separate category of specialty hospitals was not created for the EPHS because each of these hospitals is unique, and it would be difficult to characterize in one group the unique services, staffing, equipment, and drugs required at each of these hospitals.

2. OVERVIEW OF TUBERCULOSIS CONTROL IN AFGHANISTAN

2.1: National TB Control Program

MoPH established the National Tuberculosis Control Program (NTP) in 1954, with technical and financial supports of WHO. The twenty–three years of civil war, which started in 1979, had resulted in the steady collapse and decline of the public health system, including TB control programme. In 1997, the NTP, in collaboration with WHO and other TB partners adopted the DOTS Strategy. However, actual implementation of DOTS was initiated only in 2002 when the formation of a new Afghan government was in place. Thereafter, TB control program services have been integrated into BPHS for primary health care and EPHS for secondary health care, which were the priority public health services in this country. TB care services are delivered free of charge to the population as covered by the BPHS and EPHS. The role of each health facility on TB control program services are defined in Table 4.

In 2002, the first National Strategic Plan (NSP) for TB Control 2002-2005 was developed to implement DOTS strategy to achieve 70% case detection of new sputum smear positive cases and 85% treatment success aligned with the global targets. Thereafter, the NTP developed NSP 2006-2010 and in 2008 which was revised in line with MDGs and Stop TB Strategy, which was revised as the NSP 2009-2013 and as the NSP 2012-2016. The latest NSP 2017- 2021 was developed to adopt the End TB Strategy and its targets.

Table 4. The role of each health facility on TB control program services

Type of Health Facilities	Information, education, and communication on TB	TB presumptive Detection	Microscopic diagnosis	GeneXpert Availability	Treatment	Referral for complicated cases	Management of MDR cases	Management TB/HIV cases
National hospital	✓	✓	✓	✓	✓	✓	✓	✓
Regional hospital	✓	✓	✓	✓	✓	✓		✓
MDR Ward	✓	✓	✓		✓	✓	✓	
Provincial hospital	✓	✓	✓	✓	✓	✓		
District hospital	✓	✓	✓	✓	✓	✓		
CHC	✓	✓	✓		✓			
BHC	✓	✓			✓			
Sub-health center	✓	✓			✓			
Health post	✓	✓			✓			

During these periods, NTP has made significant progress, which include:

- Introduced and implemented DOTS strategy with impactful expansion of DOTS across the country
- Increased access to TB diagnostic and treatment services with expanding services to most of all health facilities that have microscopes
- Sustained better treatment outcome over the years with achievement of global target for treatment outcome (90% treatment success rate)

- Enhanced political commitment for TB control in the country as securing government financial support as part of the co-financing mechanism
- Developed guidelines and standard operating procedures for almost all its operational/technical areas
- Constantly improved TB case detection and treatment follow up with introduction and expansion of new technologies (LED microscope, GeneXpert, TB LAMP, Line Probe Assay (LPA), digital X-ray machines and others) to narrow the gap between number of detected TB cases and number of incident TB cases according to WHO estimations
- Identified several groups of high-risk populations for TB for whom TB care services for both detection and treatment were actively provided through innovative interventions
- Engaged private sector to maximize accessibility to TB care services for both detection and treatment
- Initiated management of drug resistant TB across the country with constructing unique DR-TB wards and administering treatment regimens aligned with WHO latest and updated recommendations
- Strengthened TB preventive measures
- Introduced and expanded TB/HIV collaborative activities across the country
- Improved TB recording and reporting in compliance with WHO recommendations along with strengthened TB surveillance with introduction of TBIS and GxAlert
- Increased number of capacitated workforces for TB control in the country
- Generated evidences for impactful TB control in the country through a number of research and studies

The NTP with the support from the government is responsible for stewardship, leadership, legislative aspects and overall management of the TB control in Afghanistan. Moreover, the NTP is the governing body for development and implementation of evidenced based TB control policies, strategies, guidelines and SOPs. Specifically, the NTP assures technical support, uninterrupted supply of TB commodities, accessibility of quality TB care and services to both general and high-risk population and capacitated staffs for TB control in the country with consideration of routine overseeing mechanisms. Besides these, at higher level, the NTP carries out advocacy for impactful TB control in the country while at other levels the communication and improving social mobilization are focused more. The NTP field officers are responsible for supervision of TB Control activities at facilities and coordination between NTP and non-governmental organizations and private sector.

The basic strategy of the NTP for prevention of tuberculosis is early detection and treatment of all TB cases. TB sputum smear microscopy is still the gold standard diagnostic method for detection of infectious cases.

To achieve the strategic objectives, currently the NTP has a network of 15 professional staff at central, and 68 at provincial level, which include 34 Provincial TB coordinators (PTC), and 34 Provincial Laboratory Supervisors (PLS). The NTP staffs at different levels of the program are responsible for ensuring proper implementation of TB control activities, based on the scope of their work, all over the country. Apart from NTP technical staffs, NTP partners and MoPH have also contributed in providing human and capital resources

Based on MoPH latest health data, there are around 4,012 health facilities, which provide healthcare services across the country and report through HMIS. (Table 5). Among them, the NTP covered 774 public and 99 private health facilities with laboratory services to perform sputum microscopy, these health facilities are regarded as diagnostic facilities for TB. The average population coverage by each diagnostic health facility is around 41,000.

Table 5: DOTS coverage of various types of health facilities

SN	Facility Type	Number HF Reported by HMIS	Number of HFs Providing TB diagnostic services	Percentage of HFs Providing TB diagnostic services
1	Special Hospital (SH)	32	12	38%
2	Eye Clinic / Hospital	2	0	0%
3	Regional hospital (H1)	10	7	70%
4	Provincial hospital (H2)	27	27	100%
5	District Hospital (H3)	88	80	91%
6	Comprehensive Health Center (CHC)	435	429	99%
7	Basic Health Center (BHC)	880	198	23%
8	Sub Health Center	1076	2	0%
9	Mobile Health Team (MHT)	292	0	0%
10	Private Health Facility	704	99	14%
11	Drug Addicted Treatment Center	89	0	0%
12	Malaria Center (MC)	6	0	0%
13	Prison Clinic	25	9	36%
14	DIC Prison	11	0	0%
15	DIC Community	19	0	0%
16	Rehabilitation Center (RH)	6	0	0%
17	MCH Clinic M1 or M2	6	0	0%
18	VCT Center	7	0	0%
19	Family Health House (FHH)	183	0	0%
20	Other	114	10	9%
Total		4012	873	22%

2.2 Epidemiology of Tuberculosis in Afghanistan

The data for TB mortality rate for Afghanistan heavily depends on the WHO estimation. According to WHO estimates, in 2000 TB mortality rate (excluding TB/HIV deaths) was estimated at 67 (range: 39-103) per 100,000 population. Between 2000 and 2007, mortality rate has declined, with an average annual fall of 6.9%. Then TB mortality slightly increased up to 2011 and decreased after 2013 with an annual average fall of 8.3% down to 29 (range: 17-44) per 100,000 population in 2018.

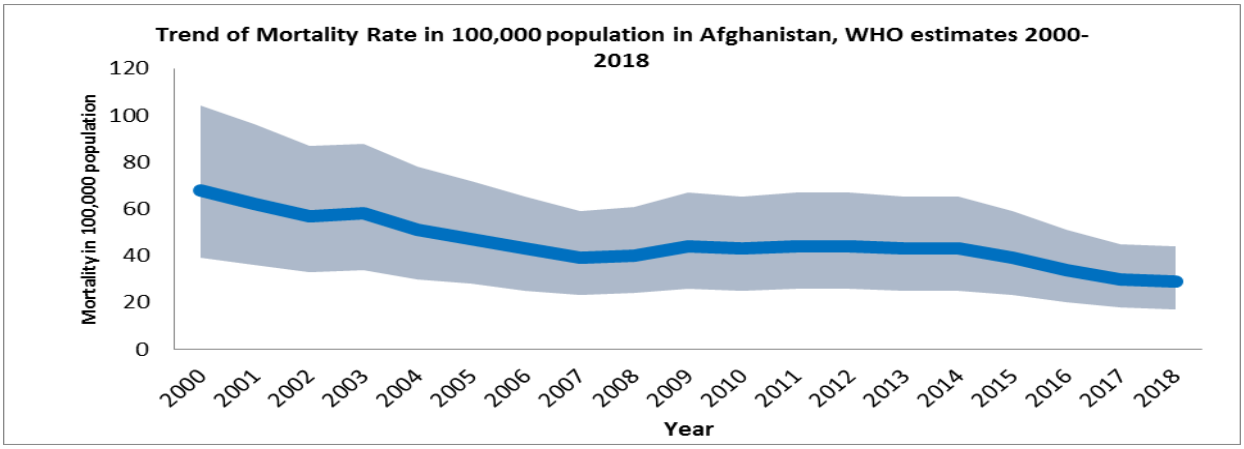


Figure 3. Trend of TB mortality rate

The incidence of TB heavily relies on the WHO estimates not based on direct measurement, as Afghanistan has not conducted any prevalence survey in nearly 5 decades. As per the WHO estimates, the incidence rate for 2018 was 189 (122-270) new and relapse cases per 100,000 population. Although the incidence rate has remained stable over the recent 18 years, the true burden of TB might be greater than the WHO estimation, by considering current growing trend of TB notification as described below and despite limited access to TB care services.

The Afghanistan NTP with the support from the donors was able to increase the TB case notification between 2000 and 2007; thereafter the case notification remained stagnated up to 2013. During 2013-2019, TB case notification of new and relapse TB cases steadily increased by 9% annually. In 2019, 52,528 cases (with a case notification rate of 138/100,000 based on UN estimated population) of TB were diagnosed and treated corresponding to 72.3% of the incidence of 73,000 estimated by WHO[2]. Therefore, at least 27.7% cases of TB were not diagnosed/notified in 2019 "the missing cases". (Fig.4)

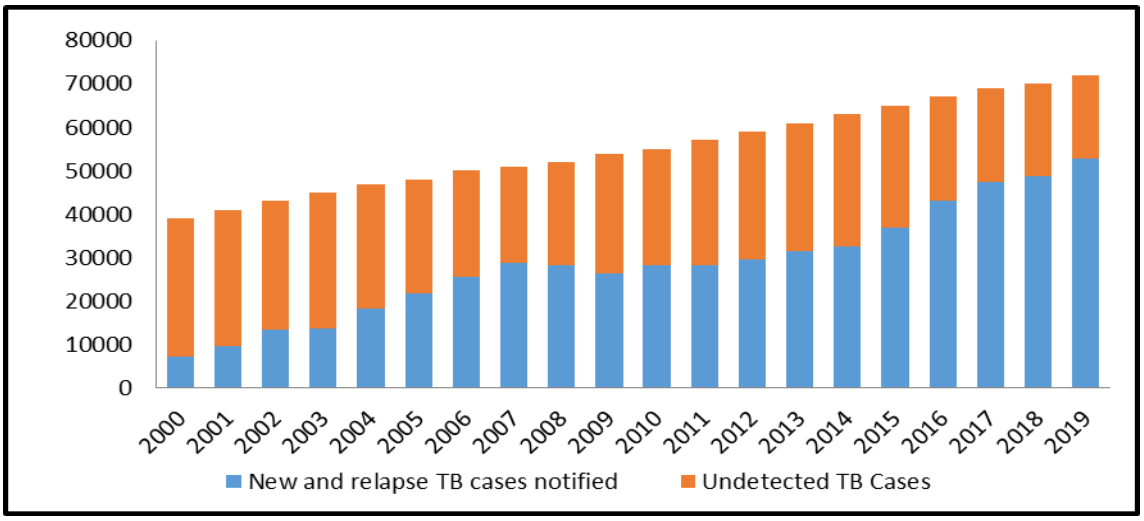
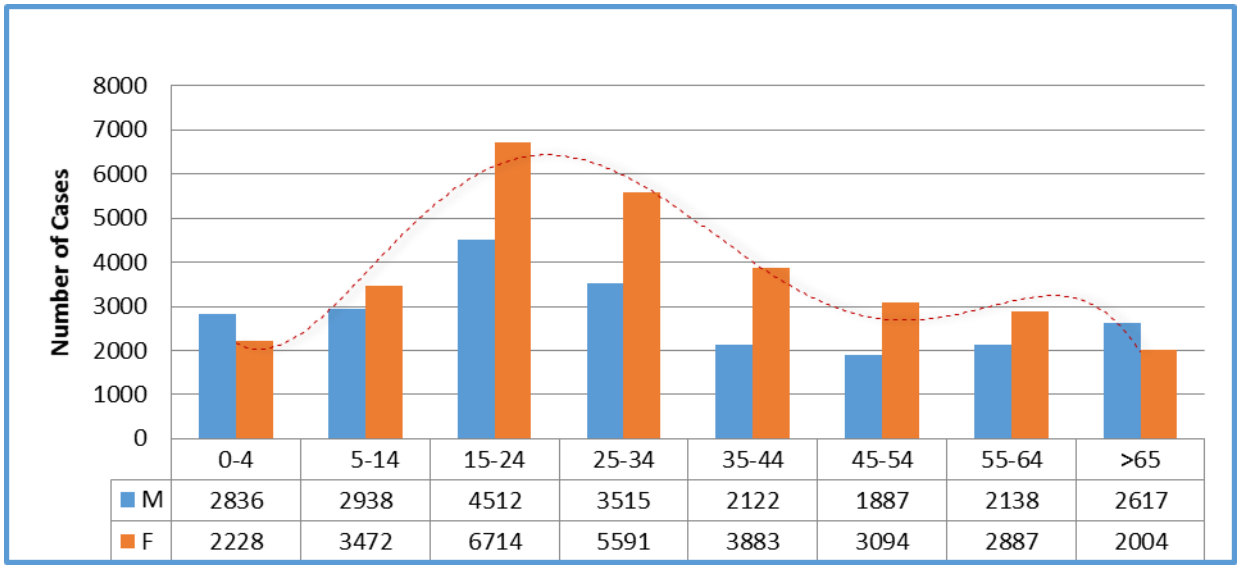


Figure 4. TB case notification and missing TB cases 2000-2019

Between 2013 and 2019, the absolute number of new TB cases increased on average by 9% annually, while absolute number of retreated cases remained almost stable, slightly increasing up to 2017 and again declined. Disproportional trends by treatment history resulted in a gradual relative decline in the proportion of retreated cases from 7.2% in 2013 to 3% in 2018.

Afghanistan has a unique epidemiological feature considering sex disaggregation of TB cases. In Afghanistan, TB case notification rate is much higher in females compared to males. In 2019 F: M ratio of new and relapse TB case was 1.3. (Fig. 5)

[2] This calculation is based on the WHO population estimation in 2018 considering the 2.465% population growth rate. The number of incident cases are estimated to be 73000 during 2019.



	0-4	5-14	15-24	25-34	35-44	45-54	55-64	>65
M	2836	2938	4512	3515	2122	1887	2138	2617
F	2228	3472	6714	5591	3883	3094	2887	2004

Fig. 5 Distribution of all new and relapse TB cases by age and gender in 2019

There have been several variations in notifications disaggregated by sites of disease and bacterial confirmation. The bigger increase is observed in extra-pulmonary TB cases, which increased on average by 15% per year between 2013 and 2019. In comparison, the number of annual increases of bacteriologically confirmed pulmonary and clinically diagnosed pulmonary TB cases over the same period were 7.1% and 9.0%, respectively. Such bigger increase in extra-pulmonary TB cases is most likely due to the result of improvement and/or change of diagnostic practice and introduction of new diagnostic technologies. The proportion of bacteriologically confirmed TB cases at national level increased from 46% in 2013 to 48% in 2019. This is because of utilization of new technology such as LED microscopes and GeneXpert in some selected health facilities and training of laboratory staffs on microscopes and enhancement of IQA and EQA activities. In addition, under the SEHATMANDI project the BPHS implementing partners are required to enhance bacteriological case notification and report treatment success rate.

At the level of 34 provinces TB notification rates vary in magnitude notably from 44.3/100 000 in Panjsher to 388/100 000 in Nangarhar. The variation in the rates could to be due to differences in true TB burden across the province as well as the capacity of health system to detect TB cases. According to the provincial TB case notification rates, nine provinces had a CNR of higher than 190/100,000 while fourteen provinces reported 140 – 190/100,000 and remaining eleven reported a CNR of lower than 140/100,000. Therefore, the NTP need to develop strategies/interventions to increase provincial capacities to address the challenge and volume of higher CNR in these provinces.

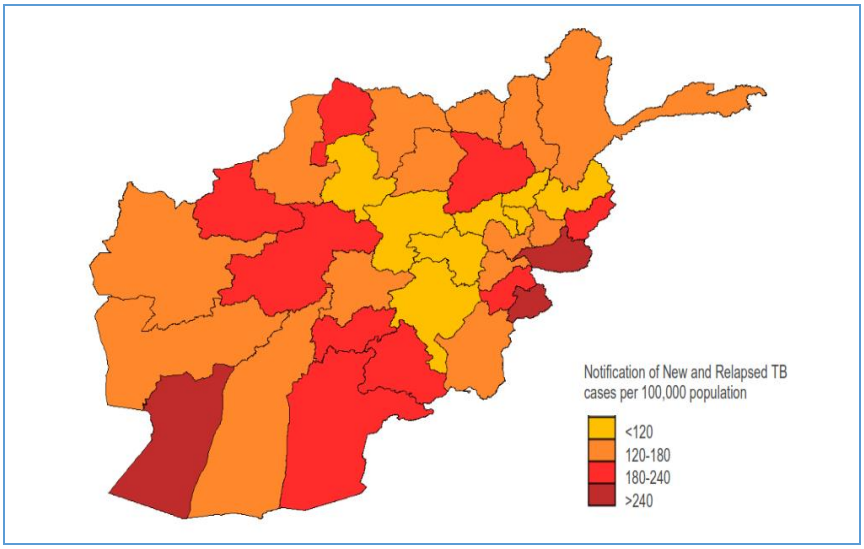


Figure 6 Geographical distribution of TB cases

Over the recent six years the notification of both child and adult TB cases have increased. However, the increase of child TB cases was much bigger compared to adults, therefore the proportion of child TB cases gradually increased from 15.5% in 2013 to 22% in 2019. The reasons are that the NTP prioritized addressing child TB and covered 120 child wards in hospitals and enhanced contract investigations across the country.

Based on WHO 2019 report, it is estimated for 2018 that 3% of new cases and 12% of the previously treated TB cases have RR/MDR-TB. Thus, it is expected that 2,500 incident RR/MDR-TB cases have occurred during 2018. Since the start of the DR-TB management in 2011, there was an increase of RR/MDR testing coverage while the number of notified RR-TB cases sharply increased. In 2019, the NTP laboratory network notified total 486 RR-TB cases. This signifies increases in RR-TB case detection from the previous year by 7.5%. Also, number of enrolled cases to second line treatment increased and 81 % of detected cases were enrolled into treatment in 2019 while 72 % in 2018.

Over the recent seven years the treatment success rate of new and relapse (DS-TB), cases remained stable around 90% reaching the End TB targets. (Fig. 7) In 2018, the overall treatment success rate was 91%. While reported death rates and treatment failure rates are very low, 1.5% and 0.5% respectively, the proportion of cases that were not evaluated was around 3%. (Table 6) The treatment outcome of (RR/MDR-TB) cases enrolled on second-line treatment outcome of 2017 cohorts was 63.1%, which is higher than 56% treatment success rate reported globally. (Fig. 8)

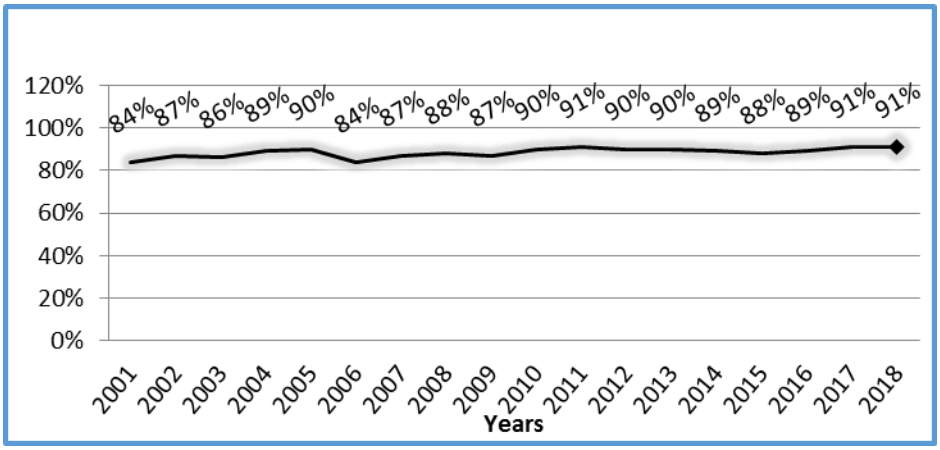


Figure 7. Treatment success rate during 2001-2018

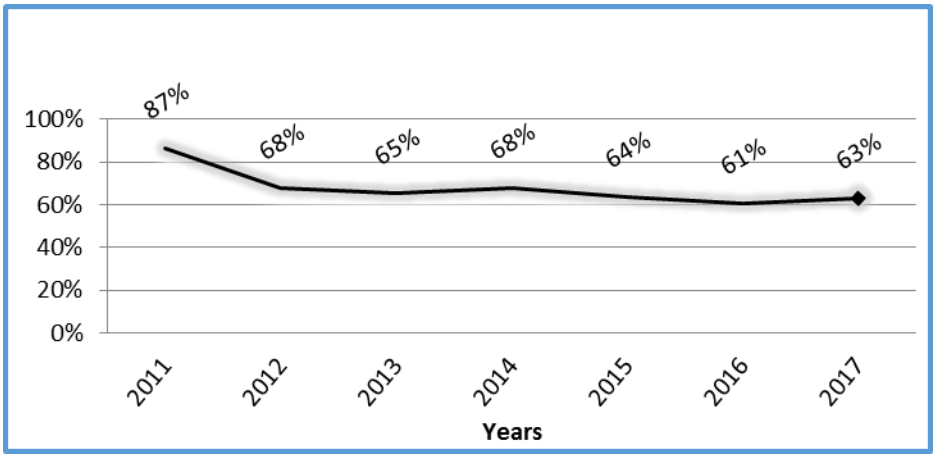


Figure 8. Treatment success rate of DR-TB during 2011-2017

Table 6: Estimates of TB burden, TB Case notification, detection and success rate [3]

UN Population Estimates for 2018, 37,000,000		
Estimates of TB Burden	**Number**	**Rate per (100,000 pop)**
Mortality (excluding HIV)	11,000	29
Incidence (including HIV)	70,000	189
Incidence (HIV + TB only)	320	0.87
TB case notification for all forms	48,800	131
Case detection, all forms (%)	69%	
% tested with rapid diagnostics at time of diagnosis	24%	
% with known HIV status	53%	
% of pulmonary	71%	
% bacteriologically confirmed among pulmonary	64%	
% of children 0-14 years	21%	
% of women	46%	
% of men	33%	
Treatment success rate new smear positive (%)	91%	

[3] WHO Global Report 2019, Afghanistan Country Profile

2.3 Progress during the NSP 2017 – 2021 period

The NTP developed the NSP 2017 – 2021 aligned with End TB Strategy. The 15 strategic directions of the NSP 2017 – 2021 were directly linked with the three pillars and 10 components of the End TB strategy. Accordingly, the targets were set so that Afghanistan is on the track to achieve the commitments made during End TB strategy endorsement.

Progress in Case Notification

With successful implementation of the 15 strategic directions and achievements especially on innovative approaches and population specific programming, the NTP had successfully made progress in case notification during 2017 – 2019 (i.e. until the drafting of this NSP). As per the NSP 2017 – 2021, 8% annual increase was set as a target for case notification so that the gap narrows between estimated incident TB cases and notified TB cases. During these years, 147,498 new and relapse while 148,976 all form TB cases were detected and notified. Compared with 2016, there was an average 7% annual increase in case detection and notification for all form TB cases while 8% increase for new and relapse TB cases.

For treatment outcome

The second indicator, right from introduction of DOTS strategy, Afghanistan achieved treatment success rate of 85%. However, with the introduction End TB strategy, Afghanistan treatment outcome increased further reaching 91% during 2018 treatment cohort.

Progress in each area of the TB control program during 2017 – 2019

Laboratory network/services

- 4% increase in the number of TB diagnostic centers from 778 in 2016 to 873 in 2019.
- 10% increase in testing presumptive TB cases using microscopy in 2019 compared to 2016
- Confirmation of 1,140 cases bacteriologically through slide and sample transportation
- Increased number of GeneXpert machines from 7 to 47 and performing 77,334 GeneXpert test with confirmation result of 19,552 MTB and 1,133 RR-TB cases through.
- Availability of the culture examination and DST in NRL and 3 RRLs.

Addressing high risk groups

- Active screening of 7,063 presumptive TB cases among prisoners in 8 provinces resulted in detection of 1,079 all form TB with annual average increase of 17% over 2016.
- Total 13,166 presumptive TB cases were identified (20% increase compared to 2016) among IDPs and 944 all form of TB were detected (increasing by 37%).
- In 120 hospitals across the country, children were screened for TB and 31,668 TB cases has been detected which shows an annual average increase of 23% comparing to 2016.

Drug Supply and Management System:

Necessary anti-TB medicine, diagnostic kits and other consumables were procured on time without any interruption and no stock out were experienced.

Programmatic Management of Drug Resistance TB:

- Decentralization of DR-TB services to 3 MDR wards in Herat, Nangarhar and Balkh and enrolling 421 DR-TB patients.
- Construction of 2 MDR wards in Paktia and Kunduz provinces.

- Annual average enrolment of DR-TB patients increased by 38%.
- On average 63.1% treatment success rate among DR-TB patients that were put on treatment.

Addressing TB/HIV:

In total 79,194 TB cases were tested for HIV during three years which constitutes 53.2% of the total notified TB cases during this period, the annual average increase on testing is 15.2% comparing to 2016.

Preventive Treatment including Contacts:

- A total of 398,340 household contacts of TB cases have been tracked and screened for TB symptoms, consequently 10,458 confirmed TB cases were detected, when comparing to 2016 this is an annual average increase of 6.9%.
- IPT was provided to 70,107 (93%) household contacts who were less than 5 years of age with an average increase of 3.3% comparing to 2016. IPT completion rate was 73% with an annual average increase of 4% comparing to 2016.

Political Commitment:

- Securing USD 3.8 million from government in form of Co-finance with allocation of more than 50% to TB
- Stop TB Partnership of Afghanistan continues to support the NTP with advocacy to high ranked politician e.g. HE Dr. Abdullah Abdullah the CEO of Afghanistan.

Human Resources Development:

With implementation of the NSP, human resources for effective TB control in the country significantly increased by provision of relevant training courses.

Engaging All Care Providers:

  - Urban DOTS expansion to 9 provinces with an increase from 81 public and private hospitals in 2016 to 119 in 2019
- During the period, a total of 127,806 presumptive TB were identified and 11,009 all forms of TB cases were detected among them with an annual average increased by 31.1% compared to 2016.
- 811 private practitioners were engaged in this period and referred 47,191 presumptive TB and among them 11,664 all forms of TB cases detected. The positivity rate was 11% the highest among the presumptive TB cases.

Empowering People with TB and Communities through Partnership:

- 9,292 awareness campaigns were conducted and roughly 248,105 participants with an average increase of 65.9% compared to 2016.
- CHWs referred 108,948 presumptive patients and 8,523 TB cases were diagnosed with an annual average increase of 9% compared to 2016.
- Cured TB patients have contributed in the identification of 16,204 presumptive TB and detection of 2,214 all forms of TB (an annual increase of more than 200% compared to 2016).

Surveillance, Monitoring and Evaluation:

- Timely and complete reporting from 98% of health facilities through TBIS.

Pharmacovigilance:

- Introduction of the Pharmacovigilance into the PMDT.

- 248 health staffs especially from the MDR wards were trained on aDSM and pharmacovigilance.
- The NTP joined the National Medicines & Healthcare Product Regulatory Authority (NMHRA) and focal person regularly participated at its meetings.

Infection Control:

- Infection control committee established and functionalized in 955 health facilities. All committees assessed facility design for infection control.
- The NTP initiated TB screening for healthcare workers in 251 health facilities in 23 provinces. Among them, 17 confirmed TB cases and 1,761 LTBI cases were detected.
- The NTP introduced FAST strategy and 220 healthcare workers were trained on this strategy to improve infection control and reducing infection transmission in 55 of health facilities
- Installation of incinerators in 4 PMDT sites
- 5 PMDT sites were assessed for infection prevention and infection control and the NTP newly distributed 1,508 PPEs and, 17 HEPA filters.

Introducing Social Protection Measures for TB Control Program:

The NTP initiated to introduce concept of human rights in TB control and 1,051 health staffs from 526 health facilities were trained on patients' charters.

Enabling and Promoting Research:

Totally 11 multiple researches/studies researches conducted.

2.4 Gaps in TB Control in Afghanistan:

Despite the achievements Afghanistan made in TB control during 2017 – 2019, still some gaps exist which require additional achievements within each of the strategic directions. Summary of these gaps is described here and these gaps are extensively reviewed and analyzed, so that the new NSP 2021 – 2025 respond to them and Afghanistan takes steps closer to the global commitment to End TB.

- Low accessibility to TB care services for under-covered populations: Despite the geographical expansion of TB care services, there are still areas without TB service coverage Among the health facility types, BHCs and SHCs which constitutes 18% of total health facilities are minimally engaged in TB care services. In addition, there are communities with no accessibility to TB care services or can access after long hurdles and hardships. Moreover, although the NTP has initiated active TB care services among high-risk populations, still there have been some high-risk groups yet to be covered with responsive TB care service interventions.
- Laboratory network coverage, upgradation and performance should be enhanced: although laboratory network for smear sputum examinations has expanded, however coverage of lab network with new technology for accurate diagnosis and better treatment follow up of both drug susceptible and drug resistant TB have been limited to small scale, currently only 2.7% of laboratories can provide molecular testing. In addition, sample transportation interventions are insufficient to cover the entire population both for presumptive TB and RR testing.
- Missing TB cases: As results of low accessibility to TB care services and low coverage of laboratory network with advanced technology, nearly 27% of the estimated TB cases are missing
  - *Drug Susceptible TB*; Afghanistan is behind reaching the estimated number of TB cases for drug susceptible TB. In 2019, the NTP could identify 52,770 all TB cases, but still there is significant gaps (27%) in reaching all the estimated cases; 73,000. Most of these cases are still in the

community and transmitting the mycobacterium to other members of the community, so the chain of transmission is still not broken down as it was expected.

- *Drug Resistant TB;* The gap regarding missing cases for DR-TB is even worse. The NTP with support of its field partners could identify just 20% of 2,500 WHO estimated cases, which means yearly around 80% DR-TB cases are missing in the community.

- Low coverage of preventive measures: Preventive measures especially preventive treatment has been limited to child contact cases of less than 5 years of age and HIV patients. This intervention is yet to be scaled up to cover all the child contacts of less than 5 years of age across the country. In addition, the measures to cope with other groups among LTBI who require TB preventive therapy are critically required.
- Insufficiently addressed gender mainstreaming and human rights: Although the NTP incorporated the concept for gender mainstreaming and human rights into its strategies, only minimum achievement has been made during these years and scaling-up strategies with implementations of necessary activities is required.
- TB procurement and supply chain management (TB PSCM): The NTP has yet to build maximally its capacities to carry out TB PSCM independently.
- M&E and surveillance for TB:
  - TBIS is not yet available in private hospitals and practitioners.
  - Supervisory visits to health facilities by the NTP central and provincial staffs have found to be less influencing in triggering changes towards better and impactful TB control in the country.
  - Capacities in data analysis especially in epidemiological perspectives are missing.
- Insufficient evidence generation for impactful TB: The NTP still lacks capacities within central and provincial teams to carry out operational and scientific researches independently.
- Catastrophic costs associated with TB care services: Out of Pocket expenditures for accessing TB care services have been immense (nearly 75% of necessary costs). Lack of social protection initiatives in the country has exacerbated the problem.

3. National Strategic Plan 2021-2025

The strategic directions, goal and targets of Afghanistan National Strategic Plan 2021 – 2025 are in line with End TB strategy (2030), UNHLM 2018 declarations and Afghanistan TB program review. This strategic plan was developed to address the gaps and challenges while maintaining and enhancing on current achievements and interventions that are crucial to maintain the framework of the TB Program. For implementation of the new NSP 2021-2025, the NTP will enhance the multi-sectoral approach and as a crucial part of the Universal Health Coverage with maximum impact using limited resources as effectively as possible.

3.1 NTP Vision, Goal, Objectives, Strategic Directions and Interventions

Vision	**A TB-free Afghanistan towards elimination of the disease as a public health problem**
Mission	Reduce incidence rate at <10/100,000 by 2035
Goal:	To reduce TB deaths by 75% by the end of 2025 compared to 2015
Objectives	1. To increase the case notification of all TB cases at least 12% annually until 2023 and maintain full coverage thereafter, and to sustain treatment success rate, at least, 90% by 2025 2. Decrease incidence rate by 20% by 2024 (to reach 50% reduction in incidence rate compared to 2015) in order to be aligned with End TB Strategy 3. To detect and treat at least 80% of estimated MDR-TB cases by 2025 4. To detect and treat at least 50% of the estimated latent TB cases as the accumulation by 2025 5. To ensure no affected families facing catastrophic costs due to tuberculosis

Pillars and Strategic Directions

PILLAR 1: DETECT TB CASES

Strategic Direction 1: Ensure Universal Access to Quality TB Care Services
Strategic Direction 2: Enhance TB case finding
Strategic Direction 3: Engage all care providers
Strategic Direction 4: Expand and Strengthening TB Laboratory Network

PILLAR 2: TB TREATMENT AND FOLLOW UP

Strategic Direction 5: Enhance and sustain quality treatment services with high treatment success rates for Drug susceptible and Drug Resistant patients

Strategic Direction 6: Enhance Patient Support
Strategic Direction 7: Strengthen Pharmacovigilance

PILLAR 3: TB PREVENTION

Strategic Direction 8: Strengthen Latent TB infection Control
Strategic Direction 9: Enhance Contact Investigation
Strategic Direction 10: Strengthen infection control

PILLAR 4: SYSTEM STRENGHTEN

Strategic Direction 11: Address TB/HIV
Strategic Direction 12: Address Gender and Human Rights
Strategic Direction 13: Enhance Political Commitment and build multi-sectoral approach with accountability
Strategic Direction 14: Strengthen Human Recourse Development
Strategic Direction 15: Strengthen Procurement and Supply Chain Management
Strategic Direction 16: Strengthen Advocacy, Communications and Social Mobilization (ACSM)
Strategic direction 17: Strengthen TB Surveillance, Monitoring and Evaluation
Strategic Direction 18: Strengthen Research and innovation for TB control

Pillar 1: Detect TB cases

Strategic Direction 1: Ensure Universal Access to Quality TB Care Services

Situational Analysis;

TB care services are delivered free of charge to the population by the public sector and covered by the BPHS and EPHS. Varying types of services are offered by various types of health facilities (referral for diagnosis, provision of treatment services or providing both treatment and diagnostic services and follow up) as mentioned in Table 4 of section 2.1. Therefore, access to TB care services depends on the levels of health facilities within BPHS and EPHS. Amid these circumstances, the NTP has made efforts to expand accessibility to TB care services through these public health facilities as described in section 2.1 above

There are some areas in the country where no TB care services are available. These areas are defined as white areas for TB control i.e. areas with no TB services. Accordingly, the NTP Afghanistan expanded TB services to cover these areas mainly focusing on sample transportation from the identified presumptive TB cases to the nearest diagnostic center. This assisted NTP to increase its case detection activities. However, there are some limitations for this approach and interventions that are more comprehensive are needed. The NTP decides to increase involvement of larger number of BHCs and SHCs into TB care services and expanding to the lower level health facilities such as FHHs and PHPs. In addition, for improving accessibilities, there are other important elements and measures such as improving diagnostic capacity including introduction of innovative technique and tools, involving private sectors and introducing mobile or active services, especially for under-served high-risk populations. The NTP has also made significant efforts for these with favorable results. Detailed situation analysis and strategic interventions are in the different section (laboratory in 4, private sector in 3 and high-risk populations in 2).

Strategic interventions and activities

1. 1: Introduce and expand TB care services in communities with TB white areas through strengthening community based DOTS

1.1.1: Map and select potential communities with TB white areas for introduction of TB care services

1.1.2: Identify, train and engage potential community actors in TB care services in the selected TB white areas

1.1.3 Conduct awareness campaigns on TB disease and availability of services

1.1.4: Strengthen patient referral and treatment support and follow up mechanism from these communities to diagnostic health facilities

1.1.5: Introduce recording and reporting system for TB care services within these communities

1-2. Expanding TB care services to family health houses (FHHs) and private health providers (PHPs)

1.2.1: Map and select the existing and functional FHHs and PHPs for integration of TB care services

1.2.2: Provide training for staffs in FHHs and PHPs on TB care service provision (referral of presumptive TB cases along with treatment support)

1.2.3: Introduce patient referral and treatment support and follow up mechanism from these communities to diagnostic health facilities
1.2.4: Introduce recording and reporting system for TB care services within these communities

1.3: Introduce TB care services within mobile health teams, SHCs and BHCs
1.3.1: Map and select potential mobile health teams, SHCs and BHCs for introducing TB care services
1.3.2: Provide training for staffs of mobile health teams, SHCs and BHCs on identifying presumptive TB cases, either collecting sputum samples or referring presumptive TB cases to diagnostic health facilities
1.3.3: Introduce sputum samples transportation or referring presumptive TB cases to diagnostic health facilities
1.3.4: Introduce recording and reporting system for TB care services within these health facilities

1. 4: Maintain and strengthen TB care services among BHCs already engaged in TB care services
1.4.1: Assess the performance of the BHCs currently involved in TB care provision
1.4.2: Further strengthen the performance of these BHCs with improved sample transportation mechanism from these BHCs to diagnostic health facilities
1.4.3: Strengthen recording and reporting system for TB care services within these health facilities
1.4.4: Introduce diagnostic tools to BHCs with higher number of OPDs and longer distances to diagnostic health facilities

1.5: Strengthen access to quality TB (DS/DR-TB) care services within existing diagnostic health facilities
1.5.1: Assess the situation of TB care services within these 873 diagnostic health facilities
1.5.2: Strengthening TB case detection at these health facilities by promoting screening practices to improve presumptive TB patient's identification
1.5.3: Assure functionality and utilization of diagnostic tools (light microscopes, LED microscopes, X-ray and GeneXpert) at these health facilities
1.5.4: Strengthening access and utilization of molecular technology as initial diagnostic tool.

Strategic Direction 2: Enhance TB case finding

Situational Analysis

For past few decades, the NTP has continuously worked to improve access and quality to TB diagnostic services and introduction of new diagnostic tools, which resulted in detection of additional DR-TB cases as well. The NTP follows internationally recommended protocols for TB program including case finding. These included sample transportation and slide sending initiatives to the diagnostic health facilities, involvement of community (including CHWs and members of TB patient association) and private practitioners.
However, those case finding activities within health facilities or at communities have been mainly passive and do not address the challenge of finding missing TB cases. Since there are population

who are at increased risk of contracting and developing TB, the NTP identified them as key affected populations and started active case findings, especially for IDPs, returnees, prisoners, and HHC of confirmed TB cases.

The combined effect of all these interventions resulted in increased case notification for DS-TB however; NTP needs to expand further these interventions for active case findings.

On the other hand, case notification of DR-TB is still far below the national and international target and needs to be scaled-up. For this, utilization of GeneXpert is critical as described below.

Thus, this strategic intervention focuses on active case findings of DS-TB among target groups and proposes interventions for improving and expanding DR-TB case findings

Childhood TB Management

Childhood TB management is a critical part of TB Program activities and the NTP has initiated measures to improve childhood TB case findings. In addition, to utilization of Tuberculin Skin Test (TST) and X-ray for childhood TB diagnosis, through TGF support. The NTP introduced active TB screening among childhood attendees of provincial and district hospitals through 120 pediatricians as focal points. This resulted in increased childhood TB case notification over the years. However, in 2019, 11,464 childhood TB cases were notified, representing 22% of all TB cases notified. This proportion is even more than the range WHO defined (5-15%) and might be due to over diagnosis in some provinces.

Thus, quality diagnosis of childhood TB cases remains a critical issue and the following are still the main challenges needing actions:

- Currently many district hospitals have no X-Ray facilities.
- Capacity to read CXR properly at public or private sector is weak.
- Utilization of gastric juice/aspiration for ZN microscopy or GeneXpert testing is limited.
- Private sector involvement is very weak in childhood TB management
- Childhood TB management guideline and SOP need up-dating.

IDPs

Currently there are more than 2.5 million IDPs with limited access to health care services in the country and this number has been increasing. Considering their living conditions and results of previous surveys that IDPs hold higher national incidence (presumably 2 times higher than general population), the NTP has taken up interventions to screen IDPs through TGF support and obtained encouraging results. Briefly, recruited staffs at the provincial level to manage screening in IDP camps by CHWS, who were recruited inside the camps and trained to conduct health education and to encourage presumptive TB cases to visit the nearest TB diagnostic health facilities. During 2017 - 2019, NTP comprehensively screened IDPs in five provinces; Herat (106,000 IDPs), Kandahar (46,000), Nangarhar (70,000), Helmand (99,000) and Kabul (20,000) and identified 13,166 presumptive patients and detected 944 all forms of TB cases.

Despite encouraging results of case finding and treatment provision, there are no comprehensive approaches to this high-risk population at nation-wide scale. Thus, NTP proposes comprehensive strategic interventions under this NSP to initiate screening of IDPs in all provinces.

Returnees:

Movements within the country and across borders have remained as one of the key characteristic and challenge for Afghanistan. At present, around 2.4 million registered Afghan refugees are living in Pakistan of which 1.4 million are refugees (this does not make sense, either delete the

highlighted part of make appropriate correction). In Iran, there are about 951,000-documented Afghan refugees. Among them, huge number of refugees have returned to Afghanistan every year as mentioned in section 1.1.

The burden of TB among refugees is reported to be three times higher than in the general Afghan population due to poor living conditions, socio-economic status, and limited access to health services. Thus, incidence of TB among returnees is also considered high. However, significant number returnees keep moving after returning to Afghanistan and current health system cannot cover such populations. Thus, special measures to provide TB care services are required. There are two main issues regarding TB care services; firstly, some returnees are already taking TB treatment as they received diagnosis and initial care for TB in Pakistan or Iran. Those cases should be referred properly to continue treatment. Secondly, there are significant number of undiagnosed TB cases requiring prompt diagnosis, treatment, care and support services. Previous preliminary studies on TB screening for returnees revealed higher incidence of TB.

Thus, in 2019, the NTP started to enhance measures for these issues supported by the Multi-Country Global Fund TB grant. Activities include provision of symptom screening among returnees at border crossings with Iran and Pakistan, and identification and establishment of referral pathways or mechanisms for diagnosis and follow up.

Prisoners

Prisoners are considered as high-risk group for TB because of the limited access to TB cares services; congregated settings and poor ventilation within prison cells. As the previous surveys and interventions revealed high incidence of TB among prisoners (incidence as 1%), the NTP has conducted several interventions and initiated comprehensive efforts to screen 27,478 prisoners in 8 major prisons through the TGF current grant. For this screening, two staff are recruited to screen prisoners for TB at each prison, working in collaboration with prison clinic staff and sputum samples from presumptive patients are examined at the prison health facility. During 2017-2019, 7,069 presumptive patients were identified and 1,079 all forms of TB cases detected.

Despite these encouraging results in case finding and treatment provision, there have been no comprehensive approaches for these specific high-risk population on nation-wide scale. Therefore, NTP proposes comprehensive strategic interventions under this NSP to initiate screening of prisoners in all prisons using context appropriate approaches and procedures.

Drug addicts

Afghanistan produces 80% of the world's opioids, and the country has one of the highest number of people who use drugs in the world, an estimated 11.1% of the population uses drugs. The Afghanistan national drug survey of 2015 found that 2.5-2.9 million Afghans had used drugs in the past year. About 7% (1.9-2.3 million) of the population used opiates and 0.9-1.1 million-used cannabis. In another study of urban drug user in Afghanistan, 11.1% of the study subjects tested positive for any drug, and 5.6% of the subjects consumed opioids.

As people who use drugs generally have a much higher risk of developing TB than the general population and worse TB treatment outcomes, the NTP has initiated TB screening among drug addicts at Drug Addicts Centers in Kabul, Balkh, Herat, Kandahar and Jalalabad cities. This intervention needs to be further expanded to all the provinces where the burden of drug addicts is very high.

Mentally ill patients:

In a population-based study led by the Centers for Disease Control and Prevention in Afghanistan, the prevalence of depression was found to be 73% and 59%; of anxiety, 84% and 59%; and of post-traumatic stress disorder, 48% and 32%, for females and males, respectively (Cardozo et al., 2005). Research has shown that people with mental disorders are also susceptible to TB (Singh et al., 2015). The survey in 2017 revealed the overall prevalence of TB among mentally ill patients in Afghanistan was 3,567/100,000—20 times higher than the national incidence rate. Thus, in Afghanistan, mentally ill patients are considered as high-risk population and the NTP plans to start TB screening among them (Qader et al., 2019).

TB and Diabetes

Among co-morbidities of TB with non-communicable Diabetes is one of most common diseases and considered as strong risk factor for TB. Recently, Afghanistan is one of the developing countries with a double burden of both infectious disease and non-communicable diseases such as TB and diabetes. In addition, in a high burden TB country such as Afghanistan, the estimated incidence and prevalence of TB among diabetes could actually be higher as globally and 15% of all adult TB cases were attributed to diabetes in 2013 (Lonwroth, 2014). Thus, the NTP plans to conduct TB screening among diabetic patients.

TB in congregated settings

WHO and International Labor Organization (ILO) suggested that workplaces especially with condensed populations and contained environments might create risks for transmission of TB among workers and should be an appropriate setting for initiating TB care and preventive activities. In addition, certain occupations such as mining, textile work or worker in marble industries have higher risks to develop TB. Thus, the NTP has initiated TB screening in selected occupational settings. In preliminary study in occupational settings in Kabul such as textile factories, screening by digital X-ray and GeneXpert revealed higher incidence of TB (approximately 300/100,000). Thus, the NTP plans to expand TB screening at congregated occupational settings.

As mentioned in section 2.4, currently about 80% of DR-TB cases are not diagnosed and low utilizations of GeneXpert units is considered as a major cause for this situation. Among the total 873 diagnostic health facilities, 47 (mostly regional, provincial and district hospitals) have been equipped with GeneXpert. Apart from these 47 sites, GeneXpert has been installed in five reference labs, which also conducts viral load testing for HIV. In addition, other 18 sites will be equipped with GeneXpert machines during early 2020. The NTP's diagnostic algorithm requires testing of all bacteriologically confirmed TB cases with GeneXpert at these facilities referred from nearby diagnostic facilities. However, not all the notified bacteriologically confirmed TB cases were tested using GeneXpert due to limited resources and weak sample transportation referral system. During 2018, 19,696 tests (8,826 presumptive TB cases, 10,032 new bacteriologically confirmed TB cases, 1,628 retreatment TB cases and 442 Extra pulmonary and clinically diagnosed) were carried at 42 GeneXpert sites. The NTP has made efforts to improve this situation, in 2019 the number of tests increased up to 52,783 (44,815 presumptive TB cases, 5,478 new bacteriologically confirmed TB cases, 2335 Extra pulmonary and clinically diagnosed and 883 retreatment TB cases) at 47 GeneXpert sites in 25 provinces. However, majority of them (44,815) were presumptive TB cases and only 5,478 bacteriologically confirmed cases and 883 re-treatment cases were tested, resulting in only 486 cases of RR MDR-TB. This signifies that

over 50% of the notified bacteriologically confirmed TB cases remained untested using GeneXpert and NTP still needs to mobilize resources, expand the network of GeneXpert further and address the weaknesses of the sample transportation system. (Table 7)
Four private hospitals in Kabul city also have GeneXpert machines. However, no reporting mechanism is in place from these private GeneXpert sites, which is a major challenge for the national data collection and enrollment of DR-TB cases detected in these hospitals.
Weak coordination with the Provincial Laboratory Supervisors (PLSs) in provinces with the GeneXpert sites is another cause for missing RR MDR-TB cases in the community after diagnosis, and the real and accurate data was not in place. Introducing the GxAlert will enable NTP to receive real time data to reduce the number of missing RR diagnosed cases in GeneXpert sites.

Table 7: Test by GeneXpert

Year	5	25	25
Number of provinces with GeneXpert machines	2017	2018	2019
Total GeneXpert Machines	10	42	47
Total test performed	5,893	20,197	52,783
Total Error	256	501	428
Total MTB detected	1,354	10,418	11,154
Total RR detected	195	452	486
Presumptive TB tested with GeneXpert	0	8,826	44815
MTB detected	0	386	4,551
RR detected	0	0	47
Bacteriologically confirmed TB Cases	430	10,032	5,478
MTB detected	80	10,032	5,478
RR detected	8	252	273
Re treatment TB tested with GeneXpert	126	1,628	883
RR detected	10	199	150
Extra pulmonary and clinically diagnosed tested with GeneXpert		442	2,335
MTB detected		39	242
RR detected		1	16

Strategic interventions and activities

2. 1: Strengthen and increase access to quality child TB case management

2.1.1: Revise and update the child TB case management guidelines with recent WHO recommendation
2.1.2: Implement diagnostic algorithm for child TB case management according to various levels of health facilities
2.1.3: Assess and improve the availability and functionality of diagnostic tools (TST, X-ray, Xpert and others) within each hospital
2.1.4: Strengthen the capacity of health staffs on revised childhood TB case management guidelines
2.1.5: Strengthen and expand childhood TB care services to the private sector
2.1.6: Introduce specific mechanism for referral of presumptive TB cases for diagnosis

2.1.7: Introduce and functionalize a child working group to assure implementation of childhood TB case management with SOPs at national and provincial levels
2.1.8: Strengthen coordination and collaboration between NTP and child health department of MOPH: Integrate childhood TB case management SOPs into RMNCH strategy
2.1.9: Promote utilization of digital fixed and portable X-rays for childhood TB detection
2.1.10: Introduce artificial intelligence for reading X-rays to improve quality of childhood TB case detection.

2.2: Conduct active TB screening among IDPs in the country
2.2.1: Continue the current approaches of IDPs' screening in the existing camps of five provinces using the already approved approach of engaging community volunteers in the screening.
2.2.2: Map the IDP settlements across the country with highest burden along with the nearest health facilities providing TB care services (diagnosis and treatment)
2.2.3: Expand active TB screening among IDPs in new IDP settlements across 10 additional provinces.
2.2.4: Introduce specific referral mechanisms for confirmed TB cases among IDPs especially when they relocate to their original residence.
2.2.5: Strengthen the recording and reporting system among IDPs.

2.3: Initiate TB case management activities among returnees in the border setting in the country
2.3.1: Assess the situation of returnees' inflow at the border settings of the country
2.3.2: Assess the current situation of TB case management in the border setting and identify areas of potential investments
2.3.3: Commence active TB screening of returnees at the border setting through transport sputum sample of presumptive TB patients to nearest GeneXpert sites and refer other presumptive TB cases with general symptoms to nearest hospitals for further evaluation.
2.3.4: Introduce functional referral mechanism to avoid lost to follow up of presumptive TB cases and confirmed TB cases for continuation of treatment.
2.3.5: Strengthen surveillance for TB among returnees along with recording and reporting
2.3.6: Improve coordination between relevant stakeholders as MoRR, IOM, UNHCR, OCHA and others to ensure returnees are included in TB service planning from the outset
2.3.7: Establish and strengthen cross-border coordination and referral mechanisms of confirmed TB cases with Pakistan and Iran.

2.4: Conduct active TB screening among prisoners in the country
2.4.1: Strengthen prison-based TB care services through improving coordination between prison, general healthcare service delivery and NTP staffs
2.4.2: Raise awareness about TB among inmates and prison medical and non-medical staff.
2.4.3: Conduct screening of new inmates and periodic screening of prisoners and penitentiary services staff to detect active TB in a timely manner in all provinces.
2.4.4: Functionalize sample transportation for prisoners presumptive TB patient to nearest diagnostic health facility
2.4.5: Improve communications between prisons to ensure treatment follow-up after transfer and facilitating transfer to community health facility for released prisoners
2.4.6: Sustain and improve recording and reporting tools among prisoners

2.4.7: develop a national framework for TB in prison and collaboration approach between NTP and penitentiary centers

2.5: Conduct active TB case management among drug addicts

2.5.1: Map all the drug addicts who are hospitalized and not hospitalized (living in groups) in big cities across the country
2.5.2: Conduct active TB screening among drug addicts in both group (hospitalized and not hospitalized).
2.5.3: Introduce and functionalize sample transportation for drug addicts' centers where no lab services are available
2.5.4: Introduce mechanism for treatment follow up of both non-hospitalized drug users and hospitalized drug users when their treatment period is completed
2.5.5: Strengthen surveillance of TB case finding with recording and reporting to know the real burden of TB among drug users

2.6: Initiate TB case management activities among mentally ill patients in the country

2.6.1: Map all mental health hospitals across the country and identify the potential ones for commencement of TB case management activities
2.6.2: Conduct active TB secreting among mentally ill patients.
2.6.3: Strengthen surveillance for mentally ill TB patients along with recording and reporting to find the real burden of TB among mentally ill patients.

2.7: Initiate TB case management activities among diabetic patients in the country

2.7.1: Map all diabetic centers across the country and identify the potential ones for commencement of TB case management activities
2.7.2: Conduct active TB secreting among diabetic patients
2.7.3: Strengthen surveillance for diabetic TB patients along with recording and reporting to find the real burden of TB among diabetic patients.

2.8: Promote systematic screening of TB infection at occupational settings

2.8.1: Identify workplaces and surrounding communities known to be at high risk of getting TB infection
2.8.2: Organize advocacy meetings with senior authorities to increase the awareness of workers on TB infection
2.8.3: Develop plans for TB screening at workplaces and conduct screening at target workplaces
2.8.4: Introduce infection prevention measures at the workplaces to reduce the risk of transmission of TB infection among other workers

2.9: Promote the efficacy of GeneXpert for early MTB and RR/MDR case detection

2.9.1: Equip the EPHS/BPHS hospitals with GeneXpert machines
2.9.2: Regularly supply the hospitals with consumables of GeneXpert
2.9.3: Connect the GeneXpert newly installed machines to GxAlert
2.8.4: Build the capacity of the EPHS/BPHS hospitals lab technicians on GeneXpert
2.8.5: Strengthening access to GeneXpert services through scale up the sample collection and transportation system

Strategic Direction 3: Engage all care providers

Situational Analysis

Urban DOTS: Under the Urban DOTS approach, the TB services expanded to various health facilities including both public and private and non-MOPH facilities and prisons in some provinces. This approach includes training of health care staff, regular supply of anti TB drugs and laboratory consumable, in addition, supply of standard recording and reporting forms and formats with regular supervision and monitoring. The redesigning of health facilities to provide safe work environment for healthcare staffs, advocacy workshops for TB, awareness raising events for students of schools and universities, contact tracing and investigations and quarterly review workshops are other approaches. This approach enabled the public and private health facilities to provide TB services more sustainably, through their own funding and non-monetary assistance from the MOPH/NTP such as supply of reagents and anti-TB drugs.

Currently the NTP has expanded urban DOTS to 97 private, 12 National hospitals, and 10 non-MoPH health facilities and in total urban DOTS, coverage has reached to 119 health facilities.

Eventually, these interventions resulted in increased case detection; during 2017-2019, 127,806 presumptive TB identified and among them 11,009 all forms of TB cases detected

However, in four major cities, only a half of total public and private health facilities have been covered by urban DOTS interventions at this moment. Thus, this approach should be scaled up at current sites and geographically expanded as well.

PPM:

PPM**:** Although NTP has expanded PPM to certain number of major cities in 24 provinces and a total of 811 private practitioners were engaged according to the NSP 2017-21, those expansions was not done through systematic planning. For participation of private practitioners or laboratories in expanded areas, only parts of targets were achieved at this moment. Thus, in addition to geographical expansion, increasing participant rate in target areas is crucial. In addition, M&E mechanism for the PPM program is still weak and proper monitoring had been done only in few provinces. Data collection has been regularly done in 24 provinces. Therefore, nationwide expansion of the PPM is one of the key approach of this NSP

Strategic interventions and activities

3.1: Update the policies and strategies for PPM and Urban DOTS

3.1.1: Revise the PPM and Urban DOTS strategies and guidelines in line with the latest globally PPM strategy and Road Map

3.1.2: Revise the existing MoU with private hospitals for utilization of their new technologies for TB case detection

3.1.3: Establish job aides (rather than guideline) as diagnostic algorithms in private health providers including the urban sittings

3. 2: Expansion of PPM/Urban DOTS in public and private hospitals and health care facilities

3.2.1: Conduct nationwide mapping of existing public and private hospitals/clinics for feasibility of TB service delivery

3.2.2: Scale up PPM/Urban DOTS in new provinces and conduct introductory workshops to

selected providers
3.1.3: Conduct training courses for related staff on PPM/Urban DOTS guidelines
3.2.4: Engage private laboratories, private pharmacies and traditional healers with PPM/Urban DOTS
3.2.5: Introduce well-defined referral mechanism for decline the loss of identified presumptive TB cases while they are referred
3.2.6: Strengthen and expand urban DOTS into tertiary and specialized hospitals
3.2.7: Motivate the private hospitals to utilize new diagnostic technologies for detection of TB
3.2.8: Incentivize the private and public hospitals based on their performance

3.3: Scale up M&E mechanism for PPM/Urban DOTS activities
3.3.1: Improve the TB recording and reporting system of PPM/Urban DOTS
3.3.2: Conduct supportive supervision and periodic monitoring on PPM/Urban DOTS
3.3.3: Conduct quarterly review meetings for PPM/Urban DOTS
3.3.4: Conduct periodic PPM/Urban DOTS evaluation workshops
3.3.5: Conduct periodic assessment for cost efficiency of PPM/Urban DOTS

Strategic Direction 4: Expand and Strengthen TB Laboratory Network

Situational Analysis

The NTP has been adapting the internationally recommended laboratory guidelines and manuals and routinely updated operational guidelines/manuals for GeneXpert, direct Sputum Microscopy, sample transportation, External Quality Assurance (EQA), culture and DST etc. The program also receives periodical technical support from international lab experts through international in-country missions and from Supra Reference Laboratory (SRL) ; Agha Khan University, Karachi/Pakistan. Such technical supports guide the program to improve all aspects of the program including the laboratory services. Through these technical assistance and financial support by technical partners and donors, the NTP has established functional laboratory network for diagnosis of TB with quality control mechanisms as mentioned in section 2.3.
Despite these significant progresses, there are still several important issues to enhance the capacity and functions of the laboratory network. These include:
(For detailed situation analysis on utilization of GeneXpert and strategic directions, please see Strategic direction 2.)

- Commencing with human resources; the NTP has established domestic training system on TB diagnosis, however, the NTP needs to develop the capacity of the core staffs to manage the laboratory network, including timely and adequate introduction of innovative techniques, through international training courses**.**
- For DSM, it is necessary to cope with frequent turnover of trained staffs.
- Despite having a good coordination with BPHS and EPHS and integration of TB services in these two packages, management of microscopes is not properly done in some of health facilities, resulting in low quality of DSM.
- Despite providing microscope and consumables for LED, the utilization of these microscopes are still low.
- For quality assurance of DSM, due to resources restriction, the nationwide EQA by blind cross checking has been implemented on biannual basis, resulting in delay of onsite training

for major or minor errors. Also, sampling methods should be adopted to WHO recommendations (all positive and 10% negative slides from each health facility).

- For advanced diagnostic techniques, currently two TB LAMP machines in Herat and Nangarhar Reference Laboratories are available and 49 GeneXpert units with GxAlert are available, the NTP plans to cover all diagnostic health facilities by GeneXpert machines till end of 2025 to replace the DSM according to the WHO recommendation. For this purpose, the NTP needs to ensure trained human resources, maintenance and supply systems for diagnosis kits. Culture/DST is available all RRLs, in addition of NRL. However, the NTP needs to expand culture and DST laboratory network by considering population coverage and geographical access. Thus, the NTP plans to expand culture/DST into 4 major laboratories (Kandahar, Paktia, Kunduz and Bamyan) ensuring trained human resources are in place. Also, rapid DST (Line Probe Assay: LPA) should be expanded to RRLs.
- There is no laboratory data management system and only some indicators for performance are available.
- The NRL and existing RRLs have been lacking in microbiologist to manage laboratory functions and biomedical engineers for maintenance of facilities and equipment. Also, they need regular up-date of these facilities and equipment as well as ensuring the regularly adopt and practice latest procedures and techniques.

Strategic interventions and activities

4. 1: Strengthen and improve quality of sputum microscopy network

4.1.1: Enhance the periphery laboratories functionality assessment mechanism
4.1.2: Incorporate microscope functionality data, including LED microscope, in TB quarterly reporting formats
4.1.4: Strengthen the coordination with implementers ensuring regular physical checking of the microscopes
4.1.5: Improve the capacity of laboratory staff on direct sputum microscopy

4.2. Improve Quality Assurance for sputum microscopy

4.2.1: Aligning the TB External Quality Assessment guideline with WHO recent guidelines
4.2.2: Develop capacity of relevant staff of laboratory to adopt the recent changes on EQA
4.2.3: Implementing the applicable mechanism for collection of the slides for EQA in country
4.2.4: Improve Internal Quality Assessment system at field level

4.3: Expand coverage with improved quality for culture and DST to 4 new RRLs

4.3.1: Carry out the assessment for establishment of new RRLs
4.3.2: Develop plan for constructing and functionalizing (equipment and staffing) 4 new RRLs
4.3.3: Strengthen the capacities of the reference lab staffs on culture and DST (conventional and rapid)

4.4: Improve functionality of existing NRL and RRLs

4.4.1: Carry out assessment of the NRL and RRLs to know the existing gaps
4.4.2: Develop plan for scaling up the NRL along with RRLs
4.4.3: Build the capacities of reference lab staffs on culture and DST (conventional and rapid)
4.4.4: Introduce liquid culture at NRL and accordingly build the relevant capacities

4.4.5: Recruit biomedical engineer and microbiologist for NRL and RRLs

4.5.: Improve quality of culture and DST (conventional and rapid)
4.5.1: Develop the guideline for EQA of culture and DST (LPA)
4.5.2: Strengthen mechanism for sample transportation to SRL for EQA
4.5.3: Conduct regular supervision of reference laboratory by NRL and SNRL

4. 6: Introduce and promoting laboratory data management system
4.6.1: Update the recording and reporting system for Laboratory data
4.6.2: Incorporate the TB periphery laboratories data into TBIS
4.6.3: Develop TB laboratory specific database for NRL and RRLs

Pillar 2: TB Treatment and Follow up

Strategic Direction 5: Enhance successfully treatment of Drug susceptible and Drug Resistant patients

Situational Analysis

DS-TB Treatment

The NTP has continued achieve treatment success rate around 85% since introduction of DOTS strategy and with the introduction End TB strategy this increased further, for 2018 cohort the treatment success rate was 91%. The NTP needs to sustain and further enhance achievements on treatment through uninterrupted provision of quality assured anti-TB medicine and enhancing treatment support through community-based DOTs or other measures. For this purpose, necessary intervention is listed in several other Strategic directions (Strategic direction 3, 15 and 16)

To improve treatment of DR-TB patients, as mentioned in section 2.3, in addition to 2 existing PMDT sites (Kabul: Afghan Japan Communicable Disease Hospital, Kandahar: supported by MSF since 2016), the NTP extended PMDT services in 3 provinces (Herat, Balkh, Nangarhar) where new PMDT wards with 25 beds were constructed by the support of the TGF in 2018. Furthermore, two other PMDT sites (Paktia and Kunduz) are ready to be operated.
For fully operationalization of 5 PMDT sites (other than AJCDH and Kandahar), the relevant PPHDs with support of NTP and co-finance recruited12 staffs (four medical doctors, four nurses and four supportive staffs) each site. The technical staffs in all PMDT sites (doctors and nurses) have received training on PMDT. Apart from the PMDT sites staff, the PTCs of all 34 provinces were also trained on management of DR-TB. However, staffs in health facilities, which are expected to refer such patients to these wards have not been trained on DR-TB either primary or secondary health facilities. Such practice weakens the referral system and shows low coordination of the BPHS and EPHS implementing partners to follow the treatment of DR-TB patients. As results of these expansions of PMDT sites, a total of 1,365 DR-TB patients have been enrolled since 2011 in all these PMDT sites. The summary of the enrolled DR-TB patients in each of the PMDT sites is shown in Table 8. Despite tremendous progress in those years, still the targeted RR-TB case 300 in 2017, 450 in 2018 and 600 in 2019 not enrolled.

Table 8: Enrolled DR-TB cases in each PMDT site

Year	DR-TB enrollment						
	AJCDH	Herat	Balkh	Nangarhar	Kandahar (MSF)	Transfer in	Total
2011	21	0	0	0	0	0	21
2012	34	0	0	0	0	4	38
2013	46	0	0	0	0	3	49
2014	87	0	0	0	0	2	89
2015	80	0	0	0	0	3	83
2016	138	0	0	0	4	11	153
2017	160	6	4	0	28	3	201
2018	121	79	80	2	*43*	*2*	327
2019	103	83	136	31	*43*	*8*	404
Total	**790**	**168**	**220**	**33**	**118**	**36**	**1365**

With the efforts by the NTP and PMDT staffs, Afghanistan managed to achieve somehow higher TSR (63.1%) (Cohort 2017) as compared to global rate of 56% during 2018. (Table 9) However, still there are several issues to be improved regarding case management.

Table 9: Treatment outcome of DR-TB since 2011.

Year		SLDs treatment outcome						
	Enrolled Patient	Cured	Completed	lost to follow up	transferred out	Failed	Died	Still on treatment
2011	*21*	18	0	0	1	0	2	0
2012	*34*	23	0	4	1	0	6	0
2013	*46*	29	1	8	1	1	6	0
2014	*87*	57	2	19	0	0	9	0
2015	*80*	50	1	15	0	0	14	0
2016	*142*	85	1	31	1	4	20	0
2017	*198*	118	7	48	0	2	23	0
Total	***608***	***380***	***12***	***125***	***4***	***7***	***80***	***0***

Recently, the NTP adopted the following treatment regimens for enrolled DR-TB patients based on WHO rapid communication and consolidated PMDT guideline since September 2019. These are:

- **RR/MDR Long Term Treatment Regimens (LTRs):**
  - For adult or children from 6 onward age: 6 Bdq-Lfx/Mfx-Lnz-Cfz-Cs/12-14 Lfx/Mfx-Lnz-Cfz-Cs
  - For children 3-5 years as well as under 3 years' age: 6 Dlm-Lfx/Mfx-Lnz-Cfz-Cs/12-14 Lfx/Mfx-Lnz-Cfz-Cs
  - For pregnant women: 6 Bdq-Lfx/Mfx-Lnz-Cfz-Cs/12-14 Lfx/Mfx-Lnz-Cfz-Cs
- **RR/MDR (Resistant to FQ)/XDR Long Term Treatment Regimens (LTRs):**
  - For adult or children from 6 onward age: 6 Bdq-Dlm-Lnz-Cfz-Cs/12-14 Lnz-Cfz-Cs
  - For children 3-5 years as well as under 3 years' age: 6 Dlm-Lnz-Cfz-Cs/12-14 -Lnz-Cfz-Cs
  - For pregnant women: 6 Bdq-Lnz-Cfz-Cs/12-14 Lnz-Cfz-Cs
- **RR/MDR cases eligible for Short Term Treatment Regimen (STR):**
  - 4-6 Am-Mfx/Lfx-Cfz-Pto/Eto-E-Hh-Z/5 Mfx/Lfx-Cfz-E—Z

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Despite these progresses, there are still certain challenges to enhance PMDT:
The major challenge is to improve case findings and detailed strategic interventions for improving and expanding sample transportation and optimal utilization of GeneXpert and are in the Strategic direction 2.

- Increased number of defaulted cases: Currently more than 20% of cases enrolled into treatment become defaulters, especially in early phases of treatment.
- Further expansion of PMDT site: Ensuring geographical access to PMDT, new PMDT site is necessary in the Central highland area (Bamyan).
- The NTP has been decentralizing PMDT, but still its policy for treatment of DR-TB cases is based on hospitalization and ambulatory treatment has not yet been available.
- Shortage of human resource with quality for PMDT sites including laboratory technicians for culture/DST/LPA.
- Insufficient clinical management of cases: Public health facilities often could not provide opportunities for accessory clinical examination, which are necessary for case management such as audiometry, or hormonal examinations and patients need to pay out of pocket to receive these examinations, resulting in increasing drop out cases.
- Management of PMDT at provincial levels: For PMDT, the NTP central still takes responsibility for DR-TB data (ENRS) management, drug management of SLDs (supply to provinces) and supply of ancillary medicines and necessary equipment. However, capacity of provincial TB team for PMDT management should be enhanced to take over these responsibilities for effective and timely implementation and monitoring of the program.
- For surveillance of DR-TB, the NTP has applied ENRS to all PMDT sites, but the system should be enhanced to capture the DR-TB data routinely and report it regularly.
- Implementation Drug Resistance Survey (DRS): DRS has not been conducted since 2011, it is necessary to find actual burden of DR-TB at the community and national level to develop more precise strategies and plan accordingly.

Strategic interventions and activities

5. 1: Expand and decentralize PMDT services

5.1.1: Assess the current situation within Bamyan provincial hospital to know the available gaps for operationalization of PMDT site
5.1.2: Provide required PMDT commodities (recording tools, SLD, ancillary medicine and complementary diagnostic and treatment follow up monitoring tools and consumables)
5.1.3: Provide PMDT training to engaged staff and conduct regular supportive supervision and monitoring of PMDT services

5. 2: Improve and scale up access to diagnosis of DR-TB, monitoring and side effects management

5.2.1: Establish a complementary laboratory within each PMDT site to carry out routine examinations (micro-lab, ELISA, ZN, ECG, audiometry, vision acuity test and electrolyte analyzer) and provide relevant consumables
5.2.2: Build a medical and non-medical item stocks to ensure Good Storage Practice for TB products in each PMDT services
5.2.3: Build a kitchen and laundry room for Herat and Nangarhar PMDT sites and equip with necessary equipment
5.2.4: Procure room for patients care givers and equip with necessary equipment in PMDT sites

5.2.5: Provide regular capacity building opportunities for PMDT staff and provincial TB teams about recent changes on DR-TB management
5.2.6: Conduct regular supportive supervision and monitoring of PMDT services along with provincial TB teams
5.2.7: Develop maintenance plan for buildings of PMDT sites

5.3: Strengthen DR-TB patient's enrolment and treatment follow up
5.3.1: Introduce and implement effective mechanism to address the challenge of initial loss to follow up DR-TB patients
5.3.1.1: Strengthen the follow up mechanism among referral points, TB provincial team, PMDT sites and GeneXpert sites to decline DR-TB initial defaulter rate
5.3.2: Improve the follow up mechanism for tracing the lost to follow up of enrolled DR-TB patients

5.4: Introducing ambulatory treatment of DR-TB
5.4.1: Develop PMDT decentralization plan: Establish a committee to work on procedures of decentralized mechanism and develop the plan for introduction of ambulatory treatment
5.4.2: Update DR TB Guideline following WHO recommendations including adoption of oral and ambulatory treatment policy and treatment regimens
5.4.3: Conduct orientation workshops to all relevant staff on principles, process and outcomes of the ambulatory mechanism of DR-TB treatment in the selected areas
5.4.4: Conduct regular supportive supervision and monitoring in the selected areas
5.4.5: Review results in selected areas and develop expansion plans for ambulatory treatment

5.3: Promote DR-TB recording and reporting system using digital technology
5.3.1: Integrate PMDT's recording and reporting system with TBIS and national HMIS
5.3.2: Assess feasibility of integrating the PMDT in the healthcare delivery and information system to identify potential areas of support
5.3.3: Develop mutual protocol among relevant entities for effective integration of the PMDT within both healthcare delivery and information system

Strategic Direction 6: Enhance Patient Support

Situational Analysis

There have been no official social support mechanisms including public health insurance and official compensation measures for disabled or sick persons in Afghanistan. This is crucial problems affecting almost all populations including those affected by TB. As most of the patients cannot receive proper treatment due to catastrophic expenditures for transportation cost, loss of earning and other financial implications for a long period this results in continuation of living with TB disease and transmission and often results in deaths which are preventable. To introduce official social protection measures is not the matter of the one program or disease and its lack has tragic consequences. The NTP will take initiatives through launching possible mechanisms for patient support starting with DR TB patient in PMDT. This may be a trigger in Afghanistan, to introduce social protection mechanisms.

For social and economic support in PMDT, currently only economic support has been provided (monthly transportation cost to PMDT sites covered through the TGF program). However, patient support with comprehensive viewpoint is necessary. For better treatment outcome, including avoiding drop out at the start or during treatment, the necessity for frequent visits to PMDT sites for treatment follow up, food support to provide protein rich diets is important as most of patients are poor and have no provisions or money for better nutrition. Provision of monthly food baskets to both hospitalized and non-hospitalized DR-TB patients is essential.
In addition to economic hardship and issues, it has been evident that DR-TB patients suffer from and require psychologically and social support. Therefore, DR-TB case management require additional and long-term support for both the patients and their caretakers. In order to alleviate psychological suffering, psychosocial counseling sessions should be provided to patients during both intensive and continuation phase of treatment. A specific mechanism should be established to support recreational activities specially to hospitalized DR-TB patients. In addition, income generation activities could be supported to hospitalized DR-TB patients to reduce their psychological stress.

Strategic interventions and activities

6.1: Strengthen DR-TB patient's enrolment and treatment follow up
6.1.1: Provide patient support (Transportation cost) to motivate diagnosed DR-TB patients for enrolment at the PMDT sites
6.1.2: Provide monthly and regular support (transportation) to the enrolled DR-TB patients to ensure treatment continuation and completion
6.1.3: Provide monthly and regular support (food basket) to the enrolled DR-TB patients to motivate them for completion treatment
6.1.4: Provide entertainment and vocational skills facilitation for DR-TB patients during hospitalization.
6.1.5: Recruit psycho - social consular in PMDT sites

Strategic Direction 7: Strengthen Pharmacovigilance

Situational Analysis
Medicine Safety Committee (MSC) of National Medicines and Health Products Regulatory Authority (NMHRA) has introduced Pharmacovigilance (PV) in the NTP in late 2017. Thereafter, 30 participants from MDR wards in the country received training on the reporting formats and other essential topics. However, this training need to be extended to all concerned health facilities staffs not limited to only PMDT staff in order to cover the TB program and all of its services. In addition, the NTP has introduced the aDSM to cover the recording, reporting and mitigation action toward adverse events especially due to the second line anti TB medicines. However, reporting system, including web based data system is not sufficient to cover all PMDT sites and needs to be strengthened and this system needs to cover ordinary TB care services as well.

Strategic interventions and activities

7.1 To institutionalize the pharmacovigilance system for anti- TB medicines and strengthen ADR reporting and management

7.1.1: Adapt the pharmacovigilance WHO guideline for anti-TB medicine in Afghanistan
7.1.2: Build the capacity of health service delivery level staff on ADR/ADE on TB products
7.1.3: Strengthen the recording and reporting of ADR/ADE at specific levels of TB Program service delivery level
7.1.3.1: Perform cohort analysis reports received from service delivery level
7.1.3.2: Establish digitalized system (VigiAccess) for real time reporting of ADR/ADE
7.1.3.3: Strengthen reporting system for ADR/ADE with national Medicine Safety Committee
7.1.3.4: Establish the linkage of TB ADR/ADE reporting with Uppsala Monitoring Center
7.1.3.5: Ensure active and timely monitoring and management of adverse drug reactions and ADE at PMDT sites

Pillar 3: TB Prevention

Strategic direction 8: Strengthen Latent TB infection (LTBI) Control

Situational analysis

The NTP has already taken initiative in rolling out LTBI management in the country and TB preventive therapy. In addition to contact management for children, under 5 years old as a routine procedure, infection prevention strategies have been developed aligned with WHO recommendation, which are mostly observed within the healthcare settings. In addition, the NTP introduced TST in hospitals for diagnosis of LTBI. Recently, the NTP conducted the survey entitled as "IPT among high-risk women after their deliveries". Its preliminary data is available on burden of LTBI in the country especially among women with poor reproductive indicators (married or became pregnant before 18 years, had more than five pregnancies and had shorter than 2.5-year birth interval) which was found to be 27%. At the same time, the survey also provided evidence for expansion of the TB preventive treatment among high-risk women who mainly those with poor reproductive indicators. The study found that there was documented reduction in female TB cases in two provinces with no significant cases with adverse effect. Thus, the intervention could be replicated in the provinces where female TB cases dominates male TB cases and in the context of Afghanistan

Besides these opportunities, there were some weaknesses, which need to be addressed and further improved for LTBI management in the country as follows:

- Unavailability of an articulated policy for LTBI management, resulting in difficulty to know detailed information on target groups for LTBI management in the country and specific algorithm for screening, testing and treatment of the eligible peoples.
- Despite the set indicator in the NSP 2017 – 2020 to detect and treat around 10,000 LTBI cases, capacity for diagnosis of LTBI is very low technically and geographically.,
- Availability of IGRA for diagnosis of LTBI is extremely limited.
- Lack of knowledge and information about LTBI among health care staffs including private sectors
- Lack of specific LTBI targeted ACSM activities, which needs to be addressed for better awareness of the general population for LTBI.

Strategic interventions and activities

8.1: Develop the guidelines for LTBI
8.1.1: Develop the Latent TB Infection guideline, SOPs and monitoring tools in line with WHO guideline
8.1.2: Include LTBI management into TB training modules
8.1.3: Conduct trainings on the management of LTBI to the identified specific target groups of healthcare workers
8.1.4: Develop recording and reporting system for LTBI

8.2: Identify high-risk groups for LTBI management in the country
8.2.1: Identify target groups known as high-risk groups for LTBI
8.2.2: Develop screening and testing algorithms for these specific high-risk groups and incorporate into the LTBI guideline
8.2.3: Develop and include ACSM strategy and necessary materials for LTBI into the general ACSM framework in the country
8.2.4: Strengthen the in-country capacities for identification and management of LTBI and increase access to LTBI services
8.2.5: Introduce approaches to expand LTBI screening and treatment in the private sector

8.3: Extend TB preventive therapy among women with poor reproductive indicators especially during post-partum period
8.3.1: Develop an SOP for screening of high-risk women after their deliveries and incorporate it within guideline for LTBI management based on experiences of study on provision of IPT to high-risk women after their deliveries
8.3.2: Expand the study experiences to hospitals where TST is already available and to provinces with higher F: M ratio for TB to reduce the burden of TB among women

8.4: Introduce TB preventive therapy for contacts of patients with DR-TB
8.4.1: Develop SOP for TB preventive therapy for contact of patients with DR-TB and include it in the guideline for management of LTBI
8.4.2: Consider TB preventive therapy among selected high-risk household contacts of patients with DR-TB based on individualized risk assessment and a sound clinical justification

Strategic Direction 9: Enhance Contact Investigation

Situational Analysis

For household contacts of both drug susceptible and drug resistant TB, previously only passive contact management was implemented for DS-TB. However, considering the importance to detect TB cases in early stages and prevent spreading TB among household contacts, the NTP has initiated active contact management through home visit by health facility staffs with favorable results (see 2.3). Thus, the NTP needs to scale up this intervention.
In addition, it is important to conduct contact management in other settings such as occupational sites for adults and schools for children. However, no measures have been taken until now. Thus, to address to all these sittings, NTP needs to find out proper approaches.

Strategic interventions and activities

9.1: Enhance active TB contacts investigation

9.1.1: Scale up active household contact screening for all registered DS-TB cases management in all provinces, including hard to reach areas

9.1.2: Scale up active household contact screening for all registered DR-TB cases (long-term follow-up policy at each 3 months during treatment and each 6 months' post treatment including patient)

9.1.3: Provide IPT for children under five years old in contacts with index TB patients

9.2: Developing mechanisms for contact management in occupational and educational settings

9.2.1: Develop protocols for contact management in occupational and educational settings

9.2.2: Conduct pilots in several areas based on the developed protocol

9.2.3: Evaluate results of pilots

9.2.4: Finalize protocols and develop plans for expansion of contact management in occupational and educational settings

Strategic Direction 10: Strengthen infection control

Situation Analysis

The NTP has obtained significant achievement in this area as describe in section 2.3. Additionally, from October 2015 until December 2019, 2,400 health staff (250 female and 2,150 male) were trained on TB infection control (TBIC) strategies and standards. Furthermore, the structural design and engineering approaches of 250 additional health facilities were assessed to reduce airborne infections and primarily TB transmission, within the settings.

Further building on these achievements, the NTP plan to enhance TBIC measures, including TB laboratories and PMDT sites. These includes adequate control measures for each facility such as; organizing patient flow, reduce crowding, waiting time and maximize ventilation, address limitations due to poor design of facilities, which hampers effective implementation of TBIC measures. In addition, knowledge of health facility staffs including CHWs is still not adequate, in general, especially for risk management. Regarding infection of health care staffs, although screening for TB has been initiated as described above, still there are no compensation or support mechanisms for sick leaves.

Strategic interventions and activities

10.1: Strengthen infection control measures at all settings

10.1.1: Enhance airborne infection control precautions in health facility design for construction and renovation

10.1.2: Implement TBIC assessment and provide adequate control measures to all health facilities

10.1.3: Provide information regarding TBIC for congregate settings

10.1.4: provide information regarding TBIC for CHWs to avoid infection

10.2: Provide support for health care staffs for TB infection acquired at health facilities or during service delivery and duties

10.2.1: Develop annual and/ or need based Health screening surveillance program for all health care staffs working for TB Program in particular at the service delivery level
10.2.2: Provide compensation, paid leave, free treatment for the infected all health care staffs, and also ensuring duty flexibility

10. 3: Ensure bio-safety and TBIC for TB diagnostic laboratory services.
10.3.1: Developing, disseminating and /or implementing bio-safety guidelines for TB diagnostic centers
10.3.2: Implementing periodic laboratory bio-safety assessments
10.3.3: Renovation the laboratory wherever it necessary and conduct maintenance of equipment annually.
10.3.4: Providing Bio-safety training and necessary protection equipment for TB lab workers
10.3.5: Strengthen the application of waste management for reference laboratories

10.4: Scale up TBIC in MDR-TB hospital wards and outpatient clinics
10.4.1: Assess infection control measures in all PMDT services through IC assessment tool
10.4.2: Establish TB IC Committee to plan and implement TB IC measures
10.4.3: Train newly assigned health care workers on TB IC measures before starting work
10.4.4: Ensure provision of IC equipment, including personal protection equipment to all PMDT centers
10.4.5: Strengthen and adapt proper management of wastes at PMDT sites including MDR wards

PILLAR 4: SYSTEM STRENGTHEN

Strategic Direction 11: Address TB/HIV

Situational Analysis

The NTP has established mechanism for TB/HIV collaborative activities with Afghanistan National Program for AIDS STI and Hepatitis (ANPASH). Through this mechanism, both programs could develop a national policy, strategy and operational guidelines on TB/HIV and training curricula for TB/HIV collaborative activities at health facility level.

Collaboration between NTP and ANPASH has been strengthened by conducting regular monthly TB/HIV coordination meetings at national level and in some provinces. In addition, both parties have ensured the referral system of TB patients for testing HIV and HIV patients for TB screening.

Besides these, the coverage of TB testing for HIV patients has been increased to its highest rate of 81.5% in 2019. The VCCT centers in the provinces as well as in the central regularly refer eligible patients for investigation. The laboratory technicians in BPHS health facilities received training on HIV testing.

Despite these achievements, there are still certain challenges that require actions:

- All current interventions with favorable achievement need scaling up.
- Weak TB/HIV collaborative activities at provincial and health facility levels
- Weak implementation of TB/HIV policy at these levels and low coverage of TB patients testing for HIV at health facility level (58.3%)
- All strategic documents/guidelines should be updated to meet current international standards. The TB/HIV training curricula for collaborative activities at health facility level has not been revised since 2009.
- Limitation in using HIV tests for TB patients at EPHS
- Substandard storage of HIV test kits at the health facility levels
- Unavailability of HIV tests in 3 SM provinces and more than 160 HFs including private hospitals

Strategic interventions and activities

11. 1: Strengthen collaboration mechanism among NTP, ANPASH and their partners

11.1.1: Strengthen coordination between programs through conduction of regular monthly meetings at central and provincial levels

11.1.2: Scale up the referral system of TB patient for HIV testing and HIV patients for TB screening in VCCT centers timely

11.1.3: Develop annual Joint TB/HIV Collaboration Activities Action plan

11.2: Update the TB/HIV policies and strategies in line with globally accepted policies

11.2.1: Align the TB/HIV collaborative strategy with WHO recent strategy and revise the TB/HIV training guidelines/curriculum and SOPs based on recent updates for both programs

11.2.2: Update the TB screening algorithm for HIV by utilizing molecular diagnostic methods

11.2.3: Orient the NTP and ANPASH central and provincial staff on HIV updated policies and

strategies
11.2.4: Conduct TB control training for VCCT Staff and DOTS staff based on needs

11.3: Oversee the TB and HIV activities at provincial and health service delivery
11.3.1: Conduct joint regular supervision and monitoring activities by both programs
11.3.2: Ensure availability of HIV tests in all TB diagnostic centers public and private
11.3.3: Assure provision of TB treatment, IPT and Co-trimoxazole preventive therapy in VCCT centers
11.3.4: Strengthening contact screening for TB among PLWH
11.3.5: Strengthening TB/HIV surveillance

Strategic Direction 12: Address Gender mainstreaming and Human Rights

Situational Analysis

Gender mainstreaming and human rights should constitute major components of successful TB control in Afghanistan as poverty is a leading social problem and the Afghan society is a patriarchal society to create gender-based prejudice especially in communities, resulting in limitation for women to enjoy their basic rights. Accordingly, the NTP has taken steps to consider gender mainstreaming and human rights concepts into national TB response under the NSP 2017-21, guidelines, and policies that addresses to any gender types of any age groups. Thus, the NTP has done following activities regarding these areas:

- Conduction of two important studies pertinent to TB and gender which revealed women, especially with reproductive ages, as high-risk groups for TB and accordingly develop gender sensitive approaches and programming.
- Specific vulnerable populations have been identified for TB control such as IDPs, prisoners and mobile populations and interventions have been taken as in the Strategic direction 1
- TB data collection according to age and gender disaggregation at all levels.
- Conduction of numerous trainings to the health workers on patients' charter
- Numerous ACSM activities to reduce stigma for TB
- Developing TB patient association to work at community levels

Despite these achievements, still there are a lot to do to cover the existing weaknesses in this area.

- The male dominant structure of the program: The NTP needs to look for efficient and gender equal human resources management e.
- Still policies have not yet been developed to response to gender mainstreaming. This also include occupational risks related to gender.
- Training on patients' charter have supported to pervade human rights concepts, but still specific training modules are lacking in the TB control program includes sensitivity training in gender, human rights, stigma and discrimination for healthcare workers.
- Although numerous efforts have been taken, still community awareness on stigma and discriminations are not enough. Thus, those activities should be scaled-up.

As a health system related gap, health facilities across the country have gender imbalanced health staffs, which creates gender inequalities for healthcare provision as traditional culture prohibit females to be seen by male health care staffs.

Although the national action plan for women in Afghanistan was developed and enforced by the Ministry of Women Affairs. The NTP has not yet fully incorporated its vision on gender mainstreaming for TB control in Afghanistan.

Strategic interventions and Activities:

12.1 Enable policy environment for gender mainstreaming and human rights into the national TB response

12.1.1 Conduct a national survey to investigate the barriers to accessing TB services based on gender cultural norms with the use of the gender assessment tool for national TB response

12.1.2 Review all the existing TB guidelines and policies and bring necessary modifications to enhance gender mainstreaming

12.1.3 Introduce a multi-sectoral approach with involvement of the relevant actors to ensure and oversee gender mainstreaming into the national TB response

12.2: Scaling-up gender sensitive interventions

12.2.1: Design and scale-up interventions to respond to barriers among specific populations based on gender assessment

12.2.2: Introduce interventions for protection of occupational risks identified by the gender assessment

12.2.2: Implement designed interventions

12.2.4: Revise gender equality and human right responsive components of all training materials based on the gender assessment

12.2.5: Conduct trainings on revised material for the target groups

12.2.6: Revise gender equality and human right responsive components of IEC materials base on the gender assessment

Strategic Direction 13: Enhance Political Commitment and build multi-sectoral approach with accountability

Situational Analysis

The Government of Islamic Republic of Afghanistan (GoIRA) through its Ministry of Public Health (MoPH) has committed to End TB in Afghanistan. TB prevention, management, care and control are included in the national health strategy 2016 – 2020; this reflects the importance of ending TB as national health priority and mobilizing/guiding the required resources (financial and human) towards achieving the target. Also, one TB indicator (successful completion of treatment for enrolled TB cases) is among the 11 core indicators of the national health care delivery program (SEHATMANDI). Hence, all the BPHS/EPHS implementing organizations are required to achieve the targets related this indicator.

As the results of this strong commitment, recently GoIRA/MoPH provided $ 3.8 million for TB, HIV, malaria and HSS as co-finance with the Global Fund financial support and among this 46% was allocated to TB control program.

With these supports, the NTP itself has shown its commitment in the establishment of the national TB taskforce within the program with participation of the NTP technical team along with

partners. National TB taskforce discusses core TB program activities and accordingly takes decisions for a unified approach towards end TB goal and targets.

However, there are challenges and weaknesses observed within the program that requires more enhanced political commitment, this includes:

- As future support by donors are uncertain and there is need to increase the share of the co-financing for the Global Fund grant, the GoIRA/MoPH needs to increase its allocations for TB Program.
- Although principally TB services are free of charge, patients still need to provide out of – pocket expenditure in practice mostly resulting in catastrophic expenditure. This condition is common to all other health care services and partly due to lack of public health insurance system/scheme.
- Although the NTP has already taken multi-sectoral approaches through engaging private sectors and civil societies into its activities and collaboration with other public sectors such as Ministry of Interior and Ministry of Higher Education etc., TB Program still needs more comprehensive approaches to address inclusions of the other sector with potential for contribution in particular social, economic and other sectors dealing with poverty reduction, national development and others. Afghanistan will need to establish a wider Multi-sectoral approach involving and concerned public and private sector entities with an Accountability Framework as recommended by WHO.
- The TB elimination board has not been in place in the country. The elimination board should include policy makers, influential government authorities, representatives of donors and key affected populations. This initiative should routinely assess the progress towards achieving targets of End TB strategy and be an advocacy platform as well to attract further support towards TB control under the initiatives of STOP TB partnership.
- Some components of TB control program, which may be the same for other areas of health care services, needs legislative framework or legal control such as legal regulation on sale of anti TB medicine with prescription only and commodities and mandatory notification.
- Regional reference system among neighboring countries: although the NTP has already initiated the development of coordination and referral mechanisms with Iran, Pakistan and Tajikistan through the support of the Global Fund, still the NTP needs solid mechanisms backed by the GoIRA.
- As insecurity has been always a serious threat for TB control, the NTP needs to have contingency plan to keep program implementation as an emergency TB response to accommodate and ensure TB provision in the times of conflicts and social turmoil, which should be backed by the Government.

Strategic interventions and activities

13. 1: Increase and sustain the fund for evidence based TB Program activities in the country

13.2.1: Advocate for sustained domestic financial support for TB control by the GoIRA

13.2.2: Seek and sustain commitments and supports from both National and international funding recourses to assess NTP successfully implement and reach the NSP 2021-2025 targets

13.2.3: Advocate developing public health insurance system and social protection with provision for ending requirements and mechanisms for collaboration with all health sector stakeholders.

13.2.4: Ensure staff salary for TB control program

13.2 Adopt Multi-Sectoral Approach With Accountability Framework for TB (MAF-TB)

13.2.1: Identify key components to improve social determinants of tuberculosis infection and disease (such as levels of poverty, social protection, nutrition and housing quality)

13.2.2: Identify key and relevant institutions (governmental, non-state and other partners) and civil societies to develop the MAF TB and to take concrete measures for ending TB in Afghanistan.

13.2.3: Develop action plan for Afghanistan Multi-sectoral platform to strengthen the multi-sectoral response for ending TB.

13.2.4: Develop Multi-Sectoral Accountability Framework to monitor the progress of the action plan through regular and periodic meetings and provide necessary instructions to accelerate and support.

13.2.5: Revise the plans, policies and associated activities based on monitoring results

13.2.6 Prepare and submit MAF TB progress reports to WHO/UNGA as required

13.3: Improve policy legal environment for TB control

13.3.1: Strengthen national health information and vital registration system to enable reliable tracking of the TB epidemic (absolute numbers and trends in tuberculosis cases and deaths)

13.3.2: Implement the regulated payment of risk allowance for public and private health facility staff involved in TB Program activities

13.3.3: Develop the contingency plan to keep program implementation for emergency TB response in case of turmoil or conflict authorized by the GoIRA

Strategic Direction 14: Strengthen Human Recourse Development

Situation analysis

The MoPH has developed HRD/HRM polices for recruitment procedures, performance management, regulations/ qualifications for staff (including lay workers), retention and rewarding. These policies are in line with the policies of civil services commission and are a guidance for the NTP to managing its HR. In addition, regarding HRD for staffs involved into TB prevention, care and support services, the NTP develops and updates its policy documents in line with MoPH strategies/policies and WHO guidelines. These include training modules, training curricula for different cadres of health staff to build the capacities of health care providers both public and private and use the pre and in-service opportunities.

Although the NTP has already established functioning systems for HRD, there are still challenges in the area to improve quality of Tb control care services.

- The HRM/HRD SOP enables the NTP to implement effective day to day HRM, resulting in improving procedures and outcomes for recruitment and retention of staff and improving performance of staffs, but has not yet been developed.
- The staffs of NTP has received technical training in the field of TB control, but still there is need for additional specific topics. These include grant implementation, procurement and financial management for the TGF funding, conflict management, data analysis and technical report writing etc.
- All NTP staff (central and provincial) who has worked at least one year need to go through annual appraisal of individual performance.

- As the NTP has already developed the in-service training curricula for different categories of health staff, implementation of trainings through these curricula needs cost and technical qualifies staffs. Therefore, for sustainable implementation of training for all health care providers involved in TB care service, budget should be covered by contracts with the BPHS/EPHS implementing NGOs.
- For these training opportunities, the NTP develops training plans annually based on training need assessment, but this approach should be enhanced to bring more effective utilization of limited resources. In addition, developing web based database, which can also be linked with national databases for this purpose.
- Coordination between MoPH and MoHE is required to improve pre-service training for medical universities, intermediary institutes and other entities involved in pre-services trainings of health. The NTP needs to be committed to develop and revise the pre-services curricula in close coordination and contribution of the related bodies and ready to oversee the process.

Strategic intervention and activities

14.1: Enhance capacity of NTP staffs on effective TB Program

14.1.1: Conduct competency based assessment (CBA) to identify the learning needs of the NTP staff at central and provincial levels

14.1.2: Develop a comprehensive multi-year training/learning trajectory plan in line with the NTP Strategic Plan 2021-2025 for all staff working in TB control

14.1.3: Provide relevant training according to the finding of CBA

14.1.4: Conduct orientation workshops on endorsed NSP 2021-2025 to NTP central and provincial levels.

14.1.5: Strengthen, expand and regularly update the current NTP training database.

14.1.6: Conduct performance appraisal of NTP staff at national and provincial levels to take necessary action based on the findings.

14. 2: Introduce a platform for enhancing capacities of health facilities staffs to provide quality TB Program services

14.2.1: Conduct training need assessment of health facilities staffs on TB control services

14.2.2: Regularly update the in-service curricula for all trainings to cover all TB Program aspect in line with the NTP guideline and SOPs

14.2.3: Provide specific training according to the findings of training need assessment.

14.2.4: Develop monitoring mechanism for improving the quality of TB related training courses.

14.2.5: Perform post-training follow up at health delivery level and take necessary action based on findings.

14.3: Incorporate the TB control contents into curricula of health science institutes

14.3.1: Integrate the related aspect of TB control guidelines with TB curriculum at the medical universities and health science institutes.

14.3.2: Ensure the implementation of updated TB curriculum at health science institutes and medical universities in country.

14.3.3: Introduce orientation sessions for medical internship on TB control procedures in the country

14.3.4: Include TB control contents at the government exit and certificate examinations

Strategic Direction 15: Strengthen Procurement and Supply chain Management

Situation analysis

To manage the procurement and supply chain management of anti-TB drugs, laboratory consumables and diagnostic tools, the NTP established the TB procurement and supply chain management (TB PSCM) technical advisory committee in early 2018 with the members from related MoPH departments and partners. The main objective of this committee is to timely facilitate and procure WHO qualified, quality-assured health products including medicines and diagnostics with possible lowest price and supply to target locations based on agreed principles. The advisory committee provides forecasting for TB medicines and consumables through quarterly consumption reports from the fields and advises the NTP for quantifications of required medicines based on consumption and number of TB patients.

Recently, the NTP faced challenges in-country tax and customs, but with strong political commitment for TB, His Excellency the President approved tax exemption for all TB products including the anti-TB medicines, diagnostics materials and equipment.

By these prominent measures and routine interventions with support of the National Procurement Authority and MoPH procurement entities, from 2014 till date, the NTP has not faced any stock out for any of anti TB medicines and diagnostics. However, there are challenges mainly in quality control of all TB products and monitoring and evaluation for TBPSCM:

Quality control of all TB products: There are many TB products with low quality in private markets and patients can get them without prescriptions. These may result in increasing resistance to anti TB drugs and more cases. However, only limited measures for quality control have been taken and the NTP needs to strengthen these measures.

Monitoring and evaluation: As there has been growing number of TB medicines such as SLD, monitoring specific for PSCM should be enhanced. For this, specific monitoring tools is necessary and TB products consumption reporting should be integrated into the HMIS databases. For monitoring ADR, please see Strategic direction 7.

Strategic interventions and activities

15. 1 strengthening of Procurement and Supply Chain Management to regularize procurement and supply system of all TB commodities based on country needs

15.1.1 Upgrade the Drug Management Unit of NTP with required technical staffs
15.1.2 Develop TB PSCM guidelines adapted with the MoPH procurement and supply management guidelines
15.1.3: Establish a mechanism for assessing and rationalizing needs received from lower levels
15.1.4: Timely include new medicines into the National Essential/licensed Medicine List
15.1.5: Ensure to cover all TB medicines and commodities by insurance

15. 2: Strengthening the M&E system for PSCM to ensure quality and quantity of all TB medicines and commodities

15.2.1: Establish a quality assurance mechanism for TB products at stock and field levels
15.2.2: Include the TB medicines in banned list of medicine in private pharmacies

15.2.3: Monitor the TB medicine existing in private pharmacies
15.2.4: Integrate the TB health products into existing electronic reporting system
15.2.5: Monitor drug management in health facilities and stock by PSCM specific monitoring tools

Strategic Direction 16: Strengthen Advocacy, Communications and Social Mobilization (ACSM)

Situational Analysis

As in 2.3, the NTP has achieved notable progress in the ACSM area through good coordination with the STOP TB partnership.

Despite of those progresses, the NTP still needs to utilize opportunities more effectively for ACSM. These include:

- Collaboration with the Health promotion department of the MoPH: The Health promotion department works on utilizing broadcast, publish posters and paint walls to convey health relevant messages more widely than the NTP. Thus, it is better for the NTP to work closely this department to deliver TB related messages more efficiently.
- There are several partners and key stakeholders engaged in both TB control and healthcare delivery in the country. In addition, Afghanistan has a vast network of civil society organizations, which are active within the community level with substantial influence. Most of these entities tend to disseminate their performances to a wider community through various channels. Thus, the NTP should spread its messages through their advocacy and information sharing platforms
- Afghanistan has witnessed religious scholars' association across the country, which has found to be influential and effective. The NTP has already involved them into ACSM activities, but needs to scale-up utilization of scholars' association to strengthen ACSM activities across the country.

In addition to these, there are several technical gaps in this area and these include:

- The ACSM strategy has not yet been revised and needs to meet updated standards.
- The NTP needs to establish platform for ACSM activities with relevant health components such as ANPASH and NMLCP to spread TB messages more effectively.
- The IEC materials was developed to use all target groups, but materials specifically used for high-risk groups should be developed independently.
- There has been no functional M&E for ACSM including conduction of regular KAP surveys.
- The NTP needs to introduce new measures, which were already utilized in other health sectors: these include TB ambassador, telecommunications such as SMS, TB specific WEB SITE, health information center helpline, involving educational settings and mobile campaign.
- Weak involvement of related staffs into ACSM activities at lower levels: Contribution from the provincial teams in arranging and organizing ACSM initiatives at the provincial level is weak. Also, engagement of CHW is similar, although they played crucial roles in TB case finding and treatment services. As there are still rampant stigma and ACSM activities at lower levels are crucial to reduce stigma, it is important to enhance their roles in the ACSM activities.

- Roles of TB patient association are also critical for this purpose. There have been TB patient association, which especially work on case findings and patient support, but their involvement in advocacy for TB patients (especially TB patients' rights) has been not enough.

Strategic interventions and activities

16.1: Strengthen advocacy for TB control

16.1.1: Map the structures and organization to involve in TB advocacy
16.1.2: Develop advocacy plan in accordance with the findings from the mapping assessment
16.1.3: Integrate advocacy activities with other key advocacy events across other types of healthcare delivery (AIDS, EPI, NCD...)
16.1.4: Conduct advocacy meetings with relevant stakeholders
16.1.5: Introduce TB ambassador to advocate for TB
16.1.6: Introduce a platform for TB patients to raise their voices for advocacy purpose at all levels

16.2: Strengthen communication and coordination for TB control

16.2.1: Strengthen Stop TB partnership through coordination
16.2.2: Broadcast TB messages through media (TV, radio and social media)
16.2.3: Introduce mobile helpline and hotlines for TB messages
16.2.4: Publish and print TB messages (posters, leaflets, brochures, billboards and others)
16.2.5: Incorporate TB information in school curriculum at different class levels
16.2.6: Develop website for TB control in Afghanistan
16.2.7: Conduct regular coordination meetings with all stakeholders

16. 3: Strengthen and mobilize social resources for TB control in communities

16.3.1: Introduce and Strengthen referrals of presumptive TB cases by community members
16.3.2: Formulate Community Monitoring Groups, which will include, community leaders, religious leaders, cured TB patients, family members of affected TB patients etc.
16.3.3: Establish peer group support and family support at the community level and make them part of long term sustainable solutions
16.3.4: Conduction of community awareness campaign for community key people (Mullah, schools, health shura and others)
16.3.5: Conduction of world TB day at national, provincial and health facility levels.

16.4: Strengthening M&E of ACSM activities

16.4.1. Impact assessment of ACSM activities- baseline, interim and post NSP period to draft further policies
16.4.2. Rapid assessment in 2021 to identify bottlenecks and plan
16.4.3. Outcome and impact evaluation of ACSM activities at the end of each plan period
16.4.4. Conduction of periodic TB KAP survey

16.5 Enhancing activities of TB patient associations

16.5.1: Expand TB patient associations to other districts
16.5.2: Provide platforms to them to speak and write their experiences to share in the public.

Strategic direction 17: Strengthen TB Surveillance, Monitoring and Evaluation

Situational Analysis

In 2019, the NTP replaced the paper based reporting to electronic one (TBIS) at health facility levels after its introducing at provincial level in 2009. Thus, all data from all health facilities that provide TB services are reported to provincial level through TBIS, which is integrated with HMIS. Now, the TBIS is a functional TB database, which can cover more than 93% of health facilities, except some private HFs, which does not have HMIS codes for which the NTP works closely with HMIS to generate codes.

Despite the successful introduction of TBIS, there are still challenges to strengthening TB surveillance as follows:

- TBIS system does not cover all health facilities and data regarding PMDT is not available in this system. (see Strategic interventions and activities 5.3)
- Although data review and feedback mechanisms are available, it is necessary to enhance these mechanisms at national and provincial levels. Also, capacity for data analysis should be strengthened.
- Although there are mechanisms to check data quality and accuracy through supervisory visits to health facilities and biannual review meetings at provincial level, these mechanisms also should be strengthened.
- Over- or under reporting is a matter of concern and the mechanisms to verify data such as clinical audit should be developed.
- As in 2.3, supervisory visits to health facilities by the NTP central and provincial staffs have found to be less influencing and quality of these supervisory visits should be improved.

Strategic interventions and activities

17.1: Continuously strengthen TB surveillance system

17.1.1: Regularly update the recording and reporting tools for TB control in line with globally accepted guidelines

17.1.2: Build the capacities of the health staffs to ensure accuracy and completeness of TB recording and reporting system

17.1.3: Strengthen TBIS and GxAlert at all necessary health facilities

17.1.4: Enhance the review and feedback mechanism for TB data reporting

17.2: Strengthen TB monitoring and supervisory visits system

17.2.1: Revise and update NTP supervisory and monitoring checklists (national and provincial staff) and develop a spreadsheet database to track the key findings of supervisions

17.2.2: Conduct annual performance-based monitoring and supervision at all level.

17.2.3: Develop follow-up mechanisms on key findings by supervisory visits

17.3: Strengthen program evaluation

17.3.1: Conduct quarterly review meetings at provincial and National level

17.3.2: Conduct national evaluation workshop

17.3.3: Conduct periodic program review

17.3.4: Conduct epi-assessment to know the epidemiological characteristics of TB in the country

17.3.5: Conduct periodic TB data accuracy assessment

17.3.6: Conduct periodic/systematic clinical audit for TB; promote peer review of TB diagnosis and treatment

Strategic Direction 18: Strengthen Research and innovation for TB control

Situational Analysis

With supports from the newly developed department in the MoPH: General Directorate of Evaluation of Health Information System (GD-EHIS) in addition to the Institutional Review Board of the Afghanistan, the NTP has developed its capacity for conducting researches/surveys and conducted 11 studies in 2019. However, still there are significant challenges to institutionalize conducting researches in the NTP as follows. These hamper to conduct important studies for TB control program such as prevalence survey or periodically requires studies.

- Although many donors have supported the NTP to develop capacity of the central and provincial staffs through country presence or by online approaches, those support is mainly short term consultancy and not enough for the NTP staffs to build their capacities on specific research areas.
- The NTP has not enough budget and depends on donors/partners for conducting researches.
- There is not adequate mechanism to reflect results of studies into policies and strategies.
- Unavailability of assigned staffs in the organogram of NTP for epidemiologic studies or statistician
- Still the NTP staffs do not have capacity to develop technical proposals for researches, analyze data, and develop any report and/or publish their studies in internationally journals with good quality.

Strategic interventions and Activities:

18. 1: Institutionalize the research in the NTP to respond the needs based studies/assessments

18.1.1: Create the epidemiologist and statistician positions within the NTP organogram
18.1.2: Build capacity of the NTP technical staffs at central and provincial levels on in depth data analysis, formulation of hypotheses for research studies and operational research methodology.
18.1.3: Establish a research steering committee within the NTP and technical partners to lead and oversee research conduction and link with MoPH relevant departments for effective coordination to successfully carry out the studies
18.1.4: Conduct annual assessments to find out the areas for provision of evidences to policy and strategy revision.
18.1.5: Utilize Annual Evaluation workshops of the NTP to review results of conducted researches to incorporate to policies and strategies.
18.1.63: Monitor TB related studies conducted by other institutes/individuals related to TB

18.2: Conduct epidemiological and operational studies in priority areas

18.2.1: Carry out epidemiological researches to evaluate the effectiveness of new interventions/new technologies/new medicines proposed globally
18.2.2: Carry out operational researches to find out new approaches for essential interventions such as screening of high risk groups etc.
18.2.3: Conduct periodically necessary studies such as Drug Resistance Survey or Knowledge, Attitude and Practice Survey etc.

18.2.4: Conduct patient cost survey to measure the percentage of TB patients (and their households) catastrophic total costs due to TB
18.2.4: Evaluate feasibility for surveys on prevalence of TB such as Cluster Prevalence Survey, or Capture Re-Capture.

Summary budget NSP 2021-2025

Strategic Directions	2021	2022	2023	2024	2025	Total
Strategic direction 1	2,887,189	3,065,251	3,533,356	3,992,464	4,454,059	17,932,318
Strategic direction 2	1,534,400	1,671,406	1,823,755	1,995,642	2,187,179	9,212,382
Strategic direction 3	129,106	133,178	144,411	159,939	170,913	737,548
Strategic direction 4	716,046	515,246	338,946	214,146	228,446	2,012,830
Strategic direction 5	951,160	771,360	836,544	809,550	891,317	4,259,931
Strategic Direction 6	996,000	1,208,000	1,424,000	1,683,200	1,994,240	7,305,440
Strategic Direction 7	11,000	8,000	8,000	8,000	8,000	43,000
Strategic Direction 8	276,940	248,940	248,940	248,940	248,640	1,272,400
Strategic Direction 9	765,320	968,902	1,211,891	1,466,758	1,734,928	6,147,799
Strategic Direction 10	854,187	631,994	688,331	748,014	818,701	3,741,226
Strategic Direction 11	15,320	11,300	11,300	11,300	11,300	60,520
Strategic Direction 12	90,040	144,040	95,640	95,640	95,640	521,000
Strategic Direction 13	1,344,800	1,458,394	1,475,168	1,545,280	1,618,898	7,442,540
Strategic Direction 14	750,337	729,629	773,015	806,929	845,964	3,905,874
Strategic Direction 15	11,152,260	13,703,606	17,181,756	20,376,892	24,331,602	86,746,117
Strategic Direction 16	249,300	249,100	249,100	249,100	248,800	1,245,400
Strategic direction 17	1,663,510	1,883,510	1,663,510	1,613,510	1,933,510	8,757,550
Strategic Direction 18	110,000	110,000	110,000	110,000	110,000	550,000
Technical Assistance (TA)	300,000	300,000	300,000	300,000	300,000	1,500,000
Total Budgetary needs	**24,796,915**	**27,811,857**	**32,117,663**	**36,435,304**	**42,232,137**	**163,393,876**