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Bangladesh | **Resource Gap for TB programme**

Resource Gap for Tuberculosis Programme in Bangladesh, 2017-2022

1. Introduction

Bangladesh ranks sixth among the 22 countries with the highest tuberculosis (TB) burden in the world.[1] Bangladesh started its TB programme at the primary health care level in the 1980s, adopted directly observed treatment short-course or DOTS in 1993, and has involved non-governmental organizations (NGOs) in TB service delivery since 1994. After missing the TB Millennium Development Goal in 2015,[2] and to ensure achievement of the TB target of the Sustainable Development Goals by 2030,[3] Bangladesh established a more comprehensive TB programme immediately.

The overall goal of the National TB Control Programme (NTP) under the Ministry of Health and Family Welfare (MOHFW) is to reduce TB-related morbidity, mortality, and transmission until the disease is no longer a public health problem.[4] Prevention and treatment of TB is part of the essential service package (ESP) as reflected in the Fourth Health, Population, and Nutrition Sector Programme (4th HPNSP) 2017-2022.[5] The National Strategic Plan for TB Control (2018-2022) describes key interventions and activities that will enable the NTP to achieve milestones in the global End TB Strategy.[6] These include a 75% reduction in TB deaths and 50% reduction in TB incidence by 2025, and a 95% reduction in deaths and 90% reduction in incidence by 2035.

Bangladesh has sufficient fiscal space to increase the budget allocation for health,[7] but policymakers need reliable evidence to advocate for an increased health budget. USAID's Health Finance and Governance (HFG) project supported the Government of Bangladesh (GOB) to generate evidence needed to plan for Universal Health Coverage. This includes a resource gap analysis for the ESP, including immunization and TB services.[8, 9]

This brief provides an overview of the resource gap analysis conducted by HFG for public sector provision of TB services for 2017-2022.

2. Objectives

The resource gap analysis for Bangladesh's TB programme (2017-2022) was designed to:

- Analyze consolidated information on resources available and estimated costs for implementation of the TB programme per the 4th HPNSP;
- Generate evidence on the resource gap to inform policymakers how best to achieve targets in the current plan and to support future planning; and
- Inform domestic resource mobilization initiatives of GOB to better plan for eventual transition from donor financing.

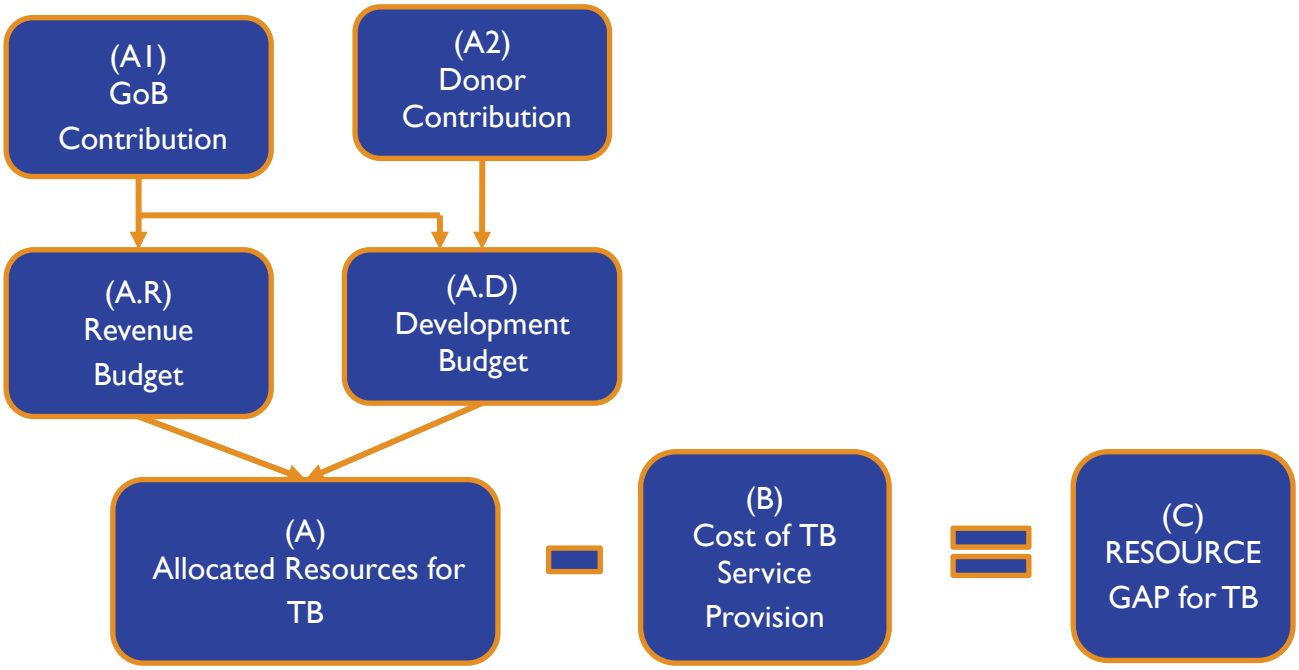
3. Methodology

HFG conducted resource modeling exercises for HIV, TB, malaria, and nutrition programmes in other countries undergoing donor transitions,[10, 11, 12] and applied a similar framework to estimate the future resource gap (if any) for Bangladesh's TB programme. **Figure 1** shows the framework and its components.

(A) Allocated Resources for the TB programme come from two sources: domestic resources from **GOB** and external resources or **Project Aid (PA).**

- **(A.R) Revenue budget** is the fixed budget allocation from GOB primarily for health facility human resources (e.g., salaries, allowances, and other benefits), which cover about 90% of the revenue budget.
  - **(A1) GOB contribution** to MOHFW for the TB programme, including funding allocated by GOB through Bangladesh's **revenue budget.**

Figure 1: Analytic Framework for Resource Gap Analysis for the TB Programme in Bangladesh



- **(A.D) Development budget** is generally more flexible; it is channeled through the sector programme and covers programmatic aspects, such as: new diagnostic tools and equipment; intensive effort for TB case identification; diagnosis and management of multi-drug and extensively drug resistant TB; training, research and development; drugs and supplies; and monitoring and evaluation.
  - **(A1) GOB contribution** to MOHFW for the TB programme also includes funding allocated by GOB through the **development budget**.
  - **(A2) Donor contribution** includes external resources from development partners allocated towards the Operational Plan for 2017-2022 for TB.

(B) Cost of TB Service Provision – TB service costs were estimated as part of a wider study to estimate the cost of ESP services in the public sector. This study was conducted by HFG with WHO Bangladesh and the International Centre for Diarrhoeal Disease Research, Bangladesh at the request of the Health Economics Unit and Planning Wing, using the OneHealth Tool. TB service costs were estimated through a retrospective approach based on 2016 aggregated budgets obtained from TB implementing partners.[13] Using the rate of change in the GOB Operational Plan, the 2016 cost was projected to estimate the cost of TB programmes from 2017 to 2022.

(C) Resource Gap for TB programme – this represents the amount of additional resources GOB will need to implement the TB programme and achieve targets in the 4th HPNSP. As depicted in Figure 1, the resource gap is the difference between allocated resources and the estimated delivery cost.

4. Data Sources and Analysis

We compiled data on **allocated resources (A)** as follows:

- **Revenue budget (A.R)** data was taken from Bangladesh's annual budget booksfor the Health Services Division of MOHFW for FY2017-18.[14] Both the revised budget for FY2016-17 and the intended budget for FY2017-18 were examined, specifically the total amount for TB-specific health facilities and the apportioned amount for TB services through the general health system. For each year, budget amounts were analyzed for 13 types of facilities (six TB-specific hospitals, six health facilities/programme offices supporting TB services, and one national office managing the TB programme in Bangladesh). For each type of facility, the budget was analyzed in six categories (officer salaries, employee salaries, allowances, supplies and services, repairs and maintenance, and assets collection and procurement). Revenue budget totals were projected using linear best fit based on actual expenditure data from 2013

to 2016. The revenue budget allocation included 100% of the budget for TB-specific facilities (TB clinics, TB hospitals, and TB reference hospitals). Salaries and benefits under hospitals and health facilities were apportioned based on assumptions about contributions of each cadre to TB services. The same proportion was also used for remaining revenue budget (non-human resource items).

- **Development budget (A.D)** data was extracted from the Performance Implementation Pans and Operational Plans for TB, leprosy, and the AIDS/STD programme[15] of the 4th HPNSP, which provided the breakdown by funding from the GOB and Project Aid (PA). The Operational Plan included the total financial target for the TB programme (GOB and PA combined) for each of the fiscal years 2017-2022, and a breakdown of the grand total based on the source of funds (GOB or PA). We extracted this data and estimated the yearly breakdown for GOB and PA using the same ratio for the grand total of each Operational Plan.

Cost of TB Programme: Data on the **cost of TB Service Provision (B)** was compiled from the ESP Costing Report, and was based on the 2016 aggregated budget for TB from programme implementers. Thiis includes drugs/supplies, human resources, training, and behavior change communication. In order to determine the resource gap, data was analyzed using Microsoft Excel.

HFG converted the cost estimates for the TB programme from **calendar year to fiscal year** by combining half of each consecutive calendar year. This is Because the allocated resource data (revenue and development budgets) follow Bangladesh's fiscal year (July through June).

The full report[16] contains details of assumptions made for each of the compiled data sets.

5. Findings

A. Allocated Resources for TB Programme

The total resources allocated for TB in FY2017-18 is Bangladesh Taka (BDT) 378 Crore, or United States Dollar (USD) 47 million, which increases to BDT 487 Crore (USD 60 million) in 2021-22 (see Table 1). The total GOB contribution for TB for the five-year period is over BDT 1,232 Crore (USD 153 million), which accounts for 56% of the total resources for TB. The total donor contribution for TB is BDT 975 Crore (USD 121 million), which accounts for about 44% of the total resources allocated.

Figure 2 shows the three sources of development budget (GOB, RPA, and DPA), as well as revenue budget resources allocated to TB. While development budget resources plateau from 2019-20 to 2021-22, the revenue budget increases steadily. This is because the revenue budget is calculated as a linear extrapolation of the previous years' data.

Salaries and benefits of staff in the health system take up more than 70% of the revenue budget for TB with 28.7% for supplies and services. The development budget for the TB programme is divided into four broad line items: diagnosis and management of TB (52.9%), drugs and supplies for TB (31.3%), human resources (14.6%), and others (1.3%) (see Figure 3).

Table 1: Total Resources Allocated for TB Programme in Bangladesh

YEAR	(A.R) Revenue budget		(A.D) Development budget		(A) Total Allocated Resources	
	(Crore BDT)	(Million USD)*	(Crore BDT)	(Million USD)*	(Crore BDT)	(Million USD)*
2017-18	169	21	210	26	378	47
2018-19	185	23	252	31	438	54
2019-20	204	25	239	30	442	55
2020-21	224	28	238	29	462	57
2021-22	246	31	242	30	487	60
Total	**1,028**	**128**	**1,180**	**146**	**2,208**	**274**

* Exchange rate used in 2017-2022: USD 1 = BDT 80.57

Figure 2: Apportioned Budget for TB Programme

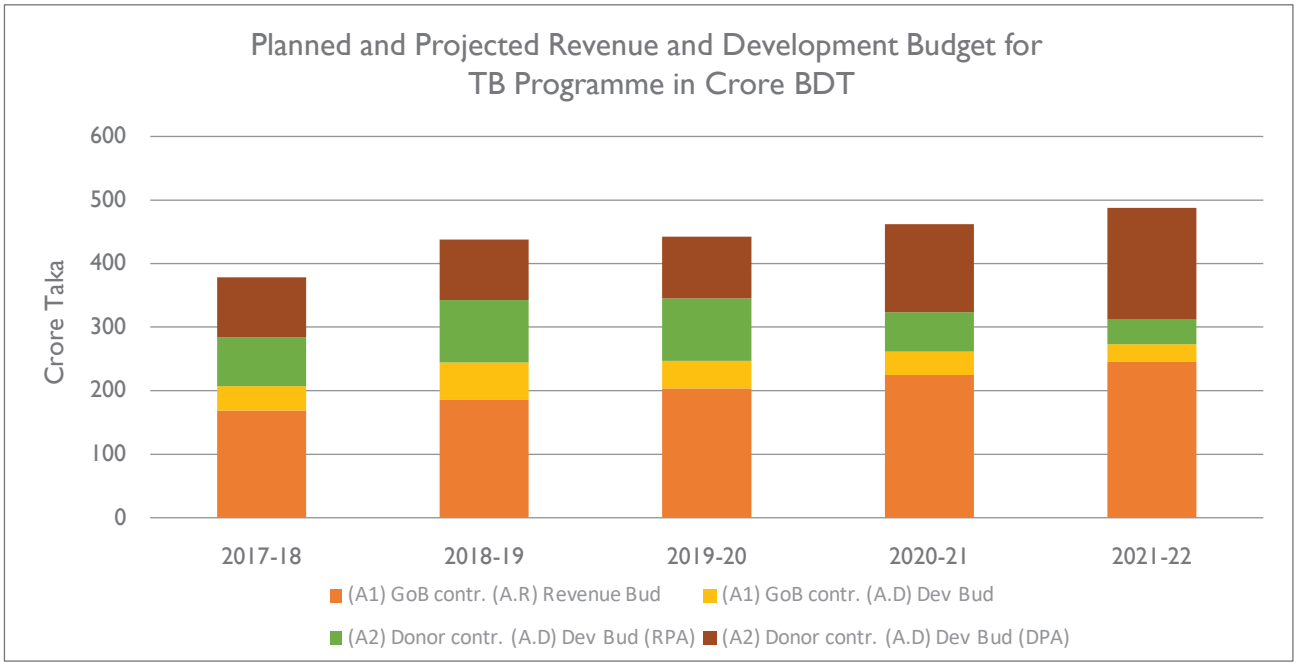
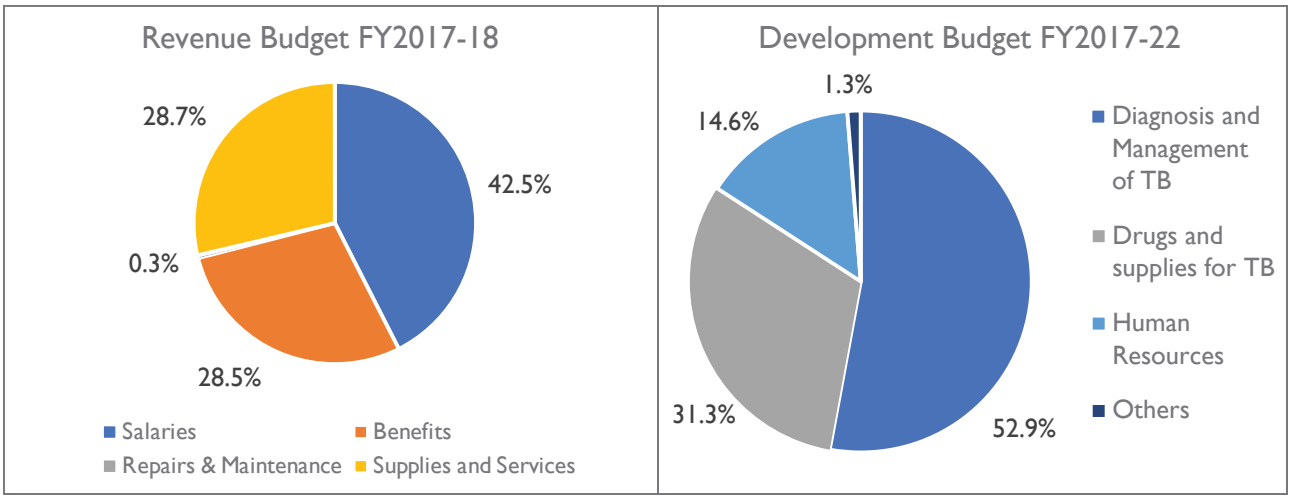


Figure 3: Distribution of Revenue and Development Budget



B. Cost of TB Service Provision

The calendar year total cost estimates were converted to fiscal year cost estimates to align costs and allocated resources. Table 2 shows the total cost of the TB programme by fiscal year, 2017-2022. The total cost in FY2017-18 was BDT 690 Crore (USD 86 million), which is projected to increase to BDT 849 Crore (USD 105 million) in FY2021-22.

HFG calculation is based on MOHFW's 2018 ESP costing report where the estimated cost of TB programme for 2016 is approximately BDT 600 Crore (USD 78 Million). It is expected to increase to BDT 849 Crore (USD 105 Million) by 2022 to achieve the implementation plan and service coverage targets of the 4th HPNSP (Table 3).

The cost data for the TB programme was collected through aggregate budget line items (including drugs/supplies, human resources, training, and social and behavior change communication (SBCC)) obtained from implementing partners. Therefore, it is possible that the actual cost of implementing TB interventions in the ESP might be underestimated, since they were not estimated using standard protocols or norms. Additionally, as noted in the MOHFW's 2018 ESP costing report, future costs were determined using historical rates of change. This means they may not reflect any policy or other plans for the next five years.

Table 2: Total Cost of TB Service Provision by Fiscal Year, 2017-2022, including health systems costs, not including inflation

Items	2017-18	2018-19	2019-20	2020-21	2021-22	Total
(B) Cost of TB Programme (Crore BDT)	690	719	760	803	849	**3,821**
(B) Cost of TB Programme (Million USD*)	86	89	94	100	105	**474**

*Exchange rate used in 2016: USD 1 = BDT 78.3; 2017-2022: USD 1 = BDT 80.57

Table 3: Total Cost# of TB Service Provision by Calendar Year, 2016-2022, including health systems costs, not including inflation

Items	2016	2017	2018	2019	2020	2021	2022	Total
Total cost of TB	614	681	700	738	781	825	873	**5,212**
Total cost of TB (Million USD*)	78	85	87	92	97	102	108	**649**

* Exchange rate used in 2016: USD 1 = BDT 78.3; 2017-2022: USD 1 = BDT 80.57

The cost of TB services does not include detail ingredient based cost of TB services; see methodology for details.

C. Resource Gap for TB Programme in Bangladesh

According to this analysis, the allocated resources for the TB programme cover about 60% of the required amount for its implementation during 2017-2022. GOB faces an annual gap of around BDT 300 Crore (USD 37 million), which will increase over the period, and totals BDT 1,614 Crore (USD 200 million) (see Table 4 and Figure 4). There is an approximate gap of 40% in the resources required to implement the TB programme each year.

The high development budget in FY2018-19 may be to allow for rapid scale-up and implementation, as the budget subsequently plateaus in FY2019-22. The projected annual increase in the revenue budget reflects GOB's commitment to the health sector, covering increased requirement in, for example, human resources and infrastructure. Based on our allocations and assumptions, we estimate a net increase in allocated resources for TB across all five years.

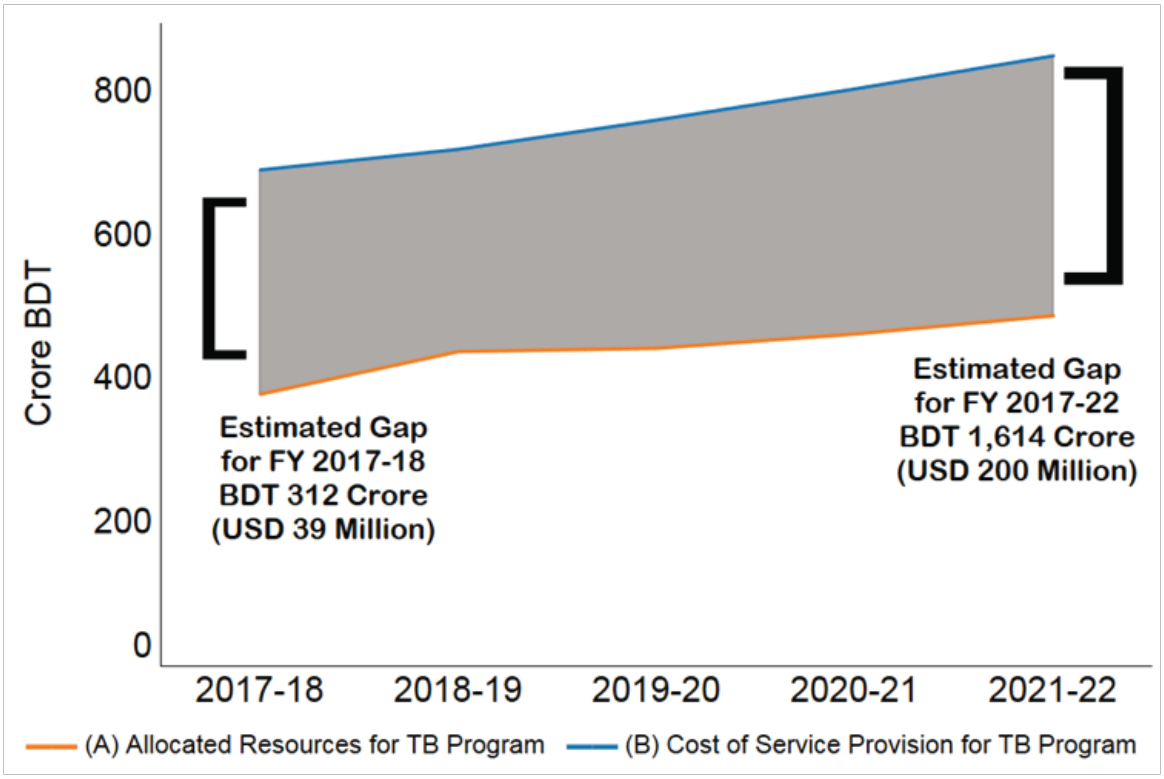
Table 4: Resources, Cost#, and Resource Gap for TB Programme, FY2017-22

Year	(A) Total Allocated Resources for TB		(B) Cost of TB Service Provision		(C) Resource Gap for TB		Gap as % of Cost
	(Crore BDT)	(Million USD*)	(Crore BDT)	(Million USD*)	(Crore BDT)	(Million USD*)	
2017-18	378	47	690	86	(312)	(39)	45%
2018-19	438	54	719	89	(281)	(35)	39%
2019-20	442	55	760	94	(318)	(39)	42%
2020-21	462	57	803	100	(341)	(42)	42%
2021-22	487	60	849	105	(362)	(45)	43%
Total	**2,208**	**274**	**3,821**	**474**	**(1,614)**	**(200)**	42%

* Exchange rate used in 2016: USD 1= BDT 78.3; 2017-2022: USD 1 = BDT 80.57

The cost of TB services does not include detail ingredient based cost of TB services; see methodology for details.

Figure 4: Estimated Resource Gap for TB Programme for FY2017-2022



6. Way Forward

HFG estimated the resource gap for the TB programme in Bangladesh to be BDT 1,614 Crore (USD 200 million) for the period FY2017-2022. This is based on the plans and coverage targets as presented in the PIP of the 4th HPNSP.

Based on the findings of this analysis, the following next steps are recommended in order to reduce the resource gap for the TB Programme:

- Validate the findings: present and discuss these results in a clear and practical way with wider groups of GOB officials to validate and triangulate the estimates. Then, if required, estimates could be adjusted based on suggestions received. In-depth interviews with donors are necessary to better understand funding levels (this was beyond the scope of this analysis).
- Mobilize resources from both domestic and external sources: advocacy with the Ministry of Finance and external partners is key. The mid-term review of the 4th HPNSP in 2019 presents an opportunity to use these findings as an advocacy tool. Donors such as the GFATM may provide additional funds as part of their portfolio planning. These additional resources would not only support increased TB service coverage, but also prompt broader health system strengthening in the longer term.
- Increase efficiency in the health system: it will be important to implement the TB programme efficiently and make the health system more efficient overall. An assessment could be conducted to identify efficiency gains within the TB programme.

The cost of TB activities may be underestimated as this analysis used an aggregate budget obtained from implementing partners, not an ingredients-based costing approach for each TB intervention. This analysis should be updated with better cost estimates by intervention, as well as with any updated implementation plan targets or commitments from domestic or external bodies. Furthermore, the allocated resources, costs, and resource gap for TB in Bangladesh should be compared with the total expenditure by TB patients generated from disease-specific accounts of the Bangladesh National Health Accounts, which is currently ongoing at the time of completion of this report.

In the context of 4th HPNSP, the absolute amount of the resource gap for the TB (USD 200 Million) Programme is relatively small; the recommended next steps listed above will help to reduce this gap.

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The HFG project is led by Abt Associates in collaboration with Avenir Health, Broad Branch Associates, Development Alternatives Inc., Johns Hopkins Bloomberg School of Public Health, Results for Development Institute, RTI International, Training Resources Group, Inc.
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Recommended citation:
Shepard, K., Akhter, S., Yesmin, A., Blanchet, N. J., and Islam, M. 2018. *Resource Gap for Tuberculosis Programme in Bangladesh, 2017-2022.* Rockville, MD: *Health Finance and Governance Project*, Abt Associates.

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June 2018