The Global Fund
To Fight AIDS, Tuberculosis and Malaria

STANDARD CONCEPT NOTE

Investing for impact against HIV, tuberculosis or malaria

A concept note outlines the reasons for Global Fund investment. Each concept note should describe a strategy, supported by technical data that shows why this approach will be effective. Guided by a national health strategy and a national disease strategic plan, it prioritizes a country's needs within a broader context. Further, it describes how implementation of the resulting grants can maximize the impact of the investment, by reaching the greatest number of people and by achieving the greatest possible effect on their health.

A concept note is divided into the following sections:

Section 1: A description of the country's epidemiological situation, including health systems and barriers to access, as well as the national response.

Section 2: Information on the national funding landscape and sustainability.

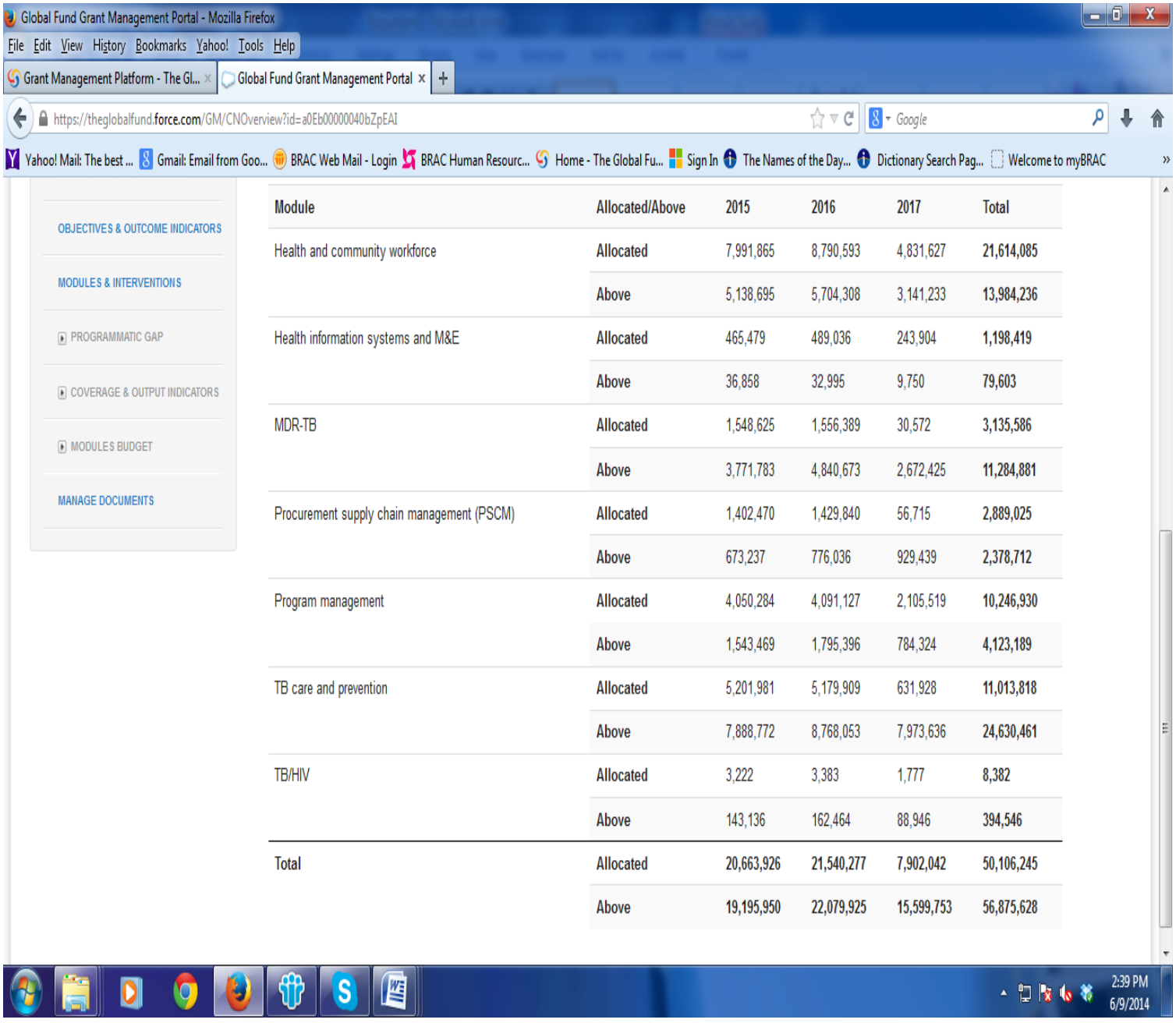
Section 3: A funding request to the Global Fund, including a programmatic gap analysis, rationale and description, and modular template.

Section 4: Implementation arrangements and risk assessment.

IMPORTANT NOTE: **Applicants should refer to the Standard Concept Note Instructions to complete this template.**

SUMMARY INFORMATION			
Applicant Information			
Country	**Bangladesh**	**Component**	**TB**
Funding Request Start Date	**01.07.2015**	**Funding Request End Date**	**31.12.2017**
Principal Recipient(s)	**ERD, Ministry of Finance (NTP, MOH&FW) and BRAC**		

Funding Request Summary Table



Module	Allocated/Above	2015	2016	2017	Total
Health and community workforce	Allocated	7,991,865	8,790,593	4,831,627	21,614,085
	Above	5,138,695	5,704,308	3,141,233	13,984,236
Health information systems and M&E	Allocated	465,479	489,036	243,904	1,198,419
	Above	36,858	32,995	9,750	79,603
MDR-TB	Allocated	1,548,625	1,556,389	30,572	3,135,586
	Above	3,771,783	4,840,673	2,672,425	11,284,881
Procurement supply chain management (PSCM)	Allocated	1,402,470	1,429,840	56,715	2,889,025
	Above	673,237	776,036	929,439	2,378,712
Program management	Allocated	4,050,284	4,091,127	2,105,519	10,246,930
	Above	1,543,469	1,795,396	784,324	4,123,189
TB care and prevention	Allocated	5,201,981	5,179,909	631,928	11,013,818
	Above	7,888,772	8,768,053	7,973,636	24,630,461
TB/HIV	Allocated	3,222	3,383	1,777	8,382
	Above	143,136	162,464	88,946	394,546
Total	Allocated	20,663,926	21,540,277	7,902,042	50,106,245
	Above	19,195,950	22,079,925	15,599,753	56,875,628

SECTION 1: COUNTRY CONTEXT

This section requests information on the country context, including the disease epidemiology, the health systems and community systems setting, and the human rights situation. This description is critical for justifying the choice of appropriate interventions.

1.1 Country Disease, Health and Community Systems Context

With reference to the latest available epidemiological information, in addition to the portfolio analysis provided by the Global Fund, highlight:

a. The current and evolving epidemiology of the disease(s)and any significant geographic variations in disease risk or prevalence.

b. Key populations that may have disproportionately low access to prevention and treatment services (and for HIV and TB, the availability of care and support services), and the contributing factors to this inequality.

c. Key human rights barriers and gender inequalities that may impede access to health services.

d. The health systems and community systems context in the country, including any constraints.

TB Epidemiology

In 2012, WHO estimate a TB prevalence of 434 (218-721) / 100,000 population and an incidence of 225 (185-268) / 100,000 population in Bangladesh. The estimated incidence places Bangladesh 6th worldwide in absolute number of TB cases and 35th in rate per population. The current WHO estimates are substantially higher than those derived from a national prevalence survey conducted in 2009. The estimates will be re-assessed following completion of a new TB prevalence survey conducted with technical assistance from WHO, starting mid-2014.

In 2013, 184507 cases of all forms of TB were notified in Bangladesh. Of these, 95% were new cases: 55% (105,530) smear positive, 22% (42,391) smear negative, and 18% (33,698) extra pulmonary. With an estimated population of 154621890 peoplethe notification rate of all TB was 119/100,000 and 68/100,000 for smear positive TB. The last decade has seen a steady increase in the absolute number TB cases notified in Bangladesh, rising from 85,410 in 2004 to 190,871 in 2013. The rapid increase, particularly in smear positive TB cases seen in 2004-2006, reflects enhanced case finding as a result of the establishment and consolidation of the NTP and the DOTS program. From 2007, when DOTS coverage in Bangladesh was considered to have reached 100%, the number of new smear positive TB cases has remained relatively stable from 2007 except for a dip in 2011. This can be explained as the result of a gap in the funding from the GF. The increase in the notification of TB in the last decade consists of a doubling of extra pulmonary cases notified (from 16,118 in 2007 to 33,698 in 2013), and – in 2013 – a sharp increase in the number of reported smear negative cases (from 24,443 in 2012 to 42,391 in 2013). The increased notification of extra-pulmonary TB and smear negative presumably is a result of increased emphasis from the NTP on detecting smear-negative and extra-pulmonary TB by providing financial support for diagnostic examinations to poor TB symptomatic.

HIV prevalence in Bangladesh is very low with a prevalence of less than 0.1% of 15-49 year olds being infected with HIV. Cumulatively through 01 December 2013 in Bangladesh there have been 3241 cases of HIV documented of which 1299 have been classified as AIDS and 472 have died. In 2012, 1,798 TB cases were tested for HIV, of which 9 were found to be

HIV positive (0.5%). Of 433 HIV positive individuals tested in 2012, 15 had active TB (3.5%).

In addition to being included in the 22 high TB burden countries globally, Bangladesh is also among the 27 countries globally considered as "high MDR–TB burden" countries by the WHO. In 2010–11, the National TB Programme conducted the first national TB drug resistance survey. Amongst 1,049 new smear positive pulmonary TB (PTB) patients, 1.4% (95% CI 0.7–2.5%) were found to have multidrug–resistant TB (MDR-TB; i.e. resistant to at least isoniazid and rifampicin), and amongst 291 previously treated smear positive PTB cases 28.5% (95% CI 23.5–34.1%) were found to have MDR-TB. In 2012, there were an estimated 4,200 (1,900 amongst new cases, and 2,300 amongst previously treated cases) MDR-TB cases amongst notified PTB cases.

Several social determinants and co-morbidities affect the epidemiology of TB in Bangladesh. Diabetes is associated as a risk factor for active TB. In Bangladesh, 6% (9.1 million) of the population have diabetes. 16% of the population is still undernourished.**(Annex – 1: TB Epidemiological and Impact Analysis Report)**Malnutrition is associated with progression to active TB disease. Tobacco smoking is also associated with an increased risk of latent TB infection (LTBI), clinical disease and TB mortality. Smoking is a public health concern in Bangladesh with 26% of the total population using tobacco products. Smoking is overly prevalent among men, of which 47% smoke compared to only 3.8% of women. The higher prevalence of TB among men maybe partly explained by this factor. The proportion of the population living below the poverty line has declined progressively from 35% in 2002 to 22% in 2013. This is a promising development and could have a profound effect upon the unhealthy social factors such as overcrowding, low education and poor illness behavior that predispose to TB.

Key populations that may have disproportionately low access to prevention and treatment services

In 2013, 2.8% of new TB cases were found in children younger than 15 years old. Among children, 13% were found in the 0-4 year age group.The low percentage of childhood TB cases reported and the low proportion of young children among all childhood cases reported indicate poor case finding of TB in children, and especially among the youngest age group.

There are considerable differences in TB notification rates between districts in the country. Higher notification rates tend to be observed in districts with effective community health activities organized through NGOs. Lower notification rates are observed in districts with difficult geographical terrains impeding access to TB diagnostic services.

HIV-positive persons have a very high risk for TB. HIV surveillance is only done in “most at risk populations” (MARPs), which refer to female sex workers (FSW), male sex workers (MSW), men who have sex with men (MSM), Hijra (transgendered individuals) and people who inject drugs (PWID).HIV Testing coverage of key populations remains low at FSW 4%, MSM 9% and PWID 5%.

Key human rights barriers and gender inequalities that may impede access to health services

Even in a country with generally low income levels like Bangladesh, TB patients belong to the lowest socio-economic strata of society. From a human rights perspective TB patients are specifically discriminated against in terms of access to health services. This particularly

concerns TB diagnostic services, where access is limited due to geographical limitations, as well as financial limitations. Financial limitations have played a very important role for the low detection of smear-negative cases, which was largely due to the inability of patients to pay for x-ray services.

Tuberculosis is one of the main causes of mortality for women of reproductive age in low income countries. TB and HIV co-infection increases women's health risks: women living with HIV are highly susceptible to developing active TB during pregnancy or soon after delivery, making TB a leading cause of death during pregnancy and delivery, and thereafter. In Bangladesh, economic barriers and stigma against women with TB may hinder women's ability to access treatment and care. Rural women often lack the financial resources necessary for transport to TB diagnostic and treatment services. Around 61% of the annually registered TB cases in Bangladesh are male. It thus appears likely that females are under-detected. This refers specifically to adult females, as among smear-positive TB children cases, the distribution of male-female is roughly 50/50. **(Annex -2: Annual Report - 2013, NTP)**On the other hand, several studies on gender issues have been conducted, which not show evidenced of gender bias in TB case detection in Bangladesh. Under-detection of certain segments of the society has always been a concern of the programme.

Health systems and community systems context

Bangladesh is divided into 7 administrative divisions. Each division is divided into several districts. The total number of districts is 64. Each district is further subdivided into several Upazilas. The total number of upazillas is 488. Each Upazila is divided into several unions, and each union into several wards. Wards are divided into several villages. The Ministry of Health and Family Welfare (MOHFW) is the lead agency responsible for formulating national-level policy, planning, and decision-making in the provision of healthcare and education. The national-level policies, plans, and decisions are translated into actions by various implementing authorities and healthcare delivery systems across the country from national to the community level. A divisional director for health in each division governs activities, and is assisted by deputy directors and assistant directors. The civil surgeon (CS) is the district health manager responsible for delivering secondary and primary care services. In each district, there is a district hospital. The Upazila health and family planning officer (UH&FPO) is the health manager at the Upazila (sub-district)level. S/he manages all public-health programs, especially the primary healthcare services in the Upazila and also looks after the Upazila hospital (having 30 to 50 beds). At the union level, three kinds of health facilities exist: rural health centers, union sub enters, and union health and family welfare centers (UHFWCs). Only outdoor services are available at union level.

The structure of the NTP is aligned to the MOH structure. At central level the NTP is responsible for policy, planning, management, training, supply, supervision and monitoring and implementation of TB services. At the sub-national level, NTP is integrated into the general health services, under the Director (Health), the Civil Surgeon and the Upazila Health and Family Planning Officer. Their responsibilities include coordination and supervision of the NTP services. At the district level, the Civil Surgeon is assisted by a Medical Officer (Disease Control) and in some districts by a Medical Officer full-time designated for TB (and leprosy) and in each district a Programme Organizer (form Government and GF fund). Programme Organizers assist in conducting mid-level training courses at district level and conduct periodic supervision. Forty four Chest Disease Clinics, located in district capitals and metropolitan cities, support NTP in two

ways: they render diagnostic and treatment services for the immediate surroundings and serve as referral center for the entire district. They also serve as resource base for providing technical advice according to NTP guidelines. Junior Consultants in CDCs are qualified chest specialists; their expertise is being utilized for further strengthening NTP activities, particularly for training, supervision and monitoring. The UH&FPO oversees the NTP activities within the Upazila. One UHC-based medical officer is designated for disease control including TB. The TB Control and Leprosy Assistant (TLCA) assist the Medical Officer (Disease Control) in implementing the programme at the Upazila.

Bangladesh has been implementing sector-wide approaches (SWAP) in the health sector since 1998. The first SWAP – the Health and Population Sector Program (HPSP) - was implemented during 1998-2003. Within the broader context of the Bangladesh National Strategy for Economic Growth, Poverty Reduction and Social Development, the GOB revised its strategic approach and renamed HPSP as Health, Nutrition and Population Sector Programme (HNPSP), the second SWAP. This plan was implemented 2003-2011. The current Health, Population and Nutrition Sector Development Program (HPNSDP) is covering the period from July 2011 to June 2016 and is set against the broader perspective of the GOB's commitments (Constitution, MDGs, Vision 2021, the proposed National Health Policy and the National Population Policy, National Food and Nutrition Policy) and other programs and strategies including the National Strategy for Accelerated Poverty Reduction II and the Sixth Five Year Plan (6th FYP) of GOB.

Bangladesh has a pluralistic health system, marked by a very effective collaboration between the GOB and a multitude of NGOs. NGOs in Bangladesh have gained global prominence for their size, scope and success with portfolios spanning microfinance, health and education services, social safety-net programs, agricultural extension, environmental protection, water and sanitation provision, disaster management, legal and human rights education, and capacity building. The implementation of TB control activities should be viewed within the framework of this pluralistic health system with many stakeholders, including government and non-government organizations, who pursue women –focused, equity oriented, nationally targeted programmes such as those in family planning, immunization, oral rehydration therapy, maternal and child health, tuberculosis control, vitamin A supplementation and others.

Health workforce situation

There are 115,935 sanctioned positions for qualified health care provides under DGHS (2013). Of those 93,317 positions are filled. This gives an overall vacancy rate of 20%. There are substantial variations among different divisions with regards to the density of health care providers with gross imbalance in distribution favoring urban areas. Bangladesh is one of the 58 countries identified by WHO as having a severe shortage of doctors, nurses and midwives. Bangladesh has only 7.7 doctors/nurses, dentists per 10,000 populations compared to the WHO estimate of 23.0 required to fulfill MDG targets (government sanctioned positions). The current nurse-doctor ratio of 0.4 (i.e. 2.5 times more doctors than nurses) is far short of the international standard of around three nurses per doctor. There is also a gross imbalance in the doctor-technologist ratio as well, the ideal being five technologists for one doctor. According to the WHO estimate, Bangladesh has a staggering shortage of 60,000+ doctors, 280,000 nurses and 483,000 technologists, creating major challenges for improving access to high quality diagnostic and treatment services for all people with TB.

1.2 National Disease Strategic Plans

With clear references to the current **national disease strategic plan(s)**and supporting documentation (include the name of the document and specific page reference), briefly summarize:

a. The key goals, objectives and priority program areas.

b. Implementation to date, including the main outcomes and impact achieved.

c. Limitations to implementation and any lessons learned that will inform future implementation. In particular, highlight how the inequalities and key constraints described in question1.1are being addressed.

d. The main areas of linkage to the national health strategy, including how implementation of this strategy impacts relevant disease outcomes.

e. For standard HIV or TB funding requests[1], describe existing TB/HIV collaborative activities, including linkages between the respective national TB and HIV programs in areas such as: diagnostics, service delivery, information systems and monitoring and evaluation, capacity building, policy development and coordination processes.

f. Country processes for reviewing and revising the national disease strategic plan(s) and results of these assessments. Explain the process and timeline for the development of a new plan(if current one is valid for 18 months or less from funding request start date), including how key populations will be meaningfully engaged.

Key goals, objectives and priority program areas

The development of the concept note was based on the strategic directives for the NTP described in the recently completed National Strategic Plan 2015 to 2020. **(Annex – 3: National Strategic Plan for TB Control 2015-2020)** The previous NTP National Strategic Plan covered the period 2012-2016. Its strategic approach focused on the achievement of universal access to TB control. Central to the plan was the expansion of diagnostic services through the establishment of additional smear-microscopy centers and the provision of facilities for the diagnosis of smear-negative and extra-pulmonary TB. The plan contained strategies and interventions based on the six key components of WHO's Stop TB Strategy 2011-2015.Several recent developments have necessitated the development of a revised National Strategic Plan even before the completion of the previous plan in 2016. Foremost is the revolution in the diagnosis of MDR TB achieved through the recent introduction of the new Gene Xpert technology. Bangladesh has successfully introduced this new methodology. Due to its strategic potential, the revision of the National Strategic Plan included the rapid expansion of the Gene Xpert methodology. Second, WHO has recently issued a new global TB control strategy focusing on the post-2015 era. The strategy includes important changes to the Stop TB strategy 2011-2015, which should be rapidly translated into revised national strategic plans. The objectives and priority interventions of the revised national strategic plan takes full account of WHO's post-2015 TB strategy.

Despite significant progress achieved during recent years, major challenges remain for the NTP, specifically in the areas of case detection and access to diagnostic services of all case, expansion of diagnostic and treatment services for MDR TB cases and expansion of services related to TB HIV. The goals, objectives, and strategic interventions of the NSP 2015 to 2020 seek to address these challenges, following the framework outlined in

[1]Countries with high co-infection rates of HIV and TB must submit a TB and HIV concept note. Countries with high burden of TB/HIV are considered to have a high estimated TB/HIV incidence (in numbers) as well as high HIV positivity rate among people infected with TB.

WHO's post-2015 TB strategy.

The **goal** of the NSP is the reduction of the TB prevalence by 10% by 2020, based on a baseline determined in the prevalence survey to be conducted in 2014.

The **objectives** are based on the three pillars of WHO's post-2015 TB strategy.

For ***PILLAR 1 (INTEGRATED, PATIENT-CENTRED CARE AND PREVENTION)***, the objectives are:

1) *to i*ncrease annual case detection of all forms of TB to 230,000 by 2020 (from baseline of 184,507 in 2013);and

*2) to m*aintain a treatment success rate of at least 90% in all forms of detected non-MDR TB cases and ensure quality-controlled treatment services at all implementation sites.

For ***PILLAR 2 (BOLD POLICIES AND SUPPORTIVE SYSTEMS)***, the objectives are:

*3) to e*nsure universal access to DST by 2020; treat 100% of detected MDR-TB cases and achieve a treatment success rate of at least 75% in detected MDR-TB cases;

4) to strengthen the engagement of all public and private care providers

5) to ensure that at least 90% of required staff positions identified in a revised national human resource development plan are filled, and 100% of all filled positions are trained, by 2020;

6) to ensure that all TB service facilities will receive regular supervision and monitoring, and produce timely and accurate reports, by 2017; and

7) to ensure the long-term availability of 100% of required funding for activities at all program levels through effective planning and partner coordination; maintain GOB contribution at least 10% of total TB budget by 2020.

For ***Pillar 3 (INTENSIFIED RESEARCH AND INNOVATION)***, the objective is:

*8) to e*nsure adequate support for operational research to foster innovation.

Priority program areas (strategic interventions) for each of the objectives are:

For **OBJECTIVE 1 (Increase annual case detection of all forms of TB to 230,000 by 2020 (from baseline of 184,507 in 2013)**:

1) Establishment of additional diagnostic laboratory facilities to achieve a population coverage of 1/ 150,000;

2) Improve the quality of smear microscopy services;

3) Improve the performance of laboratory network;

4) Ensure countrywide access to appropriate diagnostic tools for the diagnosis of smear negative cases;

5) Ensure regular maintenance of all diagnostic equipment;

6) Increase detection of TB in children through promotion of the Roadmap for Childhood TB;

7) Improve diagnostic accuracy through development of staff history taking skills;

8) Monitor the use of adequate diagnostic procedures for specific groups of TB symptomatic;

9) Ensure the implementation of contact screening procedures at all facilities;

10) Design and implement active case finding activities targeting high risk settings;

11) Ensure full implementation of WHO's TB-HIV policy;

12) Implement a comprehensive advocacy and communication strategy; and

13) Enhance social mobilization activities.

For **OBJECTIVE 2 (Maintain a treatment success rate of at least 90% in all forms of detected non-MDR TB cases and ensure quality-controlled treatment services at all implementation sites)**:

1) Ensure regular supervision of all DOT providers;

2) Implement a standardized social support package for patients and incentives for treatment supporters;

3) Expand models of care for special populations such as prisons, garment industry , slums , migratory populations;

4) Ensure the uninterrupted supply of quality controlled drugs at all facilities;

5) Ensure phamarcovigilance through regular drug quality control;

6) Implement a comprehensive infection control policy at all implementation sites; and

7) Improve the management of TB cases with co-morbidities.

For **OBJECTIVE 3 (Ensure universal access to DST by 2020; treat 100% of detected MDR-TB cases and achieve a treatment success rate of at least 75% in detected MDR-TB cases)**:

1) Ensure adequate diagnosis of patient with presumptive MDR TB at all NTP facilities;

2) Ensure adequate human resources for the management of MDR-TB;

3) Ensure adequate second-line anti-TB drug supply;

4) Ensure adequate logistics for distribution of second line drugs;

5) Further develop laboratory capacity for follow-up examinations and diagnosis of XDR TB;

6) Provide treatment for all detected XDR TB cases;

7) Provide palliative care for patients without further treatment options;

8) Improve recording and reporting for MDR TB activities;

9) Implementation of standardized hospitalization and social support policies for MDR–TB patients and incentive package for MDR–TB DOT Providers across all sites in the country.

10) Ensure adequate infection control for staff involved in MDR-TB activities;

11) Ensure adequate management of drug side effects under MDR TB treatment; and

12) Ensure adequate training of all staff involved in MDR TB activities.

For **OBJECTIVE 4 (Strengthen engagement of all public and private providers)**:

1) Strengthen collaborative activities between the NTP and private providers;

2) Strengthen regulatory functions of the NTP in relation to private providers; and

3) System strengthening for the engagement of private providers.

For **OBJECTIVE 5 (Ensure that at least 90% of required staff positions identified in a revised national human resource development plan are filled, and 100% of all filled positions are trained, by 2020)**:

1) Health workforce planning and policy development;

2) Expand and strengthen on-going in-service training for all health workers involved in the implementation of TB Control;

3) Strengthen pre-service training for medical doctors, nurses, paramedical staff and other health workers involved in the implementation of TB services;

4) Engage in strategic partnerships for health workforce development for comprehensive TB Control; and

5) Development of personnel policy and practice.

For **OBJECTIVE 6 (Ensure that all TB service facilities will receive regular supervision and monitoring, and produce timely and accurate reports, by 2017)**:

1) Revise the existing M&E plan to provide more detail on the organization of supervision and staff responsibilities at various program levels;

2) Provide adequate transport facilities for supervisors;

3) Ensure adequate supervision capacity at the district level;

4) Develop integrated supervision teams at the district level;

5) Develop SOPs for supervision activities, including revised supervision checklists;

6) Ensure availability of supervision reports at peripheral facilities;

7) Facilitate the use of program performance data during quarterly monitoring meetings;

8) Improve eTB-Manager functionality at peripheral sites;

9) Rapidly expand the use of eTB-Manager; and

10) Fill all TLCA posts.

For **OBJECTIVE 7 (Ensure the long-term availability of 100% of required funding for activities at all program levels through effective planning and partner coordination; maintain GOB contribution at least 10 % of total TB budget by 2020)**:

1) Develop management capacity at central and peripheral levels; and

2) Further develop NTP collaboration with NGOs and other partners.

For **OBJECTIVE 8 (Ensure adequate support for operational research to foster innovation)**:

1) Complete the evaluation of the shorter (9-12 month) MDR-TB regimen through operational research and cost-effectiveness analysis by 2015; if the evaluation is favorable, start country-wide expansion of the shorter regimen by 2016; and

2) Strengthen and expand other operational research activities.

Implementation to date, including the main outcomes and impact achieved

During implementation of the previous NSP, the NTP has made significant progress in TB control. TB prevention, care and control activities have been successfully implemented in partnership with Non-Government Organizations (NGOs), civil society groups and communities. There has been an overall increase in the notification of TB cases. In 2012, the notification rate of all forms of TB and new smear-positive cases was 109 and 69, respectively, showing almost a 10% increase compared to 2011. New technologies have been introduced for diagnosis, recording and reporting. In 2014, Gene Xpert MTB/RIF was implemented in 32 sites with the support of TB CARE. An electronic recording and reporting system (e-TB Manger) was piloted in six sites, and subsequently expanded to 110 more sites in 2013. Services for diagnosis and treatment of MDR-TB are expanding. In 2012, a total of 513 MDR-TB cases were confirmed and notified (an almost 30% increase compared to 2010 notifications) and all of these cases were started on second-line treatment; another 388 rifampicin resistant (RR) TB cases were notified. In 2013, a total of 682 MDRTB cases were enrolled for treatment. Substantial external funding has been secured. The NTP and its key partners have been successful in resource mobilization and significant support from the Global Fund has been maintained as well as support from USAID and other donors and partners. Management of TB in children has been recognized as an important issue. The National Guidelines for the Management of Tuberculosis in Children were published in 2012.**(Annex – 4: The National Guidelines for the Management of Tuberculosis in Children)** The NTP now reports child TB case detection as age- and gender-disaggregated for children up to 15 years of age. Training specific to child TB using the latest guidelines has begun in earnest in Dhaka Division.

Limitations to implementation and lessons learned that will inform future implementation. Addressing inequalities and key constraints described in question 1.1

A key limitation to the program has been limited access to TB diagnostic and treatment services and geographically remote areas, as well as the expansion of diagnostic services to detect forms of TB other than smear-positive TB, e.g., smear negative TB or MDR TB. These limitations are well addressed in the NSP 2015-2020, which focuses on the increase of case detection through expansion of diagnostic services as a key objective. Lessons learned from previous NTP activities include the high effectiveness of the involvement of community health workers in the detection and treatment of TB cases, and the high effectiveness of the involvement of the private sector in increasing case detection. In recognition of these lessons learned, the NSP 2015 – 2020 seeks to strengthen and expand these activities.

Inequalities and key constraints as described in question 1.1 are well addressed in the NSP 2015 - 2020. The needs of children, populations in remote geographical areas and HIV positive persons are well addressed in the NSP. The NSP focuses on improving access to healthcare services for poor populations, e.g. through the provision of financial support for x-ray services. These support measures will also address the specific needs of poor women in rural areas, and gender inequalities will be monitored the collection of gender specific data on case detection and treatment outcomes in the TB recording and reporting system.

Main areas of linkage to the national health strategy

The NSP 2015 to 2020 is well aligned with the current national health policy published in 2009. Specifically, the NSP addresses the first three primary goals of the national health policy, i.e. 1)Delivering essential health services to the people of all levels of the society as per the Article 15(A) of the Constitution of Bangladesh and development of nutrition and public health status of the people as per Article 18(1). 2) Developing innovative ideas to ensure easily accessible healthcare to the people particularly targeting the poor in the rural and urban areas. 3) Ensuring Primary Health Care services and accessible and acceptable healthcare systems at the village, union, and upazila (sub-district) levels.

TB/HIV collaborative activities

The NTP in collaboration with the National AIDS and STD Programme (NASP) has been implementing TB/HIV collaboration activities since GF Round 5. The National TB/HIV Coordination Committee is functional. The capacity for managing TB/HIV co-infection has been increased through providing training and refresher training of HIV counselors and other staff to identify and refer TB suspects to designated DOTS centers. Further strengthening of the collaboration between the NTP and the national AIDS program is well addressed in the NSP. Specifically, strategic intervention 14 under priority program area one targets "stronger TB/HIV Collaborations between the NTP and NASP with coordinated guideline writing and biannual TB/HIV collaborative meetings".

Country processes for reviewing and revising the national disease strategic plan

National strategic plans for tuberculosis are prepared for five years cycles. They are prepared under the leadership of the NTP, however, all partner organizations involved in TB control are consulted during the NSP development process, and final versions of the

NSP are published only after a comprehensive review and approval by all partners.

SECTION 2: FUNDING LANDSCAPE, ADDITIONALITY AND SUSTAINABILITY

To achieve lasting impact against the three diseases, financial commitments from domestic sources must play a key role in a national strategy. Global Fund allocates resources which are far from sufficient to address the full cost of a technically sound program. It is therefore critical to assess how the funding requested fits within the overall funding landscape and how the national government plans to commit increased resources to the national disease program and health sector each year.

2.1 Overall Funding Landscape for Upcoming Implementation Period

In order to understand the overall funding landscape of the national program and how this funding request fits within this, briefly describe:

a. The availability of funds for each program area and the source of such funding (government and/or donor). Highlight any program areas that are adequately resourced (and are therefore not included in the request to the Global Fund).

b. How the proposed Global Fund investment has leveraged other donor resources.

c. For program areas that have significant funding gaps, planned actions to address these gaps.

Availability of funds for each program area and the source of such funding

Global Fund resources are in addition to the existing resources and grants provided by MoH & FW, NGOs and other donor agencies e.g. USAID, ADB, etc. In addition, WHO is providing technical support to the National TB Control Programme. In Bangladesh, the NTP has been implementing TB control activities in partnership with NGOs since 1994. A number of NGOs were given responsibility in demarcated geographic areas for specific activities. An MoU between MoH &FW and NGOs was signed in 1994 in this regard and subsequently the MoU was extended based on the good performance and track record. Utilizing this platform of partnership, GFATM grants (Rounds 5, round 8 and round 10) are implemented through dual track financing mechanism (PR1 and PR2). DOTS activities in different public health facilities (e.g. UHC and CDC) are mainly provided by government staff with additional human resources from NGOs and Local Government for addressing the increasing case load. In medical college hospitals, DOTS corners are established and staff deployed (technician and paramedic) for addressing the increasing case load for testing, counseling and referral, while government/medical college hospital physicians are providing all medical advice and care. For EQA of laboratory services, government district chest disease clinic provide space and both Government and NGOs are providing staff. Additionally KNCV and TB CARE II are also providing technical assistance for improvement of EQA system. To further enhance the quality of TB laboratory services and EQA function, TB CARE II is also helping the National programme to introduce new diagnostic tools for e.g. Fluorescence Microscopy (LED Microscopy).

The Ministry of Health and Family Welfare is making available all health staff and facilities for implementing national TB programme from upazila to central level. In urban settings, Ministry of Local Government and Rural Cooperatives is proving additional human resource support for additional case load. NTP has recruited additional technical and support staff. In addition, WHO also provides Technical Assistance through 2 NPOs. Staff providing support to DOTS expansion and EQA is largely funded from GFATM Rounds 3 and 5 grants. Most of the equipment and M&E-related costs were mobilized

from GFATM resources, while regional-level laboratory facilities for culture and drug-susceptibility testing are currently from non-GFATM sources (from JDCF and TB CARE II) with limited scale up proposal together with GFATM round 8 grant in this area. Several NGOs are also mobilizing resources from external and domestic sources to meet the additional requirements. Institutional donors to NGOs include USAID, the Asian Development Bank, Belgian Government. This funding – though more unpredictable – supports areas such as some HRs, operational research, second-line drugs, space facility, training, supervision etc. USAID also provides financial support for the national prevalence survey to determine the country's progress with the shortfall supported by Round 5. Country's first Drug Resistance Survey (DRS) has already been completed (**Annex –5: First Bangladesh National Tuberculosis Drug Resistance Survey 2010 - 2011**) and USAID provided the financial support for the survey. USAID also provides ongoing drug resistance surveillance conducted through Centers for Disease Control (CDC). The activities supported by other funding sources are included in the national plan and there is no duplication or overlap with GFATM grant supported activities. All activities supported by GFATM and non-GFATM sources are supplementary and/or complementary to each other. All activities both by government and NGOs are included in the Programme Implementation Plan and Operational Plan under HPNSDP. Government through its NNP (National Nutritional Programme) is providing limited nutritional support to TB patients.In addition, USAID through TB CAP/TBCARE has been providing support to NTP since 2008 under programme agreement in specific areas to supplement the TB programme. The TB CARE II Bangladesh project is implemented by University Research Co., LLC (URC), in partnership with Partners in Health, World Health Organization, Canadian Lung Association, Euro Health Group, and Clinical and Laboratory Standards Institute. Strengthening the health system is the strategic focus of the TB CARE II Bangladesh project. TB CARE II Bangladesh contributes to the areas of science & technology and innovation. Two innovations that have been rolled out are Gene Xpert, and community based management of MDR TB cases, which is a new approach to managing the challenge of limited national capacity for hospital based treatment facilities. The project also provides contributions to the diagnosis and management of Pediatric TB and TB infection control. The project coordinates with TRAction project to support new research and innovative approaches to TB control which are developed in different high burden settings around the world. USAID also supports the SIAPS project to strengthen the TB logistics management system, and has helped the NTP to introduce and scale-up eTB Manager, an electronic health information system for TB data and case management.

<u>Leverage of other donor resources through GF support</u>

Under the Global Fund project, the NTP has developed a joint planning and budgeting system, coordinating the support of all donors involved in TB control. Through this system, it was ensured that any activities for which the global fund provided support only partly, were complemented by other donors funds to ensure the effectiveness of planned measures, resulting in the leverage of donor support through Global Fund contributions. The system of joint planning and budgeting will be maintained under the NFM. Thus, it will be ensured in future that any activities for which the Global Fund will provide support only partly will be complemented by other donors funds to ensure the effectiveness of planned measures, resulting in the leverage of donor support through Global Fund contributions.

Funding gaps and planned actions to address these gaps

The allocated amount for TB control under the Global Fund's New Funding Model will present a significant challenge for the financing of TB control activities, as it represents a significant decrease of available financial resources. The total allocation of US Dollar 43 million over 30 months amounts to an annual allocation of about US Dollars 17 million, significantly less than the resources available under Round 10, which amounted to US Dollar 38 million for FY 2014. To address these gaps, the MOH will increase the proportion of its contribution to the supply of drugs and diagnostics supplies to 20% by 2015. In addition, the NTP has engaged in negotiations with the MOH for a further increase of the MOH budget allocated for TB control by approximately US$2 million, starting in the fiscal year 2015/2016. The NTP has also alerted the other currently involved donors about the severe decrease of available funding under the New Funding Model. In reaction to this, USAID is planning to continue to contribute an estimated US$ 8 million of program support per year subject to availability of funds to USAID.

Despite the increase in funding from various sources, a significant funding gap remains with respect to the total expression of demand as outlined in the NSP 2015-2020. Over the planned implementation period of the current proposal under the NFM (07/2015-12/2017), the total funding gap not covered by the GF allocation amount is USD 56.9 Million.

2.2 Counterpart Financing Requirements

Complete the Financial Gap Analysis and Counterpart Financing Table (Table1). The counterpart financing requirements are set forth in the Global Fund Eligibility and Counterpart Financing Policy.

a. Indicate below whether the counterpart financing requirements have been met. If not, provide a justification that includes actions planned during implementation to reach compliance.

Counterpart Financing Requirements	Compliant?	If not, provide a brief justification and planned actions
i. Availability of reliable data to assess compliance	☒Yes ☐ No	
ii. Minimum threshold government contribution to disease program (low income-5%, lower lower-middle income-20%, upper lower-middle income-40%, upper middle income-60%)	☒Yes ☐ No	
iii. Increasing government contribution to disease program	☒Yes ☐ No	

b. Compared to previous years, what additional government investments are committed to the national programs in the next implementation period that counts towards accessing the willingness-to-pay allocation from the Global Fund. Clearly specify the interventions or activities that are expected to be financed by the additional government resources and indicate how realization of these commitments will be tracked and reported.

c. Provide an assessment of the completeness and reliability of financial data reported, including any assumptions and caveats associated with the figures.

Additional government investments committed to the national programs in the next implementation period

Compared to previous years, additional government investments for TB control are expected in the areas of monitoring and evaluation through the provision of the required forms at all levels, in the areas of drug supply through increased contribution to the first line drugs budget, in the areas of infrastructure provision through the provision of facilities for additional diagnostic centers, and in the areas of human resources through provision of salaries for additional staff allocated for TB control services. The MOH will increase the proportion of its contribution to the supply of drugs and diagnostics supplies to 20% by 2015. In addition, the NTP has engaged in negotiations with the MOH for a further increase of the MOH budget allocated for TB control by approximately US$2 million, starting in the fiscal year 2015/2016.All activities planned and executed are being carried out at the planning and implementation level in collaboration with the national and sub-national level health authorities. This process ensures both efficient and transparent and equitable utilization of available resources.

Assessment of the completeness and reliability of financial data reported

There is a system of both financial and management audit in place to ensure the monitoring of MOH expenses on TB control through the MOH's annual operational plan. As expenditures under the operational plan are regularly audited, this system can be assessed as complete and reliable. Expenditures on infrastructure utilization can be determined through WHO's budgeting and planning tool, which contains standardized methodologies for the determination of country specific infrastructure costs associated with annual case numbers. As no system is in place for the direct determination of infrastructure costs, estimates resulting from WHO's planning and budgeting tool have to be evaluated with the usual limitations surrounding methodologies for the indirect determination of health system infrastructure costs.

SECTION 3: FUNDING REQUEST TO THE GLOBAL FUND

This section details the request for funding and how the investment is strategically targeted to achieve greater impact on the disease and health systems**.** It requests an analysis of the key programmatic gaps, which forms the basis upon which the request is prioritized. The modular template (Table 3) organizes the request to clearly link the selected modules of interventions to the goals and objectives of the program, and associates these with indicators, targets, and costs.

3.1 Programmatic Gap Analysis

A programmatic gap analysis needs to be conducted for the three to six priority modules within the applicant's funding request.

Complete a programmatic gap table (Table2) detailing the quantifiable priority modules within the applicant's funding request. Ensure that the coverage levels for the priority modules selected are consistent with the coverage targets in section D of the modular template (Table3).

For any selected priority modules that are difficult to quantify (i.e. not service delivery modules), explain the gaps, the types of activities in place, the populations or groups involved, and the current funding sources and gaps.

1-2 PAGES SUGGESTED – *only for modules that are difficult to quantify*

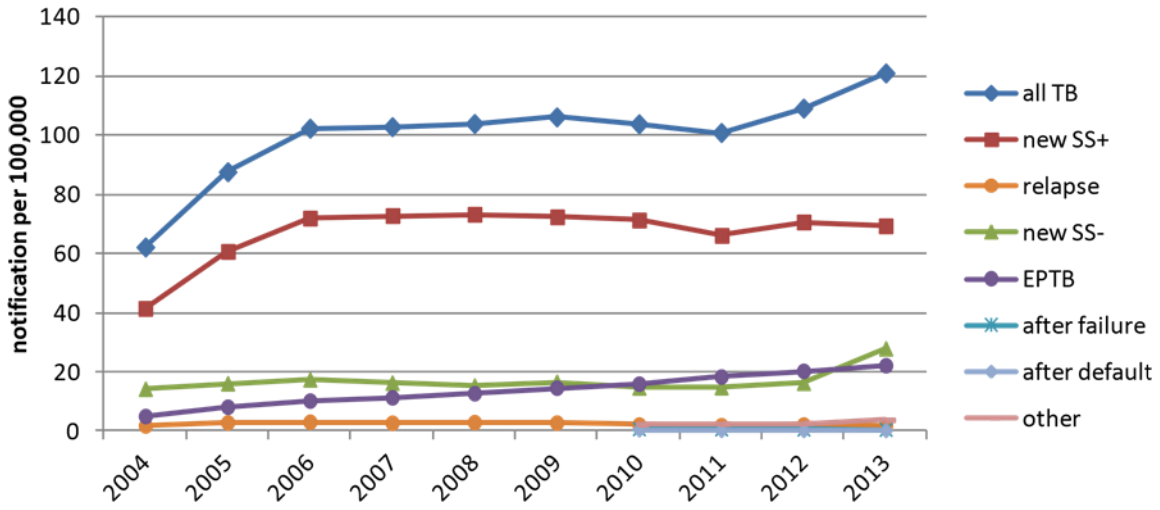
3.2 Applicant Funding Request

Provide a strategic overview of the applicant's funding request to the Global Fund, including both the proposed investment of the allocation amount and the request above this amount. Describe how it addresses the gaps and constraints described in questions1, 2 and 3.1. If the Global Fund is supporting existing programs, explain how they will be adapted to maximize impact.

The allocated amount for TB control under the Global Fund's New Funding Model will present a significant challenge for the financing of TB control activities, as it represents a significant decrease of available financial resources. The total allocation of US Dollar 43 million over 30 months under the NFM will be complemented by expected savings from Round 10 implementation of USD 7,041,514. The USD 50,106,245 total amount available of the NFM grant period (07/2015 – 12/ 2017) amounts to an annual allocation of about US Dollars 20 million, significantly less than the resources available under Round 10, which amounted to US Dollar 38 million for FY 2014*alone*. Despite the increase in funding from various sources other than the GF, a significant funding gap will remain with respect to the total expression of demand as outlined in the NSP 2015-2020. Over the planned implementation period of the current proposal under the NFM (07/2015-12/2017), the total funding gap not covered by the GF allocation amount is USD 56.9 Million. This amount has been included in the *above allocation* request. If the savings is more than estimated amount then the critical gaps of Human Resource will be addressed, if savings is less than estimated amount then social mobilization activities will be readjusted.

The NTP expects a significant impact on case finding resulting from the decreased funding amount. The diagram below **(Annex – 1)** shows the notification rates during recent years. A significant decrease in case finding has been observed during a previous

Global Fund funding reduction in 2009 to 2011, while the recent significant increase in case finding can be clearly linked to an increase of Global Fund funding resulting in significantly improved diagnostic services after 2011.



The Applicant Funding Request therefore has to consider two very distinct scenarios:

1. **Maintenance of core NTP services with a significantly reduced NTP budget under the allocation funding amount**
2. **Strengthening and expansion of NTP services in line with the full expression of demand outlined in the National Strategic Plan 2015 - 2020, with a potential above allocation funding amount covering the NSP budget**

As it appears unlikely that Global Fund support will be available to finance the full expression of demand as outlined in the National Strategic Plan, the applicant funding request also considers the prioritization of any available above allocation amount in a third scenario:

3. **Prioritization of alternative interventions described in the National Strategic Plan 2015 – 2020 under limited above allocation funding availability**

A. Proposed investment of the allocation amount

Under the **allocation funding amount**, a reduction of the current case notification rate to 100 per 100,000, similar to the level observed in 2011, is expected. The program will however ensure quality treatment services for all detected cases through maintenance of the current drug procurement system, and continuation of DOT activities relying on community health workers, which are implemented in collaboration with NGO partners. The NTP will also maintain the current management structure with respect to core required staffing levels and routine training and supervision activities. Specific attention will be given to maintenance of collaborative activities with NGO partners, as these are essential for the future successful implementation of NTP activities. With respect to MDR TB, the NTP will maintain MDR detection and treatment at currently achieved levels. Significant contributions to the maintenance of MDR TB activities are expected from USAID, especially with respect to the provision of diagnostic services for MDR TB. TB HIV activities would also be maintained at currently achieved levels.

Specifically, the proposed activities under the allocation funding amount will cover the following areas:

- MAINTAIN CURRENT DIAGNOSTIC SERVICES

Established microscopy centers will be maintained and the regular supply of diagnostic materials to all facilities will be ensured. Also, Gene Xpert facilities will be maintained where currently available.

- ENSURE DOT AND REGULAR SUPERVISION OF ALL DOT PROVIDERS

DOT will be ensured by community level health workers of government and NGOs. The regular supervision of all DOT providers is mandatory to ensure the reliable provision of DOT as well as appropriate management of side effects. Under this strategy, a regular schedule of supervision activities to all DOT providers will be established in collaboration between the NTP and NGO partners.

- IMPLEMENT A STANDARDIZED SOCIAL SUPPORT PACKAGE FOR PATIENTS AND INCENTIVES FOR TREATMENT SUPPORTERS

Social support mechanisms for TB patients in terms of financial support for diagnostic procedures and follow up visits, as well as financial incentives for DOT providers have been very effective in ensuring treatment success in some implementation areas. Under this strategy, successful models of patient support and incentives for treatment supporters will be expanded to cover all NTP implementation sites.

- ENSURE FIRST-LINE DRUG SUPPLY

The NTP will ensure quality 1st line drugs procuring through Global Drug Facility (GDF) and calculations will made based on National Strategic Plan. NTP and partner NGOSs will ensure adequate storage facilities, transportation and distribution to the service delivery points. The uninterrupted supply of quality control drugs to all facilities is a key requirement for treatment success.

- ENSURE SECOND-LINE ANTI-TB DRUG SUPPLY

Second-line anti-TB drugs are obtained from the Global Drug Facility (GDF); the WHO Country Office for Bangladesh will continue to provide technical assistance on placing drug orders. Second-line anti-TB orders will be placed every six months with the GDF. MDR-TB drug supply will be maintained at levels of case detection achieved in 2014.

- MAINTAIN CURRENT SUPERVISION STRUCTURE

Supervision activities will be maintained at the current level with respect to the number and type of facilities visited. In addition, the regular monitoring meetings at the district level will be maintained.

- MAINTAIN BASIC TRAINING ACTIVITIES

The NTP will maintain basic regular training activities for doctors, mid-level staff and field workers

- MAINTAIN CORE PERSONNEL STRUCTURE

The reduced funding under the allocation amount will require the termination of multiple

staff contracts previously funded from GF resources. Nevertheless, a core level of managerial staff at the central level, and indispensable staff at peripheral levels, such as lab technicians or community health workers (for DOT) will be maintained.

- MAINTAIN COLLABORATION WITH NGOS AND OTHER PARTNERS

The NTP collaborates with approximately fifty national international health and development agencies to implement the Stop TB Strategy. To ensure best use of comparative advantages and to avoid fragmentation and duplication of efforts, regular coordination meetings will be held under the NGO Coordination Committee for TB. The role of the Coordination Committee for TB is to assist in the overall TB programme implementation and in the monitoring and evaluation of the national strategic plan.

B. Proposed investment of the above allocation amount

Under the **above allocation funding amount**, the Applicant Funding Request seeks financial support for the strengthening and expansion of NTP services in line with the National Strategic Plan 2015 - 2020 to increase the service coverage.

a) Addressing gaps and constraints described in previous sections

A key limitation to the program has been limited access to TB diagnostic and treatment services and geographically remote areas, as well as the expansion of diagnostic services to detect forms of TB other than smear-positive TB, e.g., smear negative TB or MDR TB. These limitations are well addressed in the NSP 2015-2020, which focuses on the increase of case detection through expansion of diagnostic services as a key objective. Lessons learned from previous NTP activities include the high effectiveness of the involvement of community health workers in the detection and treatment of TB cases, and the high effectiveness of the involvement of the private sector in increasing case detection. In recognition of these lessons learned, the NSP 2015 – 2020 seeks to strengthen and expand these activities.

Inequalities and key constraints as described in question 1.1 are well addressed in the NSP 2015 - 2020. The needs of children, populations in remote geographical areas and HIV positive persons are well addressed in the NSP. The NSP focuses on improving access to healthcare services for poor populations, e.g. through the provision of financial support for x-ray services. These support measures will also address the specific needs of poor women in rural areas, and gender inequalities will be monitored with the collection of gender specific data on case detection and treatment outcomes in the TB recording and reporting system. The NGO BRAC is working with female community health volunteers at the village level. **(Annex – 6: Annual Report - 2013, BRAC)** 80,000 community health volunteers are involved in referral and DOT services and all of them are female. This may have led to reducing the threshold of females for seeking health care, but this did not translate in an increased proportion of females among the detected patients. However this approach has enhanced the female-friendly service for the rural females and thus has enhanced their accessibility to information and services. An article published in the International Journal of Tuberculosis and Lung Disease (2004, 8(8) 952-957) showed that there is no gender differences in TB prevalence in the studied area of the country though another study in the same journal (2008, 12(7):825–866) showed the association of gender issue with delayed diagnosis, delayed treatment seeking, greater use of informal providers and greater social isolation and stigma. These findings are already alarming the

response in Bangladesh and will continue to do so. Activities on involving female community health volunteers will thus be continued under this proposal. These female volunteers are involved in household visits and community meetings with rural women.

Mechanisms have been built in the reporting system on extracting data on male-female engagement in service delivery and on the outcome. Disaggregated male/female data allow monitoring of case detection and treatment outcomes per gender. The programme has a sizeable number of female staffs already, particularly at the central and community level (including NGO staff). This proposal includes continuation of ACSM activities specifically targeting women's groups at the district and the sub-district level. Involvement of the garment sectors and the women groups at village level might provide another avenue for reaching out to females in particular as more than 80% of the staffs working in garments sectors are female and several NGOs working on women groups at village levels in Bangladesh do exist. To involve the workplace, partnership with BGMEA has been developed by NTP to expand TB services. The NTP has also developed partnership with another industrial sector named BKMEA. Through this linkage large number of female groups will be addressed.

Linkage with other programmes such MCH services and addressing the females through community clinics have been planned. Capacity building of providers of community clinics is planned under this proposal. In order to provide equitable health care delivery to all the communities, the government of Bangladesh has started to revitalize 18000 community clinics, Each clinic will cover 6000 population and provide basic primary health care services including Family planning, EPI,MCH services and will be supported by community health care providers (CHCP) preferably female. These clinics will also be supported by community clinic management groups consisting of community stakeholders. The NTP will utilize this opportunity in the TB case detection and treatment. In the present proposal, the capacity building of community clinic health care providers is addressed. The programme is directly or indirectly also reaching out to other minority or socially disadvantaged sections. Religious minorities are well represented among health staffs and volunteers. Specific TB control (information-education-communication, social mobilization and service delivery) activities are planned for better services in the tea gardens and hard-to-reach areas. These areas are home to a considerable number of ethnic indigenous groups. Marginal groups are likely to be more vulnerable to develop TB. TB control services are also being strengthened in the refugee camps along the Myanmar border in collaboration with UNHCR. The proposal includes TB control activities in hard to reach areas, which need special attention. These include water surrounded area (char area), hill tracts, slum population. The proposal includes intensified support to provide information, referral and ensuring DOT. The proposed collaborative TB/HIV activities will also address more disadvantaged sections of the society. IDUs are among the highest risk groups for HIV in Bangladesh. The annual active screening for TB among HIV-positive people will thus benefit other marginalized people such as IDUs. The provision of TB services in HIV drop-in centers avoids that PLWHAs need to come to DOTS centers and is expected to encourage early screening and treatment for TB.

b) Detailed description of proposed interventions

The proposed interventions are based on the NTP priority activities identified in the National Strategic Plan. Specifically, these are:

1 OBJECTIVE 1: INCREASE ANNUAL CASE DETECTION OF ALL FORMS OF TB TO

210,000 BY 2017 (BASED ON NSP TARGET OF 230,000 BY 2020)

1.1 ESTABLISHMENT OF ADDITIONAL DIAGNOSTIC LABORATORY FACILITIES TO ACHIEVE A POPULATION COVERAGE OF 1/ 150,000

Currently 1 laboratory covers approximately 150,000 population. The establishment of new diagnostic facilities will have to take the specific geographic and demographic situations in individual areas into account. A key requirement will be the performance of comprehensive country mapping to determine the most feasible locations for additional laboratories. However few laboratories will be established under NFM based on the currently available information. All reagents, logistics and equipment to all laboratories will be ensured by NTP.

1.2 IMPROVE THE QUALITY OF SMEAR MICROSCOPY SERVICES

This strategy will focus on retraining of Upazila and collection centre staff and the education of experienced EQA technicians to become good laboratory supervisors who assure supportive, problem-solving supervision. It will also assure adequate internal quality control of staining solutions prepared at EQA and reference laboratories. In addition, the strategy will expand LED FM to 60% of all UHC by 2017 (based on NSP target of 100% coverage by 2020). Effective implementation of the LED FM technique will require excellent logistics for sensitive staining reagents; an assured stock of LED-FM spares (converters, lamps); the provision of brief standard operating instructions or bench aids for LED FM; and assured internal and external QC of LED-FM (positive control smears; monitoring rates, rechecking).

1.3 IMPROVE THE PERFORMANCE OF LABORATORY NETWORK

Under this strategy, several activities will be performed to improve the overall performance of the laboratory network. AMC/CMC will be ensured for all reference laboratories. SRLN to peripheral lab certification/accreditation process will be ensured. Medical Technologists (Lab) will be recruited exclusively for TB at the peripheral level. 100% training coverage of field level MT(Lab) will be ensured, as well as annual overseas laboratory training/meeting/study tour for lab personnel. Laboratory related operational research and cost effective analysis of different lab tools, e.g. time to diagnosis, time to treatment gap and feedback time notification rate etc. will be supported.

1.4 ENSURE COUNTRYWIDE ACCESS TO APPROPRIATE DIAGNOSTIC TOOLS FOR THE DIAGNOSIS OF SMEAR NEGATIVE CASES

The revised NTP manual includes detailed diagnostic algorithms for the diagnosis of smear negative cases specifying the conditions for the use of either x-ray or gene Xpert as diagnostic tools. By 2017, the NTP will ensure access to both diagnostic tools in 60% of all areas of the country (based on NSP target of 100% coverage by 2020). A key requirement for the availability of gene Xpert will be the establishment of a reliable sputum sample transport mechanism from all diagnostic sites. Mechanisms for the provision of chest x-ray will vary depending on specific situations in all Upazilas. In areas where x-ray facilities are nonfunctional in government facilities, but readily available and of high-quality in the private sector, the strategy will focus on the provision of financial support for patients to enable the purchase of x-ray services in private facilities. In areas where private chest x-rays are not available or of low quality, the strategy will focus on the renovation and maintenance of x-ray facilities at government facilities, and the provision of regular x-ray supplies or use higher level public/private health facilities. A detailed mapping of the current situation in all Upazilas will be a key requirement for the effective implementation of the strategy. Operational research will be conducted to assess the costs and benefits of different algorithms with different combinations of smear, Xray, Xpert and other diagnostic tools.

1.5 ENSURE REGULAR MAINTENANCE OF ALL DIAGNOSTIC EQUIPMENT

Advanced diagnostic technologies such as gene Xpert or LED microscopy require the ensured regular maintenance of all equipment for diagnostic accuracy. Under this strategy, the maintenance of advanced equipment will be ensured through the establishment of equipment maintenance/repair contracts at the time of purchase.

1.6 INCREASE DETECTION OF TB IN CHILDREN THROUGH PROMOTION OF THE ROADMAP FOR CHILDHOOD TB

Under this strategy, the NTP will seek to increase the detection of childhood TB cases by 60% to a level of 4% of all detected TB cases by 2017 (based on the NSP target of 100% increase by 2020). Components of the strategy will be a re-activation of the national Child TB Working Group; the expansion of child TB training to all health care providers; the training of TLCA to undertake contact investigation for child TB, including Mantoux testing; support for diagnostic tools, such as tuberculin and chest radiography, along with appropriate training; and active case finding (ACF) of child TB through the investigation of contacts of SS+ adult cases. In addition, e-TB Manager will be modified to capture and report treatment outcome data for children disaggregated as 0-4 and 5-14 years of age.

1.7 IMPROVE DIAGNOSTIC ACCURACY THROUGH DEVELOPMENT OF STAFF HISTORY TAKING SKILLS

A driving factor behind the current low detection of retreatment cases appears to be the insufficient skill in history taking by staff diagnosing TB patients. Activities to improve history taking skills will include training on new classification of TB cases, new policies, new algorithms and new reporting format included in the revised National Guidelines and operational manual for TB control, as well as the development of desktop guidelines on adequate history taking and appropriate diagnostic algorithms based on history

1.8 MONITOR THE USE OF ADEQUATE DIAGNOSTIC PROCEDURES FOR SPECIFIC GROUPS OF TB SYMPTOMATIC (PRESUMPTIVE TB CASES)

This strategy will include the design and implementation of a new suspect register that will allow the tracking of diagnostic methods for individual symptomatic, as well as training of staff involved in TB diagnosis at all levels in the use of the new register.

1.9 ENSURE THE IMPLEMENTATION OF CONTACT SCREENING PROCEDURES AT ALL FACILITIES

This strategy will focus on the training of all staff in contact tracing techniques, as well as the strengthening of supervision for this program component.

1.10 DESIGN AND IMPLEMENT ACTIVE CASE FINDING ACTIVITIES TARGETING HIGH RISK SETTINGS

This strategy will focus on the design and implementation of active case finding activities targeting high risk settings such as prisons, slums and high risk groups (diabetics, miners and workers intensely exposed to dust) to increase case notifications.

1.11 ENSURE FULL IMPLEMENTATION OF WHO'S TB-HIV POLICY

Under this strategy, the full package of WHO's TB-HIV strategy will be implemented, including stronger TB/HIV Collaborations between the NTP and NASP with coordinated guideline writing and biannual TB/HIV collaborative meetings; development and implementation of a "risk assessment tool" for providers to use to screen patients for the presence of risk factors for HIV; introduction of "provider initiated HIV testing" for DOTS clinics, hospitals, and areas with high number of TB patients with HIV risk, the screening of all HIV patients for symptoms of TB, and the diagnosis of HIV-positive symptomatic on the basis of gene Xpert. In addition, a survey for HIV sero-prevalence in TB patients

will be performed.

1.12 IMPLEMENT A COMPREHENSIVE ADVOCACY AND COMMUNICATION STRATEGY

Under this strategy, a revised plan for advocacy and communication will be completed and circulated to all stakeholders. The strategy will reduce TB stigma and create greater demand for public sector services with Most at Risk Populations (MARPS) through multilevel, synergized communication programs – interpersonal communication supported by media and population level approaches. The strategy will also seek to strengthen NTP ownership and improve 'brand equity' through an integrated national TB brand and 'call to action' (existing) on all TB materials and activities with 'appropriately weighted' (second tier) partner and donor accreditation. An enhanced M&E framework for advocacy and communication will be developed with key performance indicators and defined program targets. The M&E framework will be operationalized through partner workshops. Key performance indicators (KPIs), targets and performance mechanisms will be incorporated into the revised NTP M&E plan and advocacy and communication outcomes will be annually measured against targets.

1.13 ENHANCE SOCIAL MOBILIZATION ACTIVITIES

A revised plan for social mobilization activities including gender relations will be completed and circulated to all stakeholders. The strategy will improve coordination of integrated range social mobilization activities through NGO partner workshop to also address a practical approach to partner coordination and integration of activities. An enhanced M&E framework for social mobilization activities will be developed with key performance indicators and defined program targets. The M&E framework will be operationalized through partner workshops. Key performance indicators (KPIs), targets and performance mechanisms will be incorporated into the revised NTP M&E plan and social mobilization outcomes will be annually measured against targets.

2 OBJECTIVE 2: MAINTAIN A TREATMENT SUCCESS RATE OF AT LEAST 90% IN ALL FORMS OF DETECTED NON-MDR TB CASES AND ENSURE QUALITY-CONTROLLED TREATMENT SERVICES AT ALL IMPLEMENTATION SITES

2.1 ENSURE DOT AND REGULAR SUPERVISION OF ALL DOT PROVIDERS

DOT will be ensured by community level health workers of government and NGOs. The regular supervision of all DOT providers is mandatory to ensure the reliable provision of DOT as well as appropriate management of side effects. Under this strategy, a regular schedule of supervision activities to all DOT providers will be established in collaboration between the NTP and NGO partners.

2.2 IMPLEMENT A STANDARDIZED SOCIAL SUPPORT PACKAGE FOR PATIENTS AND INCENTIVES FOR TREATMENT SUPPORTERS

Social support mechanisms for TB patients in terms of financial support for diagnostic procedures and follow up visits, as well as financial incentives for DOT providers have been very effective in ensuring treatment success in some implementation areas. Under this strategy, successful models of patient support and incentives for treatment supporters will be expanded to cover all NTP implementation sites.

2.3 EXPAND MODELS OF CARE FOR SPECIAL POPULATIONS SUCH AS PRISONS, GARMENT INDUSTRY, SLUMS, MIGRATORY POPULATIONS

Several small scale activities have implemented models of care for special populations, such as prisons, garment industry, slums or migratory populations. Under this strategy, successful models will be standardized as NTP policies and expanded to cover high-risk populations across the whole country. Urban issues will be analyzed given the particular challenges for both diagnosis and DOT due to long travel times and fewer community

health resources.

2.4 ENSURE THE UNINTERRUPTED SUPPLY OF QUALITY CONTROLLED DRUGS AT ALL FACILITIES

NTP will ensure quality 1st line drugs procuring through Global Drug Facility (GDF) and calculations will made based on National Strategic Plan.NTP and partner NGOSs will ensure adequate storage facilities, transportation and distribution to the service delivery points. The uninterrupted supply of quality control drugs to all facilities visited key requirement for treatment success. This strategy seeks to address current deficiencies in the current drug management system by strengthening Inventory Management, ensuring adequate usage of the recently introduced Quarterly TB Drug Report, scaling up implementation of the drug management module of the e-TB Manager, improving quantification for future procurements and introduce bar code labeling for all drugs for improved inventory management.

2.5 ENSURE PHAMARCOVIGILANCE THROUGH REGULAR DRUG QUALITY CONTROL

Under this strategy, the NTP will introduce regular drug control activities for all newly procured first and second line TB drugs.

2.6 IMPLEMENT A COMPREHENSIVE INFECTION CONTROL POLICY AT ALL IMPLEMENTATION SITES

The NTP has developed a comprehensive infection control policy, but implementation at peripheral facilities has been limited. Under this strategy, the implementation of infection control at all treatment facilities will be ensured through reconstitution of the multidisciplinary team on TB IC policies and guidelines, and inclusion of their oversight in the scaling-up of TB IC; development and implementation of a program for pre-service and in-services TB screening, including routine surveillance among HCW and laboratory staff; definition and roll out a FAST implementation plan in all hospital facilities and congregate settings; definition of a set of SOPs for waste management for each level of care; training of Master Trainers and managers responsible for regular supervision and M&E on technical and programmatic aspects of TB IC.

2.7 IMPROVE THE MANAGEMENT OF TB CASES WITH CO-MORBIDITIES

Co-morbidities such as diabetes present special challenges in the care for TB patients. To improve the management of cases with co morbidities, the NTP will develop specific training material focusing on this aspect of TB control and will ensure training of staff at all levels of the healthcare system and collaborate with different institutes.

3 OBJECTIVE 3: ENSURE ACCESS TO DST FOR 75 % OF ALL AREAS BY 2017 (BASED ON NSP TARGET OF UNIVERSAL ACCESS BY 2020); TREAT 100% OF DETECTED MDR-TB CASES AND ACHIEVE A TREATMENT SUCCESS RATE OF AT LEAST 75% IN DETECTED MDR-TB CASES

3.1 ENSURE ADEQUATE DIAGNOSIS OF PATIENT WITH PRESUMPTIVE MDR TB AT 75% OF ALL NTP FACILITIES BY 2017

The adequate diagnosis of MDR TB suspects will require adequate history taking by all TB care providers and access to gene Xpert. Under this strategy, the training of TB care providers will be intensified to ensure adequate history taking of previous TB treatment and subsequent correct classification of patients by health care providers. The NTP will establish gene Xpert facilities in all 64 districts, an additional 16 sites in hospitals and urban settings, and an additional 50 sites in areas with difficult geographical access, for a total of 130 gene Xpert machines available throughout the country by 2017. The strategy will ensure access to gene Xpert sites by strengthening sputum collection and sample transportation networks. The determination of the required number of Xpert machines

was based on an assumed average work capacity of one gene Xpert machine of 1,000 tests per year, based on an assumed 50% capacity utilization due to limitations of the planned sputum sample transport mechanism. Detailed calculations for the number of Gene Xpert tests and Gene Xpert machines required are summarized in the table below.

	2015	2016	2017
smear+ ratio among suspects	6,6%	6,6%	
Total suspects	1.760.000	1.840.000	1.920.000
Sm- suspects	1.661.524	1.741.384	1.818.666
% Sm- suspects with severe symptoms	10%	10%	10%
No. Sm- suspects with severe symptoms	166.152	174.138	181.867
Sm- suspects with severe symptoms receiving Xpert	40%	50%	60%
No. of Xpert for sm- suspects	66.461	87.069	109.120
No. of retreatment cases	10.177	10.640	11.102
% receving Xpert	65%	70%	75%
No. of Xpert tests required	6.615	7.448	8.327
% of new sm+ cases not converting	1,5%	1,5%	1,5%
No. of new sm+ cases not converting	1.477	1.479	1.520
% of non- converters tested with X-pert	65%	70%	75%
No. of Xpert tests required for non-converters	960	1.035	1.140
No. of Xpert tests for contacts of MDR-TB cases	750	750	1.000
No. of HIV-pos. screened with X-pert	1.000	1.000	1.500
Total No. of X-pert tests for MDR-TB Management	9.325	10.233	11.967
Total No. of X-pert tests for MDR-TB Management	9.325	10.233	11.967
No. of Xpert for sm- suspects	66.461	87.069	109.120
Total No. of Xpert	75.786	97.303	121.087
Rounded No. of Xpert tests required	**80.000**	**100.000**	**130.000**
Xpert machines required assuming capacity 1000 tests	**80**	**100**	**130**

3.2 ENSURE ADEQUATE HUMAN RESOURCES FOR THE MANAGEMENT OF MDR-TB

Given that each upazila or urban DOTS Center is expected to have the capacity to manage DR-TB, there is a need to address the human resource gap, especially at field level. As per the Standard Operating Procedures of PMDT, a UHC/ DOTS Center Outpatient MDR-TB Team will be set up at each UHC/ DOTs center. An MDR-TB team consisting of an UH&FPO- Team Leader, a Medical Officer Disease Control (MODC)-Member Secretary, an RMO/ 1 Medical Officer (for back up, if MODC is not available or gets transferred out), 1 TB and Leprosy Control Assistant (TLCA) to act as the DR DOT Supervisor (and can also be a DR DOT Provider if the patient lives near-by), a Statistician for keeping medical records, 1-Medical Technologist–Lab/PO Lab and 1-Representative from a partner NGO will be trained at each center.

3.3 ENSURE ADEQUATE SECOND-LINE ANTI-TB DRUG SUPPLY

Second-line anti-TB drugs are obtained from the Global Drug Facility (GDF); the WHO Country Office for Bangladesh will continue to provide technical assistance on placing drug orders. Second-line anti-TB orders will be placed every six months with the GDF. To estimate the number of gene expert tests required for the diagnosis DR TB cases, and the number of MDR cases to be treated, the following assumptions were used:

- an increase of the number of retreatment cases detected through better diagnostic interviews of 20% by 2017
- an increase of the proportion of patients with presumptive MDR TB receiving gene Xpert to 75% by 2017
- a constant prevalence of MDR TB among retreatment cases of 28.5%
- a constant proportion of TB cases without smear conversion after the initial phase of 1.5%
- a prevalence of MDR TB among non-converters of 10%
- an increase of the number of symptomatic contacts of MDR TB cases tested with Xpert to 1000 by 2017
- a prevalence of MDR TB among symptomatic contacts of 10%
- an increase of HIV-positive patients tested for MDR TB to 1500 by 2017
- a prevalence of MDR TB among HIV positive patients screened of 1.4%

The numbers of expected MDR cases resulting from these assumptions are summarized in the table below.

	2015	**2016**	**2017**
No. of retreatment cases	10.177	10.640	11.102
% receiving Xpert	65%	70%	75%
% MDR among retreatment cases	28,5%	28,5%	28,5%
No. of MDR-TB cases detected in retreatment cases	1.885	2.123	2.373
% of new sm+ cases not converting	1,5%	1,5%	1,5%
No. of new sm+ cases not converting	1.525	1.534	1.581
% of non- converters tested with X-pert	65%	70%	75%
% MDR among non-converters	10%	10%	10%
No. of MDR-TB cases detected in non-converters	99	107	119

% of MDR-TB cases among contacts	10%	10%	10%
No. of MDR-TB cases among contacts	75	75	100
No. of HIV-pos. screened with X-pert	1.000	1.000	1.500
% of HIV-pos. screened with MDR-TB	1,4%	1,4%	1,4%
No. of MDR-TB cases among HIV-Pos. screened	14	14	21
Total No. of MDR-TB Cases detected	**2.073**	**2.319**	**2.613**

3.4 ENSURE ADEQUATE LOGISTICS FOR DISTRIBUTION OF SECOND LINE DRUGS

Logistics for the distribution of second line drugs have special requirements, such as temperature controlled drug storage facilities. Under this activity, the establishment of an uninterrupted transport chain with adequate storage facilities at all levels will be ensured.

3.5 FURTHER DEVELOP LABORATORY CAPACITY FOR FOLLOW-UP EXAMINATIONS AND DIAGNOSIS OF XDR TB

The strategy will strengthen the network of RTRLs, in particular for the required decentralized capacity for culture follow up, and strengthen the in–country capacity to perform SL DST. LPA (Hain's) SL DST will be established as "rule in" test for resistance to FQ and SL injectables.

3.6 PROVIDE TREATMENT FOR ALL DETECTED XDR TB CASES

The NTP will ensure the treatment of all detected XDR TB cases. For planning purposes, an increase of the number of XDR TB cases to 10/year by 2017 was assumed.

3.7 PROVIDE PALLIATIVE CARE FOR PATIENTS WITHOUT FURTHER TREATMENT OPTIONS

The NTP will ensure the provision of palliative care as well as social support for all patients who will not respond to either the MDR TB or XDR TB treatment regimen. For planning purposes, the number of such cases was assumed to increase to 10/year by 2017.

3.8 IMPROVE RECORDING AND REPORTING FOR MDR TB ACTIVITIES

Recording and reporting for MDR TB activities will be standardized through inclusion of a module for recording and reporting for MDR-TB in eTB-Manager

3.9 IMPLEMENTATION OF STANDARDIZED HOSPITALIZATION AND SOCIAL SUPPORT POLICIES FOR MDR–TB PATIENTS AND INCENTIVE PACKAGE FOR MDR–TB DOT PROVIDERS ACROSS ALL SITES IN THE COUNTRY.

Social support mechanisms for MDR-TB patients, as well as financial incentives for MDR-TB DOT providers have been very effective in ensuring treatment success in some implementation areas. Under this strategy, successful models of patient support and incentives for treatment supporters will expanded be to cover all NTP implementation sites.

3.10 ENSURE ADEQUATE INFECTION CONTROL FOR STAFF INVOLVED IN MDR-TB ACTIVITIES

Infection control measures are described in the recently published guideline “National

Guidelines for Tuberculosis Infection Control" Bangladesh USAID 2011 **(Annex – 7: National Guidelines for Tuberculosis Infection Control)**and will continue to be implemented during the expansion of the programme. All health care providers will periodically be provided with personal N-95 masks, as a protective measure. Clinics and hospitals will be reviewed on a case-by-case basis and an infection control plan will be developed and implemented at each facility. The strategy also includes infrastructure upgrades for environmental infection control at treatment facilities for MDR-TB.

3.11 Ensure adequate management of drug side effects under MDR TB treatment

To improve the management of adverse effects a standardized set management procedure for drug side effects will be implemented.

3.12 Ensure adequate training of all staff involved in MDR TB activities

The training of staff involved in MDR TB activities has been deficient at some implementation sides. Under this strategy, the availability of adequately trained staff will be ensured through provision of a lengthened initial PMDT training, and regular refresher trainings.

4 Objective 4: Strengthen engagement of all public and private care providers

The referral of TB symptomatic through private providers to the NTP presents enormous potential for the further increase of case detection.

4.1 Strengthen collaborative activities between the NTP and private providers

This strategy will include the optimization and expansion of the engagement of hospitals. Screening for TB in hospital OPDs presents an important opportunity to identify additional patients with presumptive TB. Activities will focus on the training of doctors employed in OPD settings, as well as the production and distribution of desktop reference material to increase awareness about diagnostic opportunities for TB including gender relation and TB/HIV testing for MARPs. The strategy will also foster linkages with health centers for follow up and treatment supervision. The strategy will further strengthen collaboration with formal and informal private providers, private laboratories and pharmacies for the referral of new cases. Options for diagnosis, treatment, DOT as well as PMDT through chest physicians and selected private facilities will be explored in operational research projects. The strategy will also scale up collaboration with the business sector (based on working models in garment factories and other similar or better models) and strengthen TB care delivery by prison health services.

4.2 Strengthen regulatory functions of the NTP in relation to private providers

This strategy will include activities to operationalize the Gazette on mandatory TB notification. While the Gazette on mandatory TB notification has been an important step forward to improve case detection, the policy has not yet been operationalized. The development of standardized recording and reporting mechanisms for private care providers will be effected, as well as the training and supervision of private providers to ensure compliance with the provisions of the Gazette. In addition, the rational use of anti-TB drugs, and standards of medical practice will be developed through promoting the international standards for TB Care (ISTC) among private doctors and hospitals. Certification and accreditation mechanisms will be set up to incentivize and support best-

practice facilities.

4.3 System strengthening for the engagement of private providers

This strategy will include activities to strengthen the capacity of the NTP to engage all care providers including private laboratories and pharmacies through collaboration and regulation. Activities will focus on the provision of regular training and periodic follow-up sessions for private providers from both the formal and informal sectors, with the aim of achieving a substantial increase in the total programmatic coverage. The strategy will also strengthen the capacity of partner NGOs and professional associations to engage private practitioners and pharmacies. Surveillance and supervisory systems to monitor contribution of non-NTP care providers to TB care and control will be developed. This will include increasing the knowledge base on PPM: Identify areas with diagnostic delays via mini-surveys of treatment-seeking pathways and delays, and analyses of the percentage of 3+ smears in each district; Use surveys to identify areas (e.g., urban vs rural) with higher TB private sector drug sales; use the findings to guide PPM approaches in these areas. Regular PPM Working Group meetings will be ensured. To improve monitoring and evaluation of PPM, the schedule for visiting engaged private providers will be formalized and documented so there is regular education, advocacy and monitoring, so that the percentage of actively referring private providers can be calculated.

5 objective 5: Ensure that at least 60% of required staff positions identified in a revised national human resource development plan are filled, and 100% of all filled positions are trained, by 2017 (based on NSP target of filling 90% of all staff positions by 2020)

5.1 Health workforce planning and policy development

Staffing levels and training needs of health workforce currently involved in the implementation of NTP activities both from government and NGOs will be continued and gaps will be reviewed. Additional staffing needs (number and categories) will be identified at all levels to implement high quality TB programme activities and services. The central management capacity of NTP and its partner NGOs will be strengthened by sending relevant staff to selected international training courses and by obtaining support from WHO, the International Union Against Tuberculosis and Lung Disease (The Union) or other relevant agencies for organizing leadership and management courses and technical training programmes in-country.

5.2 Expand and strengthen on-going in-service training for all health workers involved in the implementation of TB Control

In-service training programmes for different categories of health workers involved in the implementation of NTP activities will be updated to include new developments in different components of TB control. A comprehensive training package will be developed to strengthen the involvement of strategic partners.

5.3 Strengthen pre-service training for medical doctors, nurses, paramedical staff and other health workers involved in the implementation of TB services

The NTP will take initiatives to introduce the elements of the NTP policy in the pre-service curricula. This will be done in collaboration with the Center for Medical Education and the Bangladesh Medical and Dental Council, the responsible bodies for curriculum development. Public health academic institutions such as the National Institute of Preventive and Social Medicine will be engaged in capacity development for

implementation of the NTP policy.

5.4 Engage in strategic partnerships for health workforce development for comprehensive TB Control

The NTP will collaborate and coordinate with other disease control programmes and departments in DGHS and MOH&FW, with other units and services at the divisional and district level as well as with nongovernmental or private agencies to ensure synergy and consistency with overall local and national health sector plans and capacity-building frameworks. Efforts will be made to increase the participation of the private sector and community networks with common linkages to TB to ensure active engagement in relevant activities. The NTP will actively engage with professional societies using the International Standards for TB Care and national PPM guidelines as tools. Collaboration with industries and pharmacy holders through their respective associations will be expanded.

5.5 Development of personnel policy and practice

The employee data will be computerized. Job descriptions will be updated as and when required. The NTP together with the HRH units of DGHS and MoH & FW will support in formulation of policy on recruitment, hiring of staff, career development, procedures for promotion and transfer. There will be orientation of new staff emphasizing the organizational goals and performance standards.

6 objective 6: Ensure that all TB service facilities will receive regular supervision and monitoring, and produce timely and accurate reports, by 2017

6.1 Revise the existing M&E plan to provide more detail on the organization of supervision and staff responsibilities at various program levels

The current efforts of M&E by NTP and partner NGOs will be continued and strengthened at all levels. The M&E plan will be revised to clearly specify the responsibilities of staff at each level of the NTP and its partner NGOs in terms of the number of facilities to be visited and the frequency of supervision activities. The goal will be to ensure that each facility receives one supervision visit in every quarter, regardless of program results in the quarterly reports.

6.2 Provide adequate transport facilities for supervisors

All divisional staff will be equipped with one vehicle. At the district level, POs will be equipped with a motorcycle, where MOs are assigned; they will be equipped with a vehicle.

6.3 Ensure adequate supervision capacity at the district level

The current system of expecting supervision activities from CDC consultants is ineffective, as these staff are regularly fully occupied with their clinical duties. NTP supervisory staff should be based at the civil surgeon's office. If the staff at these offices is currently POs, the NTP will ensure intensive training of the staff for at least three months. The NTP will gradually upgrade existing PO posts to MO level.

6.4 Develop integrated supervision teams at the district level

Supervision activities at the district level will be performed by teams involving NTP and NGO staff. Local teams will develop a joint supervision schedule, and the NTP will develop SOPs specifying the scope and content of team supervision activities.

6.5 Develop SOPs for supervision activities, including revised

SUPERVISION CHECKLISTS

The NTP will develop detailed SOPs for supervision, clearly specifying the various tasks supervisors are expected to perform at each level of health facility and containing health facility-specific supervision checklists.

6.6 ENSURE AVAILABILITY OF SUPERVISION REPORTS AT PERIPHERAL FACILITIES

The NTP will develop a system to ensure that supervision reports are provided to each facility visited at the end of each visit. Standardized checklists will be developed in triplicate form, and staff at peripheral facilities will be required to countersign each supervision report before per diem disbursements are effected at the central level.

6.7 FACILITATE THE USE OF PROGRAM PERFORMANCE DATA DURING MONITORING MEETINGS

While the guidelines for the conduct of monitoring meetings include the requirement to analyze case finding and treatment reports, this appears to be rarely done effectively. The NTP will expand the guidelines to include detailed instructions on the various ways of analyzing case finding and treatment outcome reports, as well as the conclusions that should be drawn from specific outcome data

6.8 IMPROVE ETB-MANAGER FUNCTIONALITY AT PERIPHERAL SITES

eTB-Manager will be revised to include the new recording and reporting system introduced by WHO in 2013. Also, the drug management module will be made operational. A desktop version of the program that allows for off-line data entry will be developed. All implementation sites that receive eTB-Manager will be equipped with solar power providers and backup batteries.

6.9 RAPIDLY EXPAND THE USE OF ETB-MANAGER

After revision of the software and development of a desktop version, the NTP will rapidly expand the use of eTB-Manager to cover all implementation sites by the end of 2016.

6.10 FILL ALL TLCA POSTS

Well-trained TLCAs will be essential for quality assured recording and reporting, especially once eTB-Manager becomes operational at all sites. The existing posts will urgently be filled at all Upazila health complexes. Additional positions for data management personnel will be established at the district level.

7 OBJECTIVE 7: ENSURE THE LONG-TERM AVAILABILITY OF 100% OF REQUIRED FUNDING FOR ACTIVITIES AT ALL PROGRAM LEVELS THROUGH EFFECTIVE PLANNING AND PARTNER COORDINATION; MAINTAIN GOB CONTRIBUTION AT MORE THAN 10% OF TOTAL TB BUDGET

7.1 DEVELOP MANAGEMENT CAPACITY AT CENTRAL AND PERIPHERAL LEVELS

Securing the long-term availability of required funding is essential for the sustained excess of the NTP. This strategy will strengthen collaboration and coordination between different directorates in MOH, relevant other ministries and local government for TB program planning and implementation within overall health sector planning. It will also strengthen collaboration with other programmes at local level to ensure that relevant TB control activities are included in “general activities” at all levels (e.g. FP, EPI; OPDs). Epidemiological monitoring through prevalence surveys and DRS will be ensured, as well as regular program evaluations through JMM.**(Annex – 8: Joint Monitoring Mission of National TB Control Programme Report, 2014)**The strategy will also ensure TA for all activities in which outside assistance will contribute to optimal program performance, with special emphasis on TA for implementing the WHA approved Global TB Strategy post 2015. Management capacity at local level, including local level planning,

budgeting, monitoring and evaluation and capacity to strategically plan to address identified gaps will be improved.

7.2 FURTHER DEVELOP NTP COLLABORATION WITH NGOS AND OTHER PARTNERS

The NTP collaborates with approximately fifty national international health and development agencies to implement the Stop TB Strategy (as well as the post-2015 TB Strategy for future years). To ensure best use of comparative advantages and to avoid fragmentation and duplication of efforts, regular coordination meetings will be held under the NGO Coordination Committee for TB. The role of the Coordination Committee for TB is to assist in the overall TB programme implementation and in the monitoring and evaluation of the national strategic plan. Specific technical working groups have also been set up under NTP to coordinate strategies and activities on PPM and TB/HIV. In addition, a national MDR-TB management coordination committee has been established. Coordination is also ensured through the Country Coordination Mechanism set up for Global Fund collaboration. WHO provides technical assistance to NTP in the area of strengthening national laboratory network, capacity building, information exchange, resource mobilization, regular supplies of drugs and improving procurement and supply management, operational research, coordination, collaboration and partnerships, ACSM and monitoring and evaluation.

8 OBJECTIVE 8: ENSURE ADEQUATE SUPPORT FOR OPERATIONAL RESEARCH TO FOSTER INNOVATION

8.1 COMPLETE THE EVALUATION OF THE SHORTER (9-12 MONTH) MDR-TB REGIMEN THROUGH OPERATIONAL RESEARCH AND COST-EFFECTIVENESS ANALYSIS BY 2015; IF THE EVALUATION IS FAVORABLE, START COUNTRY-WIDE EXPANSION OF THE SHORTER REGIMEN BY 2016

WHO recently developed a policy on the shorter course MDR-TB regimen and supports its use, provided a number of criteria are in place. Criteria examples include; ethical approval, operational research conditions and the engagement of a monitoring board that is accountable and reports to WHO. This strategy will ensure that all WHO criteria for expansion of the shorter regimen are met through a set of operational research activities.

8.2 STRENGTHEN AND EXPAND OTHER OPERATIONAL RESEARCH ACTIVITIES

Under this strategy, operational research activities will be strengthened through appointing a focal person at central level to coordinate the establishment and implementation of a priority research agenda, monitor progress and provide feedback information to stakeholders; inclusion of OR on the agenda of the regular quarterly meetings; use of the NTP web site as a mechanism to disseminate research results; increased engagement of NTP staff in OR with the aim of strengthening knowledge translation into action; introduction of a small grants program to stimulate development and implementation of protocols to address local issues.

C. Prioritization of alternative interventions described in the National Strategic Plan 2015 – 2020 under limited above allocation funding availability

As it appears unlikely that Global Fund support will be available to finance the full expression of demand as outlined in the National Strategic Plan, efforts were made to identify those interventions with the highest cost-effectiveness ratios, i.e. interventions that will lead to the greatest epidemiological impact for limited above allocation funding amounts. To identify such interventions, a modeling exercise utilizing the STAR modeling package was undertaken in collaboration with the Futures Institute and the London School of Economics. The Spectrum TB Impact Model and Estimates was used to study

cost and impact of different funding allocation and scale-up scenarios. A baseline model, representing the current level of spending and epidemiological situation was calibrated to TB data reported to the WHO Global TB Program. The exact level of expenditure for 2013 was difficult to determine. The baseline TB model was finally calibrated to an expenditure level of $32 million USD. Several scenarios were derived from this baseline model:

- Allocated: Representing an assumed drop in notification that will follow the dramatic reduction of the allocated TB budget. The assumption that TB notifications will drop is based on the drop in notifications that followed the funding gap in 2010 and 2011, which was significantly smaller than the funding gap facing the TB program at present. The anticipated drop in notification in the round of funding could therefore be larger.

- Obj1: The scenario represents Objective 1 of the NSP, of notifying 220,000 TB cases by 2020

- Obj3: Increased DST among several key TB populations for MDR using Gene Xpert.

- *Obj2: Insuring high treatment success. This scenario is not explicitly modeled and is factored into the Allocated scenario, i.e. reflected in its cost. Several other scenarios of the NSP are considered cross cutting and are not explicitly modeled.*

- NSP: This is scenario reflects the full expression of demand and impact of the NSP that will be reached if all the objectives of the NSP are reached.

- Obj1a: Under the assumption that incentive funding could increase the allocated budget by 20%, a scenario representing the cost and impact of allocating the additional funding to increased notification.

- Obj3a: Under the assumption that incentive funding could increase the allocated budget by 20%, a scenario representing the cost and impact of allocating the additional funding to increased DST

- Obj1b: Under the assumption of no additional above allocated funding secured, a scenario representing a programmatic shift from funds allocated to program management to service delivery, from a current level of 65% of all costs to 50% by 2018.

- Obj1c: A scenario representing a programmatic shift from funds allocated to program management to service delivery, from a current level of 65% of all costs to 50% by 2018 combined by the notification increase of Obj1a which assumes 20% of additional funding.

The results show the significant impact of the NSP: reaching 220,000 cases by 2020 will have a dramatic impact on the epidemiological situation with significant reductions in TB incidence and mortality projected by 2020 and beyond. Without further funding the situation will change to that represented by the Allocated scenario: a large drop in notification and program costs and an increase in incidence and TB-mortality. As the detection rate stabilizes at the new lower level, notification will increase again in a backdrop of increasing incidence and prevalence. By 2025 funding requirements will coincide with the levels of the Current scenario, but the TB epidemic will now have a larger pool of prevalent cases and manifest a much greater burden. Moreover, costs under

this scenario will be increasing, whereas under the Current scenario costs will be stable and under the NSP will be decreasing in the long run.

Scenarios Obj1a-c and Obj3a provide guidance for optimal allocation should 20% additional funding be secured under the GF incentive funding mechanism. Scenario Obj3 shows the level of incentive funding will be required to fund the proposed rollout of Xpert, and that such rollout cannot be attainted with incentive funding alone since the found MDR cases will dramatically increase service delivery and MDR-related program management costs. Scenarios Obj1a-c shows that incentive funding is best allocated to increased case finding and notification. Scenario Obj1b shows that a 15% shift in the fraction of overall cost allocated to management, to service delivery, can marginally impact of TB burden under relatively constant budget projection for the next few years. Scenario Obj1c shows that a combination of program-to-service delivery costs shifts and an increase in case finding through direct incentive funding, can move TB burden closer to the stability of the Current scenario.

Figure 1: TB Incidence (number of cases)

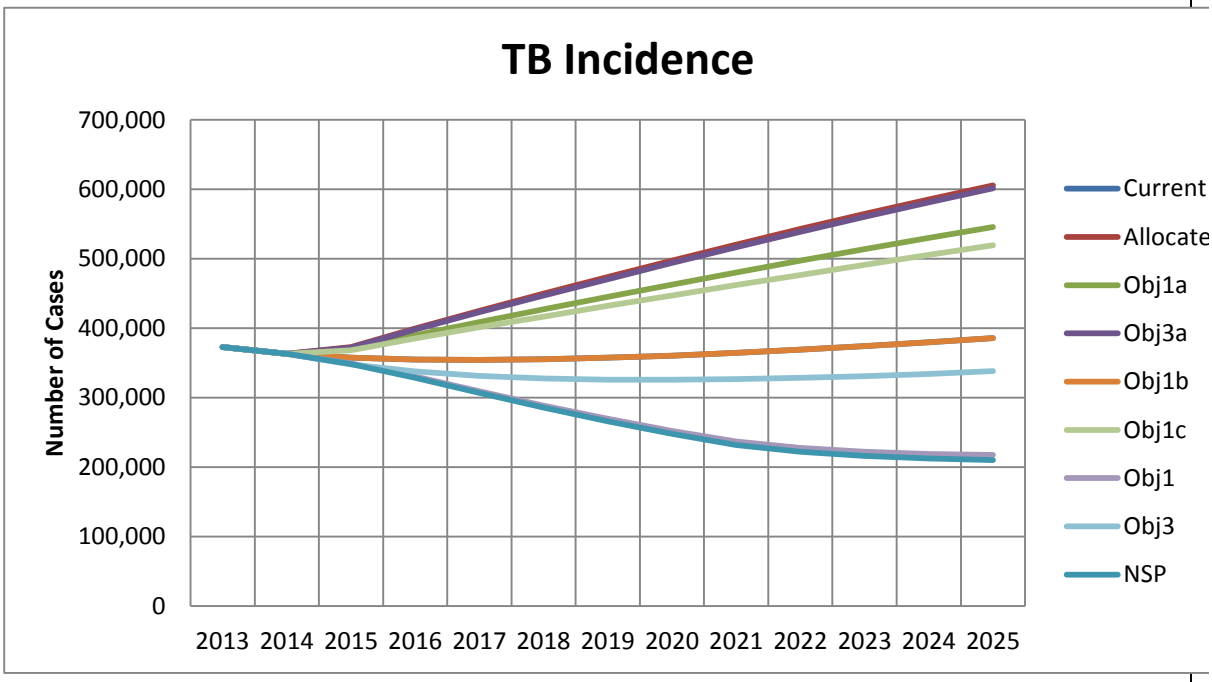


Figure 2: TB Notification (number of cases)

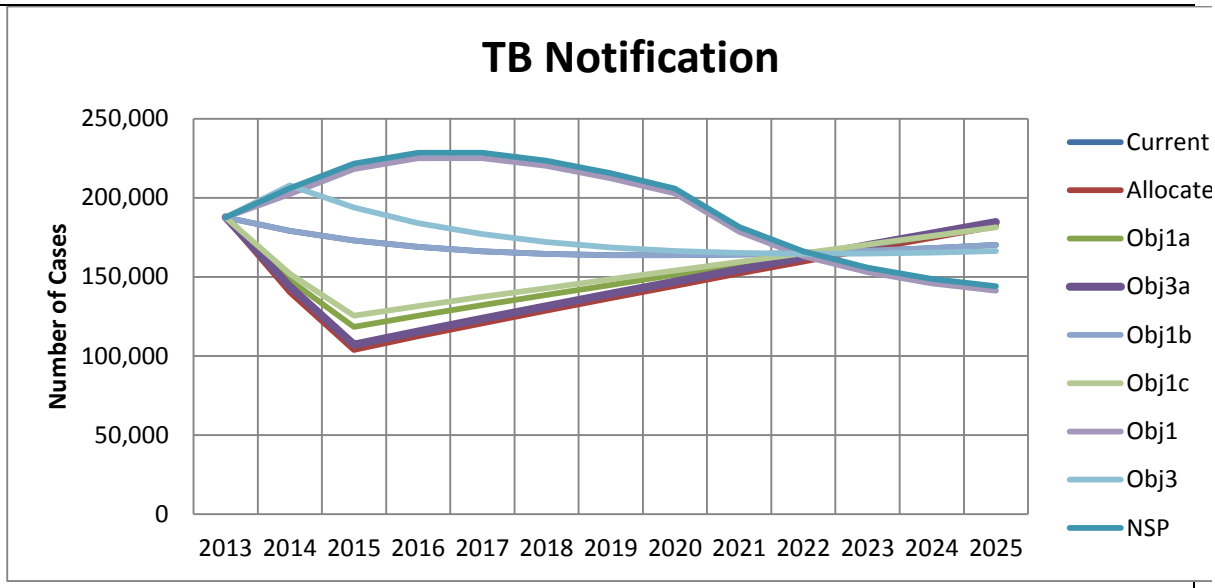


Figure 3: MDR TB notification (number of cases)

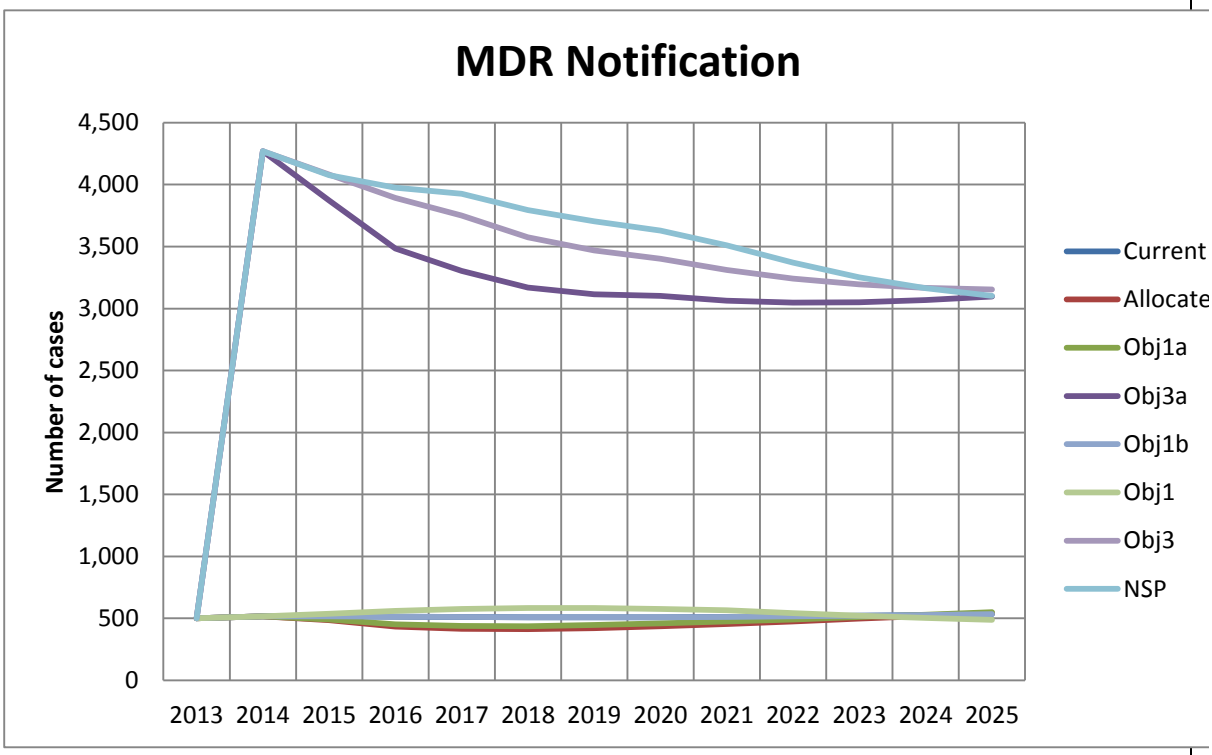
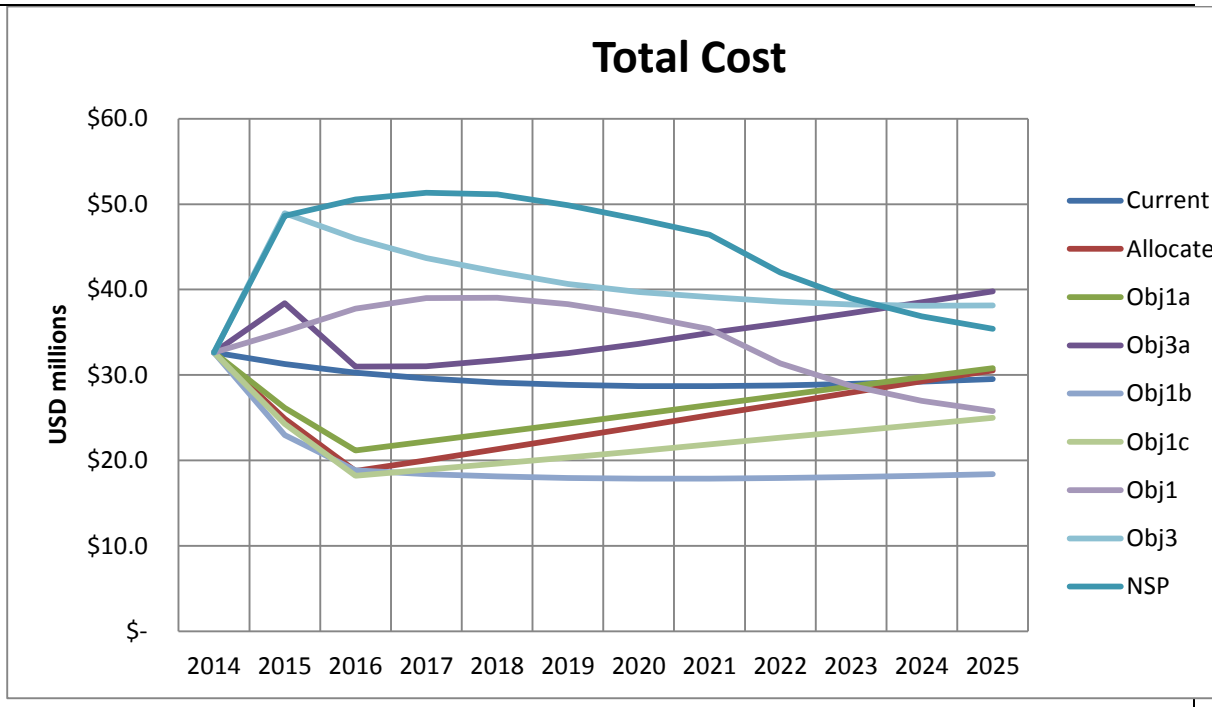


Figure 4: Total cost required for scenario implementation (USD millions)



In summary, the modeling exercise identified interventions aiming at an increase of case detection as the most cost effective. These interventions are described in detail under objective 1 in section B above. Since previous experience of the NTP has demonstrated the very high effectiveness of PPM activities in increasing case notifications, interventions described under objective 4 in section B above should also be regarded as highly cost-effective in the context of limited funding availability. In addition, social protection support delimited under objective 1,2 and 3 have been proven to be very effective for improving care notification and treatment outcomes to increase coverage in recent years. Furthermore, capacity building, communication and social mobilization activities will be key programmatic requirements for effecting policy changes, ensuring quality of care and enhance early care seeking behavior to improve the service coverage.

3.3 Modular Template

Complete the modular template (Table3).To accompany the modular template, for both the allocation amount and the request above this amount, briefly:

a. Explain the rationale for the selection and prioritization of modules and interventions.

b. Describe the expected impact and outcomes, referring to evidence of effectiveness of the interventions being proposed. Highlight the additional gains expected from the funding requested above the allocation amount.

Modules and interventions were chosen to support the strategies of the Applicant Funding Request described above. Explanations for the choice of specific interventions within the respective modules are provided below.

1 TB CARE AND PREVENTION

This module was chosen due to the proven effectiveness of its components in the control of TB, as evidenced by the inclusion of the respective TB care and prevention policies in WHO'spost-2015 TB strategy. Within the module, the following interventions were selected:

1.1 Case detection and diagnosis

This intervention includes early detection of all forms of TB among all ages. It includes-diagnosis of TB using sputum smear microscopy (ZN and/or LED-FM) and Rapid molecular tools for early and rapid diagnosis (Xpert MTB/RIF). It also includes other tools such as X-rays to support diagnosis among smear-negative and extra-pulmonary TB cases, children and PLHIV. Additionally it includes activities related to strengthening the delivery of TB services such as renovating and equipping laboratory infrastructure and specimen referral mechanisms from lower to higher level laboratories for additional tests.

1.2 Treatment

This intervention includes standard, supervised treatment with first line drugs (FLDs) including pediatric preparations, with social support for patients with drug-sensitive TB and innovative patients-centered care. Clinical and/or laboratory tests to monitor treatment responses.

1.3 Prevention

This intervention includes provision of INH preventive therapy (IPT) for children in contact with bacteriologically confirmed TB cases, administrative controls for infection control.

1.4 Engaging all care providers

This includes engaging public and private providers (formal/non-formal) in TB control activities (diagnosis, treatment and follow-up of patients). Public-private (PPM) refers to private providers which are not included in the NTP (including private not for-profit and for-profit private clinics, hospitals). Public-public mix refers to public providers which are collaborating with NTP but not included in the NTP.

1.5 Community TB care delivery

This intervention includes capacity building for community-level service delivery. It includes training and capacity-building of TB service providers, TB patients, community-based interventions and outreach services for TB patients.

1.6 Key affected populations

This includes active case finding among Key Affected Populations and high risk groups such as prisoners, displaced people, migrants and ethnic minorities/indigenous populations, urban poor, and adapting models of TB care for high risk groups. This

includes adapting services to the needs of specific groups to make services people-centered and improve accessibility, appropriateness, and availability; adapt diagnostic and treatment structures to meet needs of key populations, e.g. through community community-based TB care and prevention, mobile outreach to remote areas, community-based sputum collection, sputum transport arrangements, etc.

Expected impact and outcomes

The key performance indicator for this intervention will be the number of TB cases of all forms of detected annually. The expected numbers differ substantially between interventions proposed under the allocation amount and interventions proposed under the above allocation amount. Under the allocation amount, case detection is expected to decrease from the current 184,507 to 164,142 by 2017. With the above allocation amount, case detection is expected to increase to 210,000 by 2017, in line with the targets of the national strategic plan.

2 TB/HIV

This module was chosen due to the proven effectiveness of its components in the control of TB, as evidenced by the inclusion of the respective TB/HIV policies in WHO's post-2015 TB strategy. Within the module, the following interventions were selected:

2.1 TB/HIV collaborative interventions

This intervention refers to implementation of TB/HIV collaborative activities that are aligned with the HIV program. These include- setting up and strengthening a coordinating body for collaborative TB/HIV activities functional at all levels, joint TB and HIV planning to integrate the delivery of TB and HIV services; HIV testing of TB patients and early initiation of ART and CPT for co-infected patients; It also includes screening of PLHIV for TB and rapid molecular tools for TB diagnosis among PLHIV with presumptive TB; IPT, infection control measures. It includes procurement of consumables and drugs which are not covered by the HIV program.

Expected impact and outcomes

The key outcome indicator for this intervention will be the percentage of TB cases with high risk of HIV who had and HIV test recorded in the TB register. A substantial difference is expected between the outcome under the allocation amount and the outcome under the above allocation amount. Under the allocation amount, the maintenance of the current proportion of 10% is expected. Under the above allocation amount, an increase of the proportion of high risk TB patients screened to 50% is expected.

3 MDR-TB

This module was chosen due to the proven effectiveness of its components in the control of TB, as evidenced by the inclusion of the respective MDR-TB policies in WHO's post-2015 TB strategy. Within the module, the following interventions were selected:

3.1 Case detection and diagnosis: MDR-TB

Early detection, including the use of rapid molecular diagnostics at decentralized settings and culture and DST in at least reference labs

3.2 Treatment: MDR-TB

Provision of supervised second-line treatment for MDR-TB patients, with social support, management of adverse drug effects, and monitoring of treatment response by clinical and lab services for patients on treatment; coordination of ARV treatment for patients with HIV co infection. Active pharmacovigilance (in the case of use of drugs which have not yet completed Phase III trials)

3.3 Prevention for MDR-TB

Implementation of infection control measures at all levels, including appropriate

administrative measures, coordination of IC activities, personal protection and environmental control measures.

3.4 Engaging all care providers

This includes engaging all public and private providers in MDR-TB control activities at all levels (suspecting, diagnosis, treatment and follow-up of patients). Public-private (PPM) refers to private providers which are not included in the NTP (including private not for-profit and for-profit private clinics, hospitals). Public-public mix refers to public providers which are collaborating with NTP but not included in the NTP

3.5 Community TB care delivery

Capacity building for community-level service delivery. This includes training and capacity-building of TB service providers, TB patients, community-based interventions and outreach services for TB patients.

Expected impact and outcomes

The key outcome indicator for this intervention will be the number of confirmed MDR TB cases that begins second line treatment. A substantial difference between the outcomes under the allocation and above location amounts is expected. Under the allocation amount , a maintenance of the currently detected number of 495 MDR TB cases annually is expected. Under the above allocation amount, the number of MDR TB cases enrolled intricacy treatment is expected to increase to 1900 by 2017.

4 Procurement supply chain management (PSCM)

This module was selected because of the importance of an uninterrupted supply of drugs

and diagnostics for the performance of the TB program. Within the module, the following interventions were selected:

4.1 Operationalization of procurement and supply chain management system

Interventions to ensure appropriate, uninterrupted, efficient and transparent planning, purchase and distribution of quality medicines, other health products and technologies all along the supply chain.

4.2 Improvement of procurement and supply chain system infrastructure and development of tools

Activities to ensure appropriate storage and distribution of medicines and other health products, for example increasing storage capacity, transportation, hardware and software for the procurement and supply management system.

Expected impact and outcomes

The key outcome indicator for this module will be the proportion of all treatment facilities with no stock outs reported annually. Due to the crucial importance of the regular drug supply, no difference of this proportion is expected between the allocation and above allocation amount. The indicator is expected to be 100% by 2017.

5 Health information systems and M&E

This module was selected you to the crucial importance of reliable reporting and reporting for the evaluation of the TB control program. Within the module, the following interventions were selected:

5.1 Routine reporting

Routine R & R/ e-TB register; Data collection and reporting from other care providers (PPM, communities and civil society); Routine reporting of TB/HIV collaborative activities and infection control measures; Surveillance systems Standards & Benchmarks checklist

applied (case and death notification and vital registration systems); Inventory (e.g. capture-recapture) studies assessing completeness of case/death reporting, including from private sector.

5.2 Analysis, review and transparency

Analysis, interpretation and use of data and evidence generated through integrated program reviews, evaluation of whole or a specific component of the program; development and sharing of periodic reports through websites/publications; reviews and evaluations of national health strategies; Operations research- e.g. specific to any of the components of the NTP.

5.3 Surveys

Surveys related to measuring TB burden, drug resistance. Population based surveys, for example, DHS, patient cost surveys; Special surveys to assess access barriers and specific needs of different key populations.

Expected impact and outcomes

The key outcome indicator for this module will be the proportion of intervention sites providing timely and accurate quarterly reports. Due to the key importance of reliable recording and reporting for the performance of the TB program, no difference in outcomes is expected between the allocation and above allocation amount. The indicator is expected to be 100% by 2017.

6 Health and community workforce

This module was selected due to the key importance of well trained staff for the functioning of the TB program. Within the module, the following interventions were selected:

6.1 Health and community workers capacity building

Activities that are aimed at improving health workers' technical capacity in service delivery, provision of care, support, preventive and related social services.

6.2 Scaling up health and community workers

Activities that are aimed at expansion and scaling up a skilled and competent health workforce.

6.3 Retention and distribution of health and community workers

Activities that are aimed at improving equitable distribution and retention of skilled workforce especially in hard-to-reach areas and to serve marginalized populations.

Expected Impact and outcomes

The key performance indicator for this module will be the proportion of staff receiving initial or refresher training based on the requirements specified in the human resource development plan. A substantial difference in outcomes between the allocation amount and the above allocation amount is expected. Under the allocation amount, the proportion of staff regularly trained is expected to be maintained at the current 30%. Under the above allocation amount, this proportion is expected to increase to 100% by 2017.

7 Program management

This module was selected due to the importance of effective program management for the performance of the TB control program. Within the module, the following interventions were selected:

7.1 Policy, planning, coordination and management

Includes development of national strategic plans and annual operational plans and budgets; oversight, technical assistance and supervision from national to sub-national levels; human resource- planning/ staffing and overheads, operational costs; coordination with district and local authorities; quarterly meetings, training, and office/IT equipment; partnering process including advocacy and public awareness and communication carried out by partners and the national program; mobilizing leaders to support implementation and sustainability of the program.

7.2 Grant management

Includes specific Global Fund grant management related activities at the PMU/PR/SR level, e.g., development and submission of grant documents; oversight and technical assistance related to Global Fund grant implementation and management and specific Global Fund requirements; improvement of financial management; supervision from PR to SR level; human resource planning/ staffing and overheads, operational costs; coordination with national program, district and local authorities; quarterly meetings, training, and office/IT equipment at PR/SR level; mobilizing leaders to support implementation and sustainability of the program.

Expected impact and outcomes

The key performance indicator for this module will be the proportion of implementation sites that receive regular supervision according to the revised M&E plan. A substantial difference in outcomes is expected between the allocation and above allocation amounts. Under the allocation amount, this proportion is expected to remain at the current 20%. Under the above allocation amount, this proportion is expected to increase and all facilities will receive regular supervision according to plan by 2017.

3.4 Focus on Key Populations and/or Highest-impact Interventions

This question is not applicable for low-income countries.

Describe whether the focus of the funding request meets the Global Fund's Eligibility and Counterpart Financing Policy requirements as listed below:

a. If the applicant is a lower-middle-income country, describe how the funding request focuses at least 50 percent of the budget on underserved and key populations and/or highest-impact interventions.

b. If the applicant is an upper-middle-income country, describe how the funding request focuses 100 percent of the budget on underserved and key populations and/or highest-impact interventions.

½ PAGE SUGGESTED

SECTION 4: IMPLEMENTATION ARRANGEMENTSAND RISK ASSESSMENT

4.1 Overview of Implementation Arrangements

Provide an overview of the proposed implementation arrangements for the funding request. In the response, describe:

a. If applicable, the reason why the proposed implementation arrangement does not reflect a dual-track financing arrangement (i.e. both government and non-government sector Principal Recipient(s).

b. If more than one Principal Recipients nominated, how coordination will occur

between Principal Recipients.

c. The type of sub-recipient management arrangements likely to be put into place and whether sub-recipients have been identified.

d. How coordination will occur between each nominated Principal Recipient and its respective sub-recipients.

e. How representatives of women's organizations, people living with the three diseases, and other key populations will actively participate in the implementation of this funding request.

The CCM has nominated two PRs (NTP, MoH &FW: PR – 1and BRAC: PR - 2) for administrative management of the TB control activities under GFATM TB grants. Procurement of pharmaceuticals and health products will mainly be done by PR-1. PR-2 under the set operational guidance distributes to the service delivery areas including hard-to-reach sites through their own mechanisms in consultation with NTP.

The responsibilities of implementing TB services at all levels are done through defined operational guidelines of NTP. There is no duplication of work identified. The coordination meetings are held monthly between PRs and technical partner (WHO). Reviews progress of program implementation and grant performance of both PRs held quarterly. Both PRs discuss issues related to human resource development, procurement and supply management, supervision and monitoring.

The SRs are identified who are already working with NTP under previous rounds of GFATM grants and who have signed an MoU with NTP for service delivery. These SRs will continue work under PR2 and will be managed by PR2 as past by signing a sub-agreement and following SR management manuals and guidelines. An NGO steering committee consisting of representatives from PR-1, PR-2, SRs and WHO meets quarterly and review performance, discuss any other issues raised and identifies ways to solve these. PR-2 coordinates with the SRs through annual planning workshop and quarterly performance review meetings. Overall coordination of PRs and SRs is managed through NGO steering committee meeting. Performance review meeting are held on quarterly basis with all SRs at central level. The meeting further discusses the strengths and weaknesses of implementation and management and feedback is also provided to respective SRs on their performances.

At service delivery level, implementing health authorities at district and upazila level and SRs meet in district- and upazila-level meetings quarterly and review program performance.

Quarterly performance review and coordination meetings are held at district level chaired by Civil Surgeon of the district. Performance of each upazila is presented by respective UH&FPO and representative from SRs working in respective areas. In these meetings program data is analyzed and progress in implementation of action plans is reviewed. Representatives from NTP and SRs central level attend this meeting according to the need.

The progress of activities is discussed in the monthly staff meeting at Upazila Health Complex (UHC). SRs from the respective upazila participate in the meeting. Both government and SRs share their performance and activities and are revised updated as per need.

All the activities undertaken by PRs and SRs are reviewed in the CCM meetings and CCM oversight committee. Representatives from multiple stakeholder included people leaving

3 diseases, women groups and representative of Ministry of Women and Child Affairs are included in the CCM and oversight committee.

4.2 Ensuring Implementation Efficiencies

Complete this question only if the Country Coordinating Mechanism (CCM) is overseeing other Global Fund grants.

Describe how the funding requested links to existing Global Fund grants or other funding requests being submitted by the CCM.

In particular, from a program management perspective, explain how this request complements (and does not duplicate) any human resources, training, monitoring and evaluation, and supervision activities.

The current funding request includes activities covered during several previous global fund funding cycles, the latest being round 10. The CCM also oversees Global Fund grants for malaria and HIV. During the preparation process, specific care was taken to avoid overlap between the various disease specific proposals through repeated consultations between the teams developing the individual disease specific proposals.

The NTP is responsible for overall policy formulation, planning, coordinating, implementing and evaluating TB control activities. The NTP has taken necessary efforts in minimizing negative effects on other programmes. Therefore, it has established partnership with various NGOs and government institutes in order to maximize coverage and comprehensiveness of its service delivery by considering the logistic and HR constrain of public health system.

Increasing number of grants from GFATM and other sources also increased work and management commitment at NTP central unit. To address this, a PMU unit was established with international and national consultants, which will be continued under this current proposal. Technical Assistance will be continued and if required could expand. TA plan for strengthening capacity of NTP central unit and perform routine technical monitoring of activities at district/upazila (sub-district) level.

Training and supervision on the various subcomponents of TB, as well as frequent coordination and planning meetings for TB may too often take away crucial staff from their work place. This will be addressed by combining training programmes as much as possible, especially in NTP (e.g. combining training programmes on MDR-TB, infection control, PAL etc) or with other programmes. Better coordination within the office of the Director and Director-General of Health Services should also more equally distribute training programmes over time and geographically. In addition, better coordination within the NTP will ensure coordinated supervision on different technical components of TB.

Expansion of MDR-TB management at regional level may overburden existing HR in the public health system. To address this partner NGO are providing additional HR to support RTRL in proper and timely implementation of activities. In addition, where the regional level facilities are lacking logistic support, NGO partners need to continue this support until government will be able to provide it.

The involvement of NGOs in service delivery sharing the role of the Government health

workers, and contributed in strengthening TB control programme. To sustain the strong partnership between Government and NGO, the role of the government in planning and policy is being pursued. Training of government and NGO staff at field levels will address implementation issues and will continue to support service delivery to maximize the quality of service delivery and coverage. All these plans jointly prepared and by PRs (NTP and BRAC) and technical partners (WHO and USAID) to avoid any duplication, and maximize outputs. The plan starts from NTP strategic planning to GFATM grant proposal process as supplementary/complementary to NTP and other partners activities and support.

4.3 Minimum Standards for Principal Recipientsand Program Delivery			
Complete this table for each nominated Principal Recipient. For more information on minimum standards, please refer to the concept note instructions.			
PR1 Name	ERD, Ministry of Finance (NTP, MOH&FW)	**Sector**	**GOV**
Does this Principal Recipient currently manage a Global Fund grant(s) for this disease component or a cross-cutting health system strengthening grant(s)?	☒Yes ☐No		
Minimum Standards		**CCM assessment**	
1. The Principal Recipient demonstrates effective management structures and planning		The PR1 has skilled and experienced staff members who are working in the field of tuberculosis control for a significant period of time. The national tuberculosis control programme is under the Mycobacterial Disease Control (MBDC) under Directorate General of Health Services (DGHS) of the Ministry of Health and Family Welfare. The central team consists of M&E, Training, MIS, PSM and Finance consultants, Epidemiologist and other support staffs led by the Programme Manager and is reportable to the Line Director, TB/Leprosy Control. All these staff are experienced in their own field with relevant technical knowledge.	
2. The Principal Recipient has the capacity and systems for effective management and oversight of sub-recipients (and relevant sub-sub-recipients)		PR1 does not have any SR.	

3. The internal control system of the Principal Recipient is effective to prevent and detect misuse or fraud	PR1 strictly follows all policies and procedures formulated by the Government of Bangladesh. Three types of independent audits take place periodically: departmental audit, audit by the Office of the Comptroller and Auditor General, Bangladesh and audit by FAPAD (Foreign Aided Project Audit Directorate). Appropriate mitigating measures are ensured to prevent any kind of misuse of money or fraud.
4. The financial management system of the Principal Recipient is effective and accurate	PR1 uses automated accounting software that can correctly and promptly record all transactions. Payments and other transactions are made through bank accounts to minimize risk. Supporting documents for all transactions are preserved and variances are cross checked for appropriate corrective measures.
5. Central warehousing and regional warehouse have capacity, and are aligned with good storage practices to ensure adequate condition, integrity and security of health products	PR1 has central level warehouse, known as Central Medical Stores Depot (CMSD), from where anti TB drugs are transferred to TB central store at Shamoly, Dhaka, and district level warehouses at all districts. These warehouses are designed to store drugs and other medical and health products with compliance to good storage practices, including proper ventilation and air-conditioning system, with trained staffs and appropriate security measures. An SOP for health product management is in place and followed accordingly (**Annex: 9: SOP For Supply Chain Management of Drugs and Supplies**).
6. The distribution systems and transportation arrangements are efficient to ensure continued and secured supply of health products to end users to avoid treatment/program disruptions	PR1 is responsible for procurement of health products under Global Fund grant. It has formed a PSM working group with members from both PRs, USAID and WHO to aid proper forecasting and planning of procurement and supply of these products up to end user level. Coordination is maintained at all levels which includes port authority, district civil surgeons and managers of BRAC NGO consortium to ensure smooth transportation of goods. Stock registers are maintained at all store facilities. Central and local level coordination is maintained to anticipate stock outs and redistribution of goods. A web based LMIS has been developed by SIAPS/MSH, USAID aiming tracking stock status of health products. This LMIS tool is under piloting stage. Presently it is maintained through an excel based spreadsheet.
7. Data-collection capacity and tools are in place to monitor program performance	The National M&E Plan is in place (**Annex 10: National M & E Plan**) to guide the M&E system. The indicators for routine monitoring activities have been aligned with the goals and objectives of the programme. NTP uses standard Recording and reporting tools The programmatic data are cross checked at district level through quarterly monitoring meetings as well as at central level. During Joint supervision visit data are also reviewed and validated.
8. A functional routine reporting system with reasonable coverage is in place to report program performance timely and accurately	The routine quarterly reporting system captures tuberculosis data from all DOTS centers including Upazilla Health Complexes, Chest Diseases Clinic (CDC) and urban centers in the metropolitan cities. Reports are collected through hard copies and e-mails. The web based data collection

	system (e-TB Manager) supported by SIAPS/MSH(USAID) is in expansion stages Guidelines and training have been provided to the concerned MIS persons at field level.
9. Implementers have capacity to comply with quality requirements and to monitor product quality throughout the in-country supply chain	An SOP for QA/QC of anti TB drugs has been developed (**Annex 11: SOP for Quality Assessment and Quality Control Plan for Anti-TB drugs**). A WHO qualified laboratory has been selected for QA. Sampling methodology has been developed. First batch of sample will be sent very soon. In this area URC (USAID) is providing technical and financial support. Warehouses are equipped with air conditioner, thermostat and dehumidifier.

Complete this table for each nominated Principal Recipient. For more information on minimum standards, please refer to the concept note instructions.			
PR 2 Name	BRAC	**Sector**	**CS/PS**
Does this Principal Recipient currently manage a Global Fund grant(s) for this disease component or a cross-cutting health system strengthening grant(s)?		☒Yes ☐No	
Minimum Standards		**CCM assessment**	
1. The Principal Recipient demonstrates effective management structures and planning	Yes, PR-BRAC demonstrates effective management structure and planning in program implementation. BRAC, one of the largest NGOs in world, has been successfully operated the GFATM grants through establishing efficient management at wider scale for TB programme since 2004 and malaria since 2007. In tuberculosis control programme the project management unit is divided into three strata – central, regional and district/field level. The central level team constitutes multidisciplinary staff including public health specialists with technical skills, M&E, PSM and finance personnel. The regional level staff supervise and manage BRAC and SR activities at filed level, and the field level staff are involved in programme implementation in BARC working areas. The central team of Project Management Unit has two parts: **1.** Grant management and BRAC operations **2.** SR coordination and management; lead by Associate Director, is responsible for overall grant management, strategic planning, M&E, supervision of filed level activities, stakeholder coordination and SR management. The central team provides technical guidance, if required, to district and field level for smooth implementation of approved work plan. Besides, it takes support from advocacy		

	department for sharing the information at national and district level. All the strategic decision are taken and implemented through coordination with Government at central level. The regional level staff members are responsible for SR management and work under the guidance of central level SR management personnel. They ensure implementation of activities under approved work plan and supporting the SR, if required. District Managers in the BRAC working areas are responsible for planning, implementation, supervision and coordination with local district health administration and other stakeholders. The staff members at all level are well oriented on their job responsibilities through formal and on-the-job trainings. The programme management of BRAC is always evolving under the guidance of Director of Health, Nutrition and Population Programme (HNPP), BRAC which will continue under new funding model.
2. The Principal Recipient has the capacity and systems for effective management and oversight of sub-recipients (and relevant sub-sub-recipients)	Yes, the PR-BRAC has the capacity and system for effective management of SRs. The PR-BRAC together with the sub-recipients (SRs) complements the efforts of the NTP (PR-1) for TB control in 64 districts (countrywide). BRAC conducts management oversight, ongoing capacity assessment and development, and provides support and technical guidance in the areas of both programme and finance to its 43 SRs. BRAC has an SR management team that includes central and regional level staff. As required by the GFATM, the PR conducts systematic capacity assessment of the SRs prior to the signing of grant agreement with them and the capacity gaps and other requirements identified in the assessment are addressed by the SRs within given timelines. Trainings and other necessary support as per capacity building plan is provided by the PR to meet the requisites. An SR Management Manual for managing and monitoring the performance of sub-recipients has been developed (**Annex12: SR Management Manual**) and in place. Review and planning meetings with SRs are held quarterly at the central level and monthly at the regional level to assess the quality of implementation of activities, and provide support to minimize the deviation from planned output. The central and regional level SR management staffs supervise the sub- recipients with an action plan. Different programmatic activities are monitored and supervised at field level to ensure quality services and compliance with the approved guidelines and policies. Intensive review of programmatic and financial reports of SRs is done quarterly to ensure correct, complete and reliable data is reported for sharing with the GFATM. Trainings (induction and refresher) and orientation/re-orientation meetings are held periodically to provide technical updates, address capacity gaps, provide guidance and support on the implementation of project guidelines.

3. The internal control system of the Principal Recipient is effective to prevent and detect misuse or fraud	The PR-BRAC has an established system of internal control within the organization through the support from other BRAC programmes, both within and outside of HNPP to ensure compliance to policies, guidelines and procedures outlined in the GFATM grant agreement, guidelines, and overall organization policy and requirements. BRAC has independent finance, monitoring, audit, HR, procurement and research departments reportable to respective authorities. Policies and procedures are in place for finance and accounting, human resource, procurement etc. and compliance of those are ensured. The Internal Audit Department of BRAC conducts audit in both BRAC and SR cost centers according to their annual audit plan to verify all financial transaction, reconciliation, books and accounts, and identify gaps and deviation in comparison with agreed action plan and budget. Independent monitoring and MIS validation is also done to see the programme performance and quality of MIS data. External audit is conducted yearly with approved ToR from GFATM by reputed audit firms.
4. The financial management system of the Principal Recipient is effective and accurate	PR-BRAC has rigorous financial policy which includes financial monitoring, timely disbursement and auditing. Automated software based accounting system is in place that can accurately record all the transactions and generate reports. Dedicated staff members are in place for financial management and monitoring of Global Fund grants. The financial reports are cross checked with the activities and the variances are analyzed critically. Cross checking of expenditures against activities is also done during routine financial monitoring and audits. All financial transactions including fund disbursements are made through bank accounts to ensure transparency and minimize risk. In addition to regular monitoring and audits, special investigations are also conducted with the support from programme and monitoring department. Prompt corrective measures are taken in case of any variance or misappropriation which may range from reconciliation to reimbursement of money and even termination of agreement or contract.
5. Central warehousing and regional warehouse have capacity, and are aligned with good storage practices to ensure adequate condition, integrity and security of health products	PR-BRAC has ten regional warehouses in strategic locations across the programme areas which are equipped with adequate conditioning to store the health products maintaining their qualities. In addition there are field level stores for transitional storage of the health products before it goes to the end user level. A National Standard Operational Procedure (SOP) for managing drugs and supplies is in place (**Annex: 9)**.Warehouse staff are trained and the inventory documents are well maintained. Security and safety measures are also strengthened over the year considering the product safety. Drugs are stored in shelves with FEFO (First Expired First Out) manner. Temperature control and other standardized methods are

	followed along the year as part of good storage practice in all the warehouses. Four malaria regional warehouses are used to store TB drugs for avoiding duplication and maximizing the efforts.
6. The distribution systems and transportation arrangements are efficient to ensure continued and secured supply of health products to end users to avoid treatment/program disruptions	The PR-BRAC has demonstrated efficient distribution systems and transportation arrangements for delivering health products. A PSM working group consisting of members from both PRs and other partners (USAID, WHO) is in place for forecasting and planning of procurement and distribution. The distribution of health products is done as per plan to different districts and sub-districts. The PRs maintain stock register and there is a system of reporting logistics supply status on a quarterly basis. This facilitates routine assessment of supply status, noting consumption, calculation of actual requirements and tracking of expiry for necessary intervention. In addition, the government has introduced the web based LMIS with the support of SIAPS/MSH, USAID aiming tracking stock status of health products. This LMIS tool is under piloting stage. Presently it is maintained through an excel based spreadsheet. The PRs consult each other regarding rational forecasting and timely indenting where stock-out is anticipated. The staff engaged in supply management has been oriented adequately.
7. Data-collection capacity and tools are in place to monitor program performance	Yes, the data collection capacity and tools are in place to monitor programme performance. The GFATM approved National M&E plan provides guidance on the M&E and MIS as well as to foster and institutionalize capacity for robust M&E within the PR and SRs towards steering focus on the intended 'results'. Data collection tools for quarterly disease specific data are being used. Disease specific and programmatic data are reported through these tools from Upazila (sub-district) and project/district office. Both NTP and BRAC led NGO consortium use the unique format for quarterly MIS. The data related to programme performances are monitored regularly through routine monitoring and supervision using specific checklists [Annex: M&E plan]. Joint programme reviews are organized by NTP (PR-1)and BRAC (PR-2) periodically which involves all implementing partners including PR-2.
8. A functional routine reporting system with reasonable coverage is in place to report program performance timely and accurately	Yes, a functional (both computerized and paper based) routine reporting system exists for capturing the programmatic and financial performance quarterly. Recording and reporting tools, timelines for submission reports and data flow are well defined for all existing cadres/structures within the consortium. An instruction has been given as an office memo to aid accurate and timely reporting [Annex- circular]. A web-based data collection system (e-TB Manager) has been introduced in the government health facilities supported by SIAPS/MSH(USAID) is in expansion stages.

	Routine cross checking and data quality assessment is carried out. In addition, yearly MIS validation is conducted by the independent monitoring department of BRAC.
9. Implementers have capacity to comply with quality requirements and to monitor product quality throughout the in-country supply chain	The GoB (PR – 1) is responsible for overseeing the quality requirements pharmaceuticals and health products. An SOP for QA/QC of anti TB drugs has been developed (**Annex: 11**). A WHO qualified laboratory has been selected for QA. Sampling methodology has been developed. First batch of sample will be sent very soon. In this area TB CARE II (USAID) is providing technical and financial support. Warehouses are equipped with air conditioner, thermostat and dehumidifier.

4.4 Current or Anticipated Risks to Program Delivery and Principal Recipient(s) Performance

a. With reference to the portfolio analysis, describe any major risks in the country and implementation environment that might negatively affect the performance of the proposed interventions including external risks, Principal Recipient and key implementers' capacity, and past and current performance issues.

b. Describe the proposed risk-mitigation measures (including technical assistance) included in the funding request.

The risk assessment for this proposal was performed on the basis of the portfolio analysis provided by the Global Fund.

Within the category of **programmatic and performance risks**, the following risks were identified:

- Unstable funding situation. This risk is considered to be of high likelihood and high impact. The remedial measures taken by the PR will focus on further resource mobilization from currently involved funding sources, i.e. GOB and USAID, and additional resource mobilization from additional donors to be identified.
- Low MIS database sustainability. This risk is considered to be of low likelihood and low impact. The remedial measures employed include further software development and intensified training on data management.
- High staff turnover rates. This risk is considered to be of medium likelihood and medium impact. The remedial measures seek to reduce job dissatisfaction to improve retention rates.

In the area of **fiduciary and financial risks**, the following risks were identified:

- Risks resulting from fluctuating foreign exchange rates. This risk is considered to be of low likelihood but high impact for the program. The remedial measures employed include the reallocation of funds between different funding sources, and the general strengthening of the use of internal sources for funding.
- Market price changes for procurement items. This risk is considered to be of medium likelihood and high impact. Remedial measures employed include the reallocation of funds between different funding sources, the general strengthening of the use of internal sources for funding, and the bulk purchase of procurement items.
- General risks related to the procurement process. These risks are considered to be

of medium likelihood and medium impact. The remedial measures employed include the attention to value for money during the procurement process and the utilization of an open, competitive and transparent procurement system.

Within the area of **health services and health product quality**, the following risks were identified:

- Risks resulting from natural calamities. These risks are considered to be of medium likelihood and high impact for the program. Remedial measures include the strengthening of emergency preparedness procedures, and the provision of adequate buffer stocks for procurement items.
- Risk related to the use of LMIS. These risks are considered to be of medium likelihood and of low impact for the program. Remedial measures include further software development and intensified training on data management.
- Risks for drug quality resulting from interruptions to power supplies. These risks are considered to be of medium likelihood of medium impact. The remedial measure employed is the provision of power generators for backup during power blackout periods.

Within the area of **governance, oversight and management** risks, the following risks were identified:

- Risks resulting from the interruption or termination of currently existing partnerships. This risk is considered to be of low likelihood and of high impact for the program. The remedial measure employed is a further development of partnership structures, following the model used for PPM activities.
- Risks related to insufficient oversight by technical experts. This risk is considered to be of low likelihood and of high impact. The remedial measures employed include the strengthening of the CCM oversight mechanism, the establishment of a CCM committee focusing on technical oversight requirements, and the clear description of requirements for technical assistance in a technical assistance plan to be developed by the technical committee.
- Risks related to internal control mechanisms. These risks are considered to be of low likelihood and of high impact. The remedial measures employed include the further development of the existing internal control system.

CORE TABLES, CCM ELIGIBILITY AND ENDORSEMENT OF THE CONCEPT NOTE

Before submitting the concept note, ensure that all the core tables, CCM eligibility and endorsement of the concept note shown below have been filled in using the online grant management platform or, in exceptional cases, attached to the application using the offline templates provided. These documents can only be submitted by email if the applicant receives Secretariat permission to do so.

☒ Table1: Financial Gap Analysis and Counterpart Financing Table

☒ Table 2: Programmatic Gap Table(s)

☒ Table3: Modular Template

☒ Table4: List of Abbreviations and Annexes

☒ CCM Eligibility Requirements

☒ CCM Endorsement of Concept Note