Tuberculosis Control in Bangladesh

Annual Report
2018

National Tuberculosis Control Programme
Directorate General of Health Services
Mohakhali, Dhaka-1212

Published : December 2018

Contents

Abbreviations

ACSM	Advocacy, Communication and Social Mobilization
ADR	Adverse Drug Reaction
AFB	Acid - fast Bacilli
AHI	Assistant Health Inspector
AIDS	Acquired Immune Deficiency Syndrome
BRAC	Bangladesh Rural Advancement Committee
CDC	Chest Disease Clinic
CDR	Case Detection Rate
CNR	Case Detection Rate
CS	Civil Surgeon
CWFD	Concerned Women for Family Development
DGHS	Directorate General of Health Services
DOT	Directly Observed Treatment
DOTS	Internationally recommended strategy for TB control
DST	Drug Susceptibility Testing
EQA	External Quality Assessment
ESP	Essential Services Package
FDA	Fluorescent diacetate staining
FDC	Fixed-dose Combination
GFATM	Global Fund to fight AIDS, Tuberculosis and Malaria
GLC	Green Light Committee
HEED	Health, Education and Economic Development
HI	Health Inspector
HIV	Human Immunodeficiency Virus
HNPSP	Health, Nutrition and Population Sector Program
HPSP	Health and Population Sector Program
HPNSDP	Health, Population, Nutrition and Sector Development Program
HRD	Human Resources Development
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
LAMB	Lutheran Aid to Medicine in Bangladesh
LEPRA	(British) Leprosy Relief Association

LPA	Line Probe Assay
MBDC	Mycobacterial Disease Control
MDG	Millennium Development Goal
MDR-TB	Multidrug Resistant Tuberculosis
MO	Medical Officer
MoH&FW	Ministry of Health and Family Welfare
MO (TB/Lep)	Medical Officer (Tuberculosis and Leprosy)
MoU	Memorandum of Understanding
NATAB	National Anti-TB Association Bangladesh
NGO	Nongovernmental Organization
NIDCH	National Institute of Diseases of the Chest and Hospital
NTP	National Tuberculosis Control Program
NTRL	National Tuberculosis Reference Laboratory
PO	Program Organizer
PPM	Public-private or Public–public Mix
RDRS	Rangpur Dinajpur Rural Service
RTRL	Regional Tuberculosis Reference Laboratory
SEARO	WHO Regional Office for South-East Asia (New Delhi)
TB	Tuberculosis
TLCA	Tuberculosis & Leprosy Control Assistant
TLMB	The Leprosy Mission, Bangladesh
IUATLD	The Union (International Union Against Tuberculosis and Lung Disease)
UHC	Upazila Health Complex
UH&FPO	Upazila Health and Family Planning Officer
UPHCP	Urban Primary Health Care Project
UPHCSDP	Urban Primary Health Care Service Delivery Project
USAID	United States Agency for International Development
WHO	World Health Organization

1. Summary

Tuberculosis (TB) remains a major public health problem in Bangladesh. Under the Mycobacterial Disease Control (MBDC) unit of the Directorate-General of Health Services (DGHS), the National Tuberculosis Control Program (NTP) is working with a mission of eliminating TB from Bangladesh.

The NTP adopted the DOTS strategy during the Fourth Population and Health Plan (1992-98) and started its field implementation in November 1993. By 2007 the DOTS services were made available throughout the country including the metropolitan cities. Since 2006 the NTP has been implementing the Stop TB strategy and adopted End TB strategy since 2015. Under this strategy, new, ambitious yet feasible global targets are proposed for 2035. These include achieving a 95% decline in deaths due to tuberculosis compared with 2015, and reaching an equivalent 90% reduction in tuberculosis incidence rate from a projected 110 cases/100 000 in 2015 to 10 cases/100 000 or less by 2035.

Since the introduction of DOTS in 1993, remarkable progress in TB control has been made. The program achieved the initial target of 70 % case detection rate of the new smear-positive cases in 2006 and treating successfully 85% of them since 2003, which has been maintained over 90% since 2005. The program has successfully treated 95 % of bacteriologically confirmed new pulmonary TB cases registered in 2016.

The Case Notification rates per 100,000 population in 2017 were 86 and 149 respectively for bacteriologically confirmed new pulmonary, and all forms (new and relapse) of TB cases.

As of 31 December 2017, countrywide a total of 6,420 MDR TB patients were enrolled for treatment including 920 in 2017. Among the 920 patients in 2017, 425 are under 24-month regimen and 495 under 9- month regimen.

The topics covered in the main chapters of the report are; brief introduction of National Tuberculosis Control Programme, Tuberculosis scenarios of Global, Region and of Bangladesh, Progress in TB Control – activities related to TB control performed in 2017, case finding in 2017 and treatment outcomes of cases registered in 2016 , laboratory activities, training, workshops and brief on NTP collaborative activities with description of significant achievements, lessons learned and challenges.

The report's annexes describe; district wise case notification rate 2017, district wise treatment results, new pulmonary bacteriologically confirmed cases registered in 2016, laboratory report of year 2017 etc.

2. Introduction: History of The National Tuberculosis Control Programme

Government of Bangladesh is committed to provide TB diagnosis and treatment services completely free of cost to all citizens of the country. It strives to make services equally available to all people of Bangladesh irrespective of age, sex, religion, ethnicity, social status or race.

Since the introduction of DOTS in Bangladesh in 1993, remarkable progress in TB Control has been achieved in terms of DOTS Coverage, diagnosis and treatment of TB Cases.

In 1965, tuberculosis services were mainly curative and based in TB clinics and TB hospitals. TB services were expanded to 124 upazila health complexes (UHCs) during the Second Health and Population Plan (1980-86), and were operationally integrated with leprosy during the Third Health and Population Plan (1986-91) under the Mycobacterial Disease Control (MBDC) unit of the Directorate-General of Health Services (DGHS).

The revised NTP adopted the DOTS strategy during the Fourth Population and Health Plan (1992-98) under the project "Further Development of TB and Leprosy Control Services". The NTP started its field implementation in November 1993 in four thanas (upazilas) and progressively expanded to cover all upazilas by mid-1998. In July 1998, the NTP was integrated into the Communicable Disease Control component of the Essential Services Package under the Health and Population Sector Program (HPSP). In 2003, HPSP was renamed as "Health, Nutrition and Population Sector Program" (HNPSP),(2003-2011).Ministry of Health and Family Welfare (MOHFW) has been implementing the Health, Population and Nutrition Sector Development Program (HPNSDP) for a period of five years from July 2011 to June 2016 (extended to December 2016) .With the goal of ensuring quality and equitable health care for all citizens in Bangladesh by improving access to and utilization of health, population and nutrition services . The 4th HPNSP (January 2017 – June 2022), like all the sector programs, has been recognized tuberculosis control as one of the priority programs.

DOTS strategy was rolled out to all metropolitan cities and by 2007 the services were available throughout the country. The Government of Bangladesh, together with diverse partners from public and private sectors, is committed to further strengthen the TB Control programme. It has been implementing the Stop TB Strategy since 2006 aiming at strengthening quality DOTS, addressing MDR-TB and TB-HIV, engaging all care providers, strengthening health systems, empowering people and the community and undertaking operational research. This was initiated with a view of sustaining the achievements of the past years and reaching the TB Control targets linked to the Millennium Development Goals.

The program achieved the initial target of 70% case detection rate of the new smear-positive cases in 2006 and that of treating successfully 85% of them in 2003, and has been maintaining over 90% treatment success rate since 2005.

The NTP started programmatic management of drug resistant TB with 20-month regimen in August 2008 at the National Institute of Diseases of Chest and Hospital (NIDCH), Dhaka. The services has been further extended by the end of 2013.The outcome of the MDR-TB shorter treatment regimen research was conducted in Bangladesh, well-known as " Bangladesh Regimen" showed that duration of MDR-TB treatment can be reduced to 9 months with very high cure rate (> 87%). Following the endorsement of Shorter regimen by WHO in May 2016 NTP Bangladesh initiated implementation of the 9-month shorter regimen in 2017.

In April 2016, the NTP in collaboration with the Interactive Research & Development (IRD) introduced the use of new drugs for DR-TB, Bedaquiline (Bdq) and Delamanid (Dlm) for patients who have resistance to the FQ and/or the SLI and/or intolerance to second-line drugs (SLDs). This is being implemented under Programmatic conditions in the National Institute of Diseases of Chest and hospital.

3. Tuberculosis Scenario

3.1 Global TB Scenario[1]

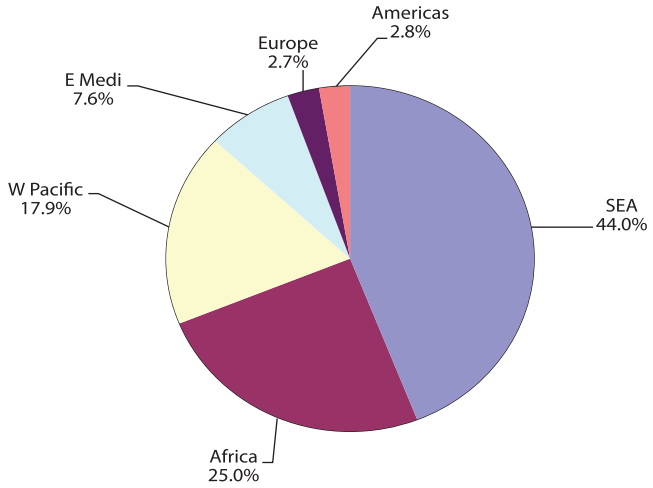
Worldwide, TB is one of the top 10 causes of death and the leading cause from a single infectious agent (above HIV/AIDS).Millions of people continue to fall sick with TB each year.

In 2017, TB caused an estimated 1.3 million deaths (range, 1.2- 1.4 million) among HIV-negative people and there were an additional 300,000 deaths from TB (range, 266,000-335,000) among HIV-positive people.

Globally in 2017, an estimated 10.0 (9.0-11.1) million new TB cases occurred, equivalent to 133 cases per 100,000 population. Among the 10.0 million incident cases, 5.8 million were men, 3.2 million were women and 1.0 million were children. An estimated 9% were people living with HIV (72 % in Africa) and two thirds were in eight countries; India, China, Indonesia, The Philippines, Pakistan, Nigeria, Bangladesh (4%) and South Africa.

Most of the estimated number of cases in 2017 occurred in the WHO South-East Asia (44%), WHO African region (25%) and WHO Western Pacific Region (18%) regions (fig 1). The smaller proportions of cases occurred in the WHO Eastern Mediterranean Region (7.7%), the WHO Region of Americas (2.8%), and the WHO European Region (2.7%).

Fig. 1. Proportion of estimated incidence of all forms of TB cases by WHO Region; 2017



Source: Global Tuberculosis Control, WHO, 2018

Globally, the average rate of decline in the TB Incidence rate was 1.5 % per year in the period of 2000-2017, and 1.8 % between 2016 and 2017. This needs to accelerate to 4.5% per year by 2020 and to 10 % per year by 2025, to achieve the milestones for reductions in cases and deaths set in the End TB Strategy.

In 2017, 6.7 million TB cases were reported globally; among them about 6.4 million were new and relapse. Globally the treatment success rate for 5.9 million new and relapse cases that were registered and treated in the 2016 cohort was 82%. This is a reduction from 86% in 2013 and 83% in 2015.

[1] According to "Global Tuberculosis Control, WHO, 2018" report.

3.2 South-East Asia Regional Scenario *

The WHO South-East Asia (SEA) Region bears the highest burden of TB in the world with a human, economic and social impact that is devastating. Six SEA countries – Bangladesh, DPR Korea, India, Indonesia, Myanmar and Thailand – are among the 30 high TB burden countries globally.

The Region has nearly half the global burden in terms of new cases appearing (incidence), and close to 44% of the burden. An estimated 4.4 million new TB cases and 638,000 TB deaths occurred in 2017. In SEA Region, the estimated incidence rate for all forms of Tuberculosis in 2016 was 226 per 100 000 population. An estimated 32 per 100 000 people died on TB in the same year. Approximate 4.2 % of TB patients (new and relapse cases 2017) reported with known HIV status who are HIV- positive in 2017.The incidence of MDR/RR-TB was 9.7/100,000 population.

3.3 Bangladesh Scenario*

In Bangladesh, the estimated incidence rate for all forms of Tuberculosis in 2017 was 221 per 100 000 population. An estimated 36 per 100 000 people died of TB in the same year. The estimated incidence rate of HIV positive TB cases increased from 0.31/100,000 in 2016 to 0.33/100,000 in 2017. The incidence of MDR/RR-TB was 5.1/100,000 population (Table 1).

Table 1: Estimated population and TB Burden, Bangladesh- 2017

• Population:	165 million
• Mortality rate (excluding HIV+ve TB):	36 / (23-52) / 100 000 pop
• Mortality rate (HIV+ve TB only):	0.11 (0.05-0.18) / 100 000 pop
• Incidence rate (including HIV+ve TB):	221 (161-291)/100 000 pop
• Incidence rate (HIV+ve TB only):	0.33 (0.17-0.56) /100 000 pop
• Incidence of MDR/RR-TB:	5.1 (2.3-9) /100 000 pop

*Ref: Global Tuberculosis Report, WHO, 2018

The End TB Strategy

"Global strategy and targets for tuberculosis prevention, care and control after 2015"

From the beginning of the year 2016 global TB control has entered into the post -2015 era of the Sustainable Development Goals (SDG: 2016-2030) and the End TB Strategy (2016-2035), which have superseded the MDG (2000-2015) and the Stop TB strategy (2006-2015).

Vision : A world free of tuberculosis

– zero deaths, disease and suffering due to tuberculosis

Goal : End the Global Tuberculosis Epidemic

THE END TB STRATEGY 2016-2035: PILLARS AND COMPONENTS

1. INTEGRATED, PATIENT- CENTRED CARE AND PREVENTION
   A. Early diagnosis of TB including universal drug susceptibility testing; and systematic screening of contacts and high-risk groups
   B. Treatment of all people with TB including drug-resistant tuberculosis ; and patient support
   C. Collaborative TB/HIV activities and management of co-morbidities
   D. Preventive treatment of persons at high-risk; and vaccination against tuberculosis

2. BOLD POLICIES AND SUPPORTIVE SYSTEMS
   A. Political commitment with adequate resources for tuberculosis care and prevention
   B. Engagement of communities, civil society organizations, and public and private care providers
   C. Universal Health Coverage policy and regulatory frameworks for case notification, vital registration, quality and rational use of medicines, and infection control
   D. Social protection, poverty alleviation and actions on other determinants of tuberculosis

3. INTENSIFIED RESEARCH AND INNOVATION
   A. Discovery, development and rapid uptake of new tools, interventions and strategies
   B. Research to optimize implementation and impact, and promote innovations

"Key Global indicators, milestones and targets for The End TB Strategy strategy"

Indicators	Milestones		Targets	
			SDG	End TB
	2020	2025	2030	2035
Percentage reduction in deaths due to Tuberculosis (*projected 2015 baseline: 1.3 million deaths*)	35%	75%	90%	95%
Percentage and absolute reduction in tuberculosis incidence rate.(projected 2015 baseline 110/100 000)	20% (<85/100 000)	50% (<55/100 000)	80% (<20/100 000)	90% (<10/100 000)
Percentage of affected families facing catastrophic costs due to tuberculosis (projected 2015 baseline : not yet available)	Zero	Zero	Zero	Zero

Bangladesh indicators in line with End TB Strategy:

Indicators	Milestones		Targets	
			SDG	End TB
	2020	2025	2030	2035
Reduction in deaths due to Tuberculosis (*projected 2015 baseline (72450) in absolute number:*	47,092	18,112	7,245	3,622
Percentage and absolute reduction in tuberculosis incidence rate (base line 2015: 225/100,000)	180	112	45	22

4. National Tuberculosis Control Programme (NTP)

4.1 Vision of NTP

TB Free Bangladesh: Zero deaths, disease and suffering due to TB

4.2 Mission of NTP

The NTP aims to strengthen TB control efforts through effective partnerships, mobilizing necessary resources and ensuring quality diagnostics and treatment services under the defined END TB strategy. The NTP strives to make services equally available to all people in Bangladesh irrespective of age, sex, religion, ethnicity, social status or race.

4.3 Goal of NTP

Goal (related to End TB Strategy): End the Tuberculosis epidemic aiming to achieve a target of 10 new cases /100 000 /year in 2035. (Projected 2015 baseline 225/100 000)

4.4 Objectives of NTP

The present objective is to achieve universal access to quality TB care for all TB patients in order to achieve the End TB targets.

- Increase annual case detection of all forms of TB to more than 90% of all incident cases by 2022 (from baseline of 57% in 2015) with childhood TB contribution of 8% by 2022

  (from baseline of 4% in 2015).
- 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.
- Increase annual case detection of MDR-TB to 4100 cases (from baseline 800 in 2015) and child MDR case detection to 112 cases by 2022(from baseline on 0 in 2015) and improve management of MDR-TB Cases through countrywide implementation of the shorter MDR-TB treatment regimen.
- Ensure that no TB affected families facing catastrophic costs due to tuberculosis by 2022.
- Ensure that 100% of TB service facilities receive regular supervision and monitoring with appropriate feedback resulting in remedial actions by 2022.
- Ensure the long term availability of 100% of required funding for activities at all program levels through effective planning and partner co-ordination and the continuing increase of GoB contributions to the NTP budget.
- Ensure adequate support for operational research to foster innovation

4.5 Programme Implementation

The TB diagnostic and treatment services are available free of charge all over the country. The common places where free-of-charge diagnostic and treatment services for TB are available are given below:

- ✓ All Upazilla Health Complexes
- ✓ All Chest Disease Clinics and Chest Disease Hospitals
- ✓ District Sadar Hospitals.
- ✓ Public and private medical college hospitals
- ✓ Specialized Hospitals Urban health centre's in all metropolitan cities (GO and NGOs)

4.6 Major Events /Achievements

The major events/achievements during 2017 are as follows:

- Shorter regimen being scaled up – more than 50% of total MDR-TB patients enrolled on STR in 2017.
- Rapid expansion of GeneXpert with Global Fund contribution – 163 sites with 193 machines
- Completed National TB prevalence Survey:
- Introduced new anti-TB drugs: Bedaquiline and delamanid for selective DR-TB patents
- Developed National TB Laboratory Strategic plan (NLSP) for NTP (2017-2020)
- Continue implementing Global Fund TB Grant under NFM, an grant making for GFATM NFR for the period of 2018 - 2020.
- Observed World TB Day 2017.
- DRS progressing well
- Launching event of Zero TB cities Initiative

4.7. Major Challenges:

The main challenges of NTP are:

i) To increase case detection through finding the missing cases. About 39% of drug susceptible TB, 80% of DR TB cases are still missing according to the estimates of incidence. The proportion of child TB out of detected TB cases is only 4% for Bangladesh while globally it is around 10%.

ii) TB case diagnosis and management in urban areas

iii) Case detection in hard to reach areas

iv) Though overall HIV prevalence is low in Bangladesh , yet diagnosis and management of TB/HIV co-infected cases are challenging.

v) TB response remains highly dependent on external funding.

vi) Scale-up new diagnostic (most sensitive) technology (GeneXpert) to improve TB case detection.

vii) Sustaining the quality DOTS

viii) Further strengthening laboratory services including expansion of culture and DST and GeneXpert

ix). Effective engagement of private sector in TB control and operationalization of mandatory Notification of TB cases.

x) Lack of adequate human resource for laboratory services.

5. Progress In TB Control

Since the introduction of DOTS in Bangladesh in 1993, remarkable progress in TB control has been made in terms of DOTS coverage, diagnosis and treatment of TB cases.

5.1 DOTS Coverage

DOTS coverage, defined as the proportion of population living in administrative areas with access to DOTS services.

Increased steadily from 1995 onwards, almost the entire population of Bangladesh had access to DOTS by the end of 2007 (100 % DOTS Coverage).

DOTS coverage refers to the population living in areas where DOTS services are available. This does not mean that all people have equal access to diagnostic and/or treatment facilities

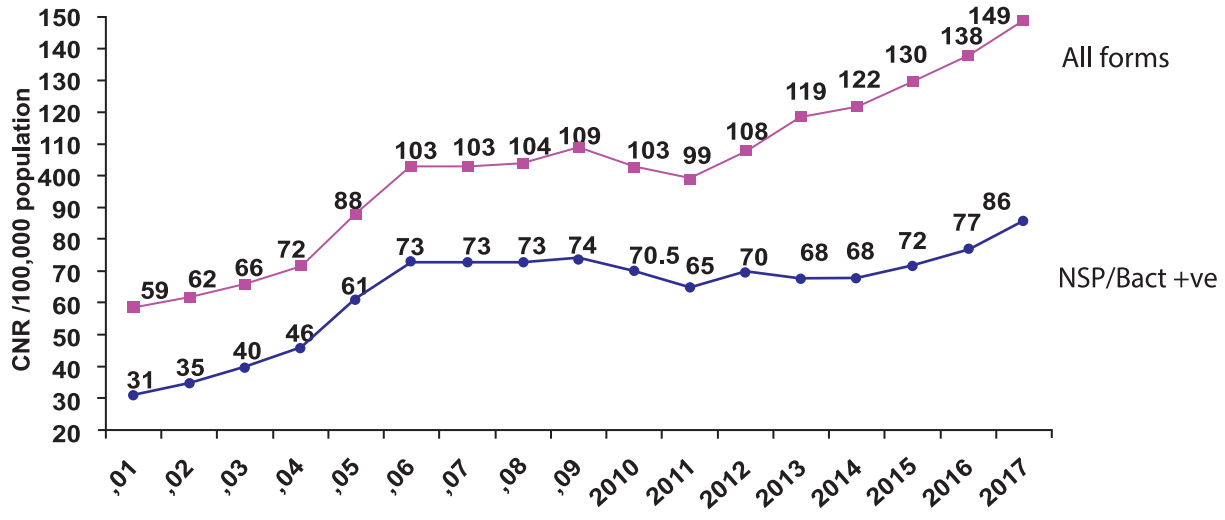
5.2 Case Notification

Case notification rate:

Case Notification rate (CNR) is defined as the number of cases registered and reported to NTP per one hundred thousand population per year.

Until 2001, case finding was slow and steady and for new smear positive cases it was 31/100,000 population. From 2001 onwards, case notification accelerated to reach 46/100,000 in 2004 , 61/100,000 in 2005 and 73/100,000 in 2006. In 2009, the case notification rate was further increased to 74/100,000. During 2013 the notification of new smear negative cases increased significantly while that of new smear positive cases decreased slightly; as a result though overall CNR increased to 119/100 000 population, the CNR of New smear positive cases slightly decreased to 68/100 000 population. However, in 2014 the case notification rate of new smear positive/bacteriologically confirmed cases remains same (to 68/100 000 population) as 2013 while case notification of smear negative and extra-pulmonary cases increased to reach the notification rate for all forms of TB cases to 122/ 100 000 population in 2014. During 2015 the notification of all forms of TB cases further increased to reach 130/100 000 population and bacteriologically confirmed new cases increased to 71/100 000 population. This trend continued till 2017, the notification of all firms of TB cases were reached 149/100 000 population and bacteriologically confirmed new cases to 86/100 000 population as shown in the Fig 2.

Fig 2. Nation wide case notification rate/100 000 population:
NSP/Bact +ve and all forms of TB; 2001-2017

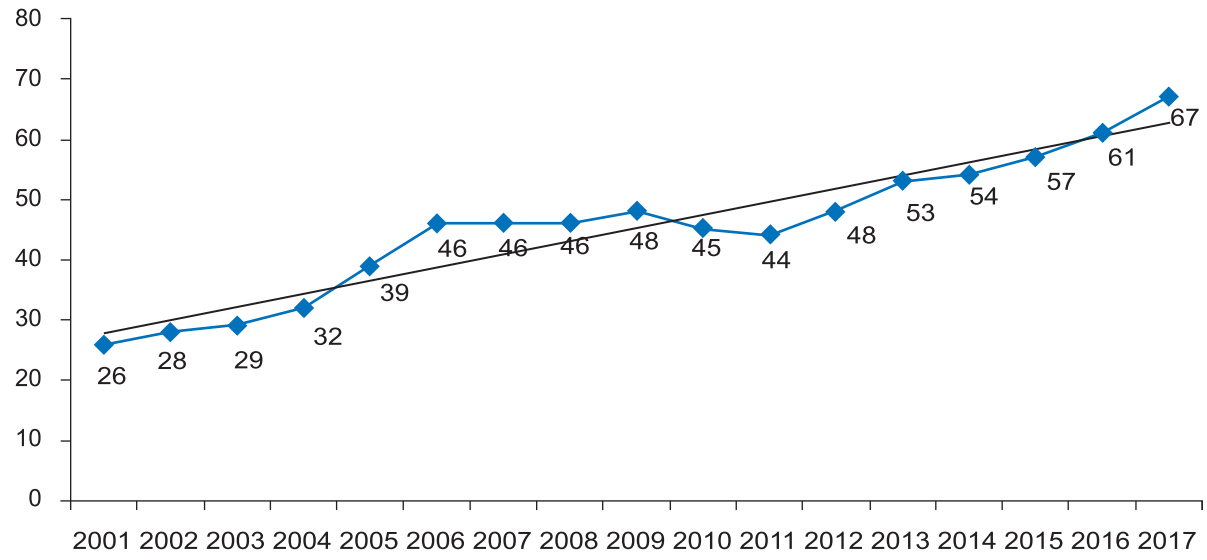


Case detection rate (CDR):

Case detection rate is defined as the number of cases detected expressed as a percentage of cases estimated to occur during a period of one year.

Now World Health Organization (WHO) is not providing any estimate for new smear positive cases, rather providing combined estimates for all new and relapse TB cases. According to this estimate the number of all forms (new and relapse) TB cases is *221/ per 100 000 population in 2017. The case detection rate was about *61% in 2016 (*Ref Global TB report 2017). At the end of 2017 the CDR increased to 67%. The trend of CDR from 2001-2017 is shown in Figure 3.

Figure 3. TB case detection rate (all forms): 2001-2017



5.2.1 Nationwide Case Notification

A total of 244 ,201 cases were notified in 2017(Among the total 244 201 cases, about 85.47% were reported through the upazilas. Over 57.64% of the cases were new pulmonary bacteriologically confirmed and only 3.97% were relapses. New pulmonary clinically diagnosed and extra-pulmonary cases were 19.43% and 18.32% respectively. Proportions of extra-pulmonary cases reported through metropolitan cities and CDCs were significantly higher than those reported through upazilas (Table 2)

Table 2: Case notification by type of reporting unit, 2017

Reporting unit	Pulmonary Bacteriologically Confirmed				Pulmonary Clinically Diagnosed				Extra - Pulmonary				All Retreatment Except relapses		Total	
	New/ Treatment History Unknown		Relapses		New/ Treatment History Unknown		Relapses		New/ Treatment History Unknown		Relapses					
	#	Row %	#	Row %	#	Row %	#	Row %	#	Row %	#	Row %	#	Row %	#	Column %
Upazila	126,370	60.55	2,997	1.44	41,697	19.98	3,504	1.68	31,742	15.21	1,134	0.54	1,272	0.61	208,716	85.47
Metro. city	13,242	40.51	999	3.06	5,365	16.41	413	1.26	11,940	36.52	512	1.57	221	0.68	32,692	13.39
CDC	1,143	40.92	66	2.36	394	14.11	18	0.64	1,063	38.06	40	1.43	69	2.47	2,793	1.14
Total	**140,755**	**57.64**	**4,062**	**1.66**	**47,456**	**19.43**	**3,935**	**1.61**	**44,745**	**18.32**	**1,686**	**0.69**	**1,562**	**0.64**	**244,201**	**100.00**

Over 42.56% of the total 244 201 notified cases were female; (M:F=1.35:1). In case of new pulmonary bacteriologically confirmed and new pulmonary clinically diagnosed cases proportions of female cases were 41% and 40% respectively; where as in case of new extra pulmonary cases it was 52% (Table 3).

Table. 3. Case notification by type of cases and sex, 2017

	Male		Female		Total	M/F Ratio
Type of cases	Number	(%)	Number	(%)		
New Pulmonary Bacteriologically Confirmed	83,018	58.98	57,737	41.02	140,755	1.44
New Pulmonary Clinically Diagnosed	28,403	59.85	19,053	40.15	47,456	1.49
New Extra Pulmonary	21,489	48.03	23,256	51.97	44,745	0.92
Relapses	6,266	64.71	3,417	35.29	9,683	1.83
Treatment after failure	477	69.84	206	30.16	683	2.32
Treatment after loss to follow up	162	76.42	50	23.58	212	3.24
Others	454	68.07	213	31.93	667	2.13
Total	**140,269**	**57.44**	**103,932**	**42.56**	**244,201**	**1.35**

Age sex distribution of new pulmonary bacteriologically confirmed cases

Among the notified new pulmonary bacteriologically confirmed cases the number of male patients was higher in all age groups except 5-14 where female cases are higher. About 62 percent of the reported cases belong to 15-54 years age group, who are economically most active. This proportion is comparatively higher among females than that among males (70% vs 56%). Over 17% of new pulmonary bacteriologically confirmed cases belong to age group ≥ 65 years and in this age group proportion is higher in males than in females (21.7%vs 10.6%). The overall male–female ratio in these notified cases is 1.44 and the ratio increases with the age. In old people (≥ 65 years), there are about 3 times more men notified than women (Figures 4 & 7).

Age sex distribution of new Pulmonary Clinically Diagnosed

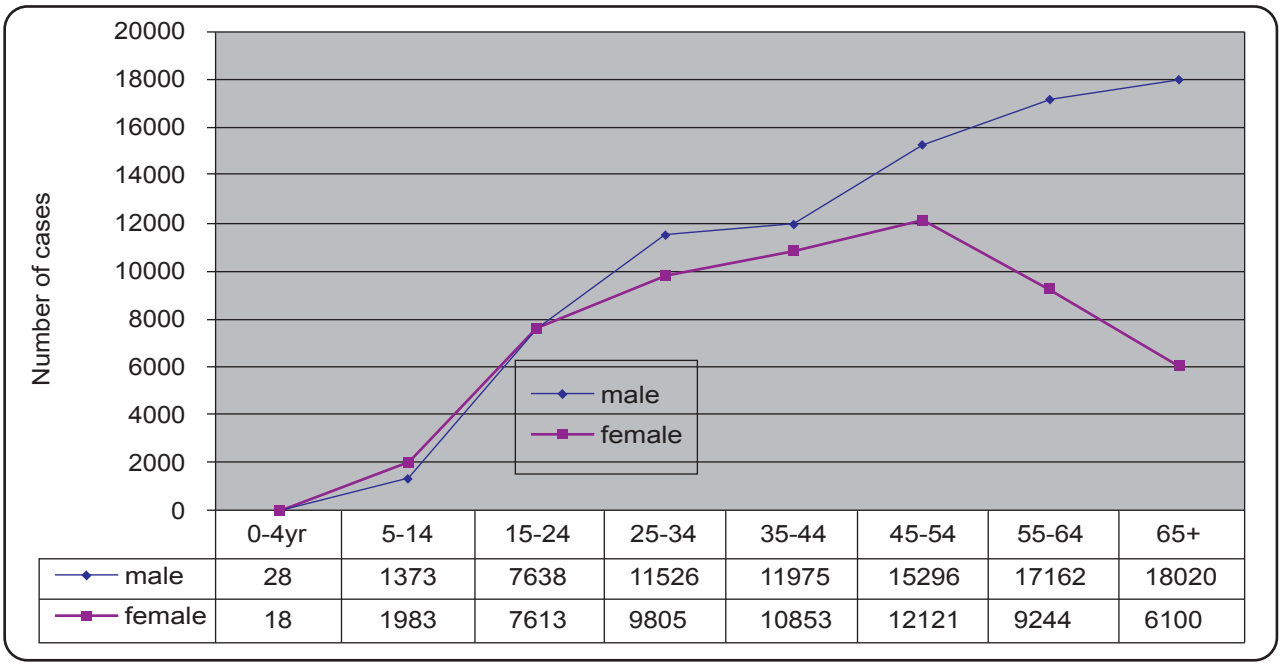
Figures 5 and 7 shows that the number of notified new pulmonary clinically diagnosed cases was almost equal in both sexes up to age 24 years. From 25 years and onwards the number of male cases was higher in all age groups and male–female ratio increases with the age to reach 3.2 in the age group ≥ 65 years (Figures 5 & 7).

Age sex distribution of new extra-pulmonary cases

In the age groups ranging from 05 to 54 years the number of female cases is more than that of male cases. And in all other age groups the number of male cases is higher than that of female cases. (Fig 6 & 7).

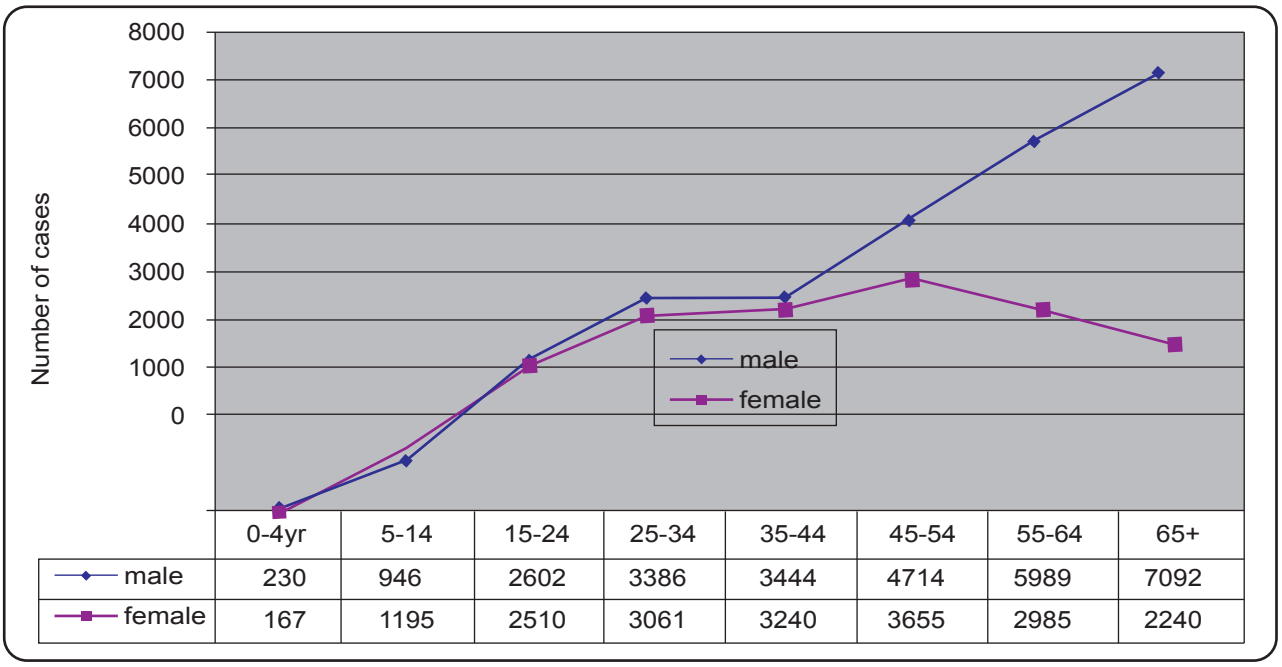
Nationwide case notification trend in absolute number is shown in figure 8.

Fig. 4: Notification of new pulmonary bacteriologically confirmed TB by age and sex, 2017



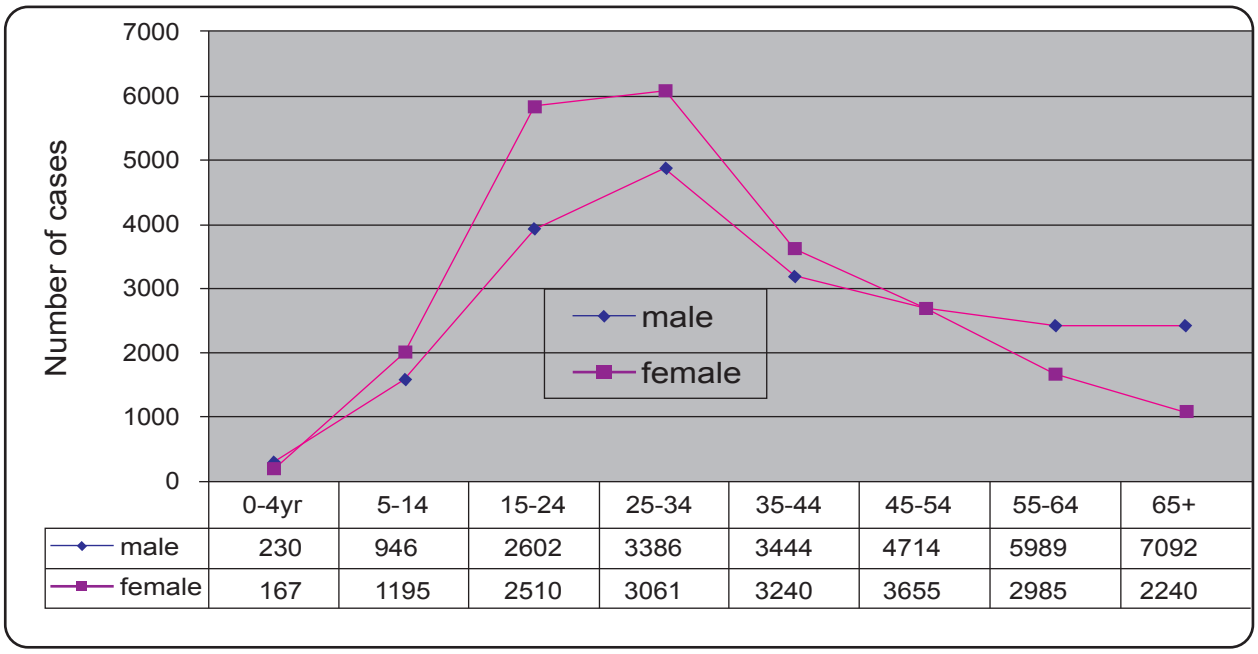
	0-4yr	5-14	15-24	25-34	35-44	45-54	55-64	65+
male	28	1373	7638	11526	11975	15296	17162	18020
female	18	1983	7613	9805	10853	12121	9244	6100

Fig. 5 Notification of new pulmonary clinically diagnosed TB by age and sex, 2017



	0-4yr	5-14	15-24	25-34	35-44	45-54	55-64	65+
male	230	946	2602	3386	3444	4714	5989	7092
female	167	1195	2510	3061	3240	3655	2985	2240

Fig. 6 Notification of new extra- pulmonary TB by age and sex, 2017



	0-4yr	5-14	15-24	25-34	35-44	45-54	55-64	65+
male	230	946	2602	3386	3444	4714	5989	7092
female	167	1195	2510	3061	3240	3655	2985	2240

Fig. 7 Male- Female Notification Ratio by age group: new pulmonary bacteriologically confirmed, new pulmonary clinically diagnosed & new extra-pulmonary TB cases, 2017

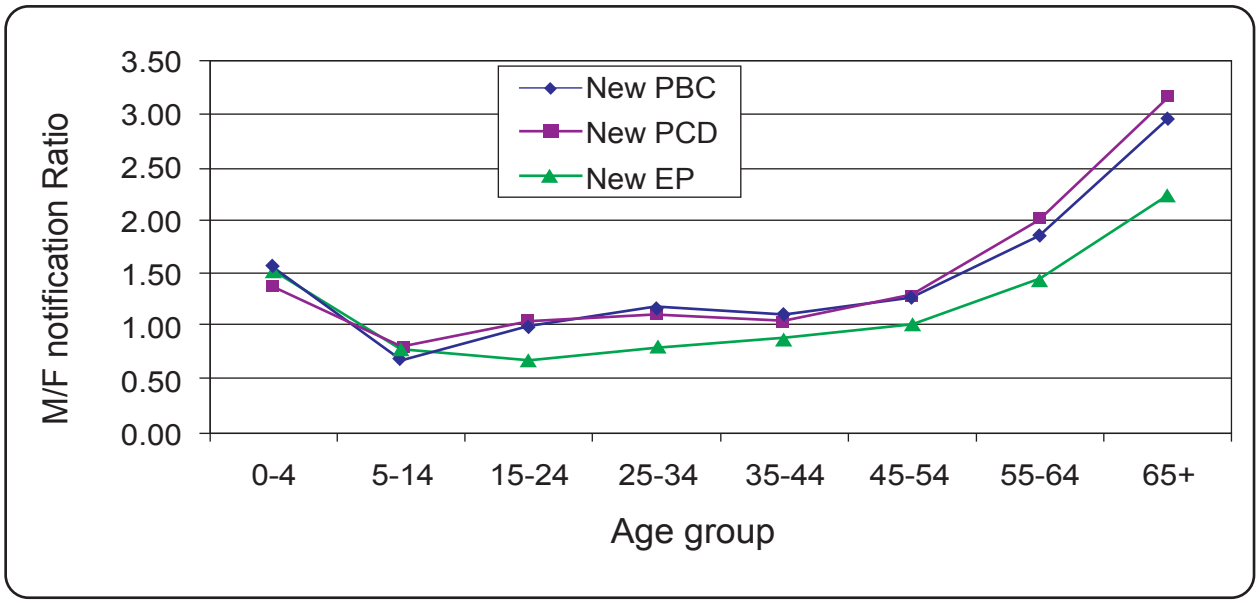


Fig. 8 Age-Sex wise CNR per 100,000 population of New Pulmonary and Extra Pulmonary TB cases, 2017

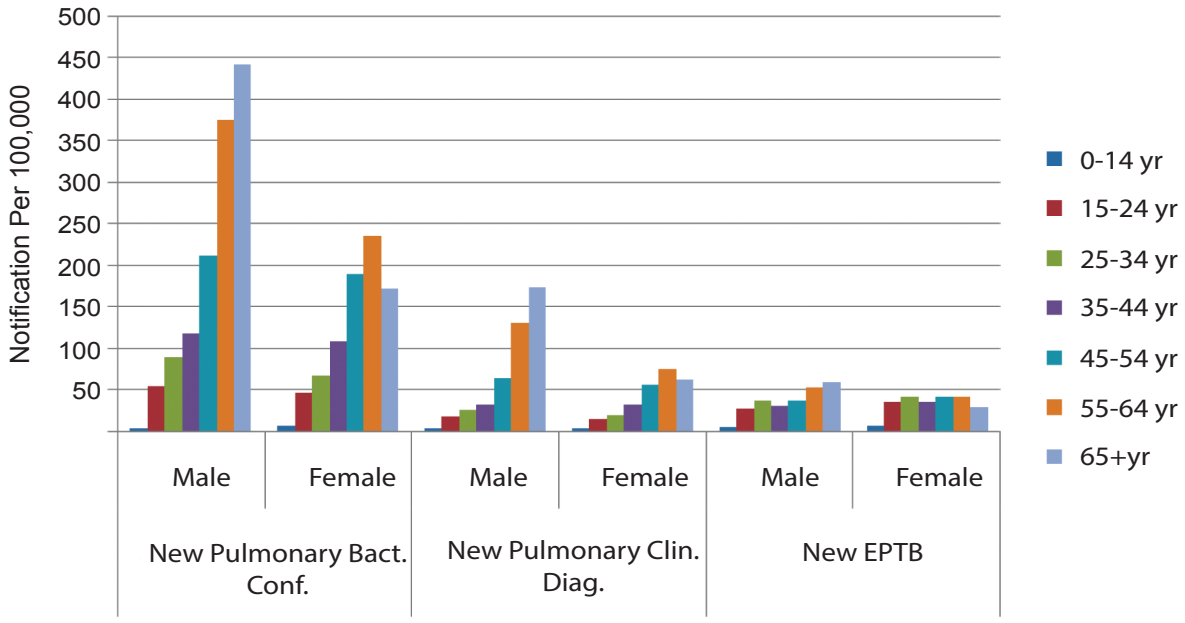
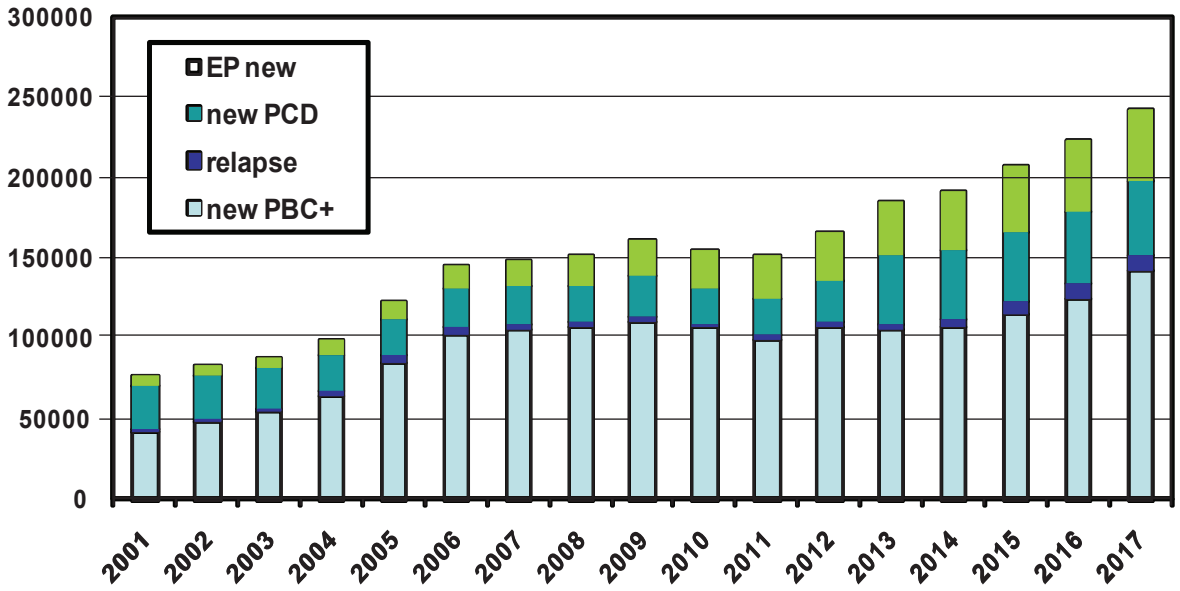


Fig. 9 Nation wide yearly case notification (all forms); absolute number; 2001-2017



5.2.2 Division-wise Case Notification; New Pulmonary Bacteriologically Confirmed Cases

Out of seven divisions, six divisions showed new pulmonary bacteriologically confirmed TB case notification rate (CNR) of more than 71 (71.8-126.4) per one hundred thousand population in 2017,while the nationwide CNR was 86 /100 000 population. For all forms of TB cases the nationwide CNR is 149/100 000 population. For all forms, Rajshahi having the lowest (104/100 000 population) and Sylhet having the highest (183/100 000 population) CNR (Table 4).

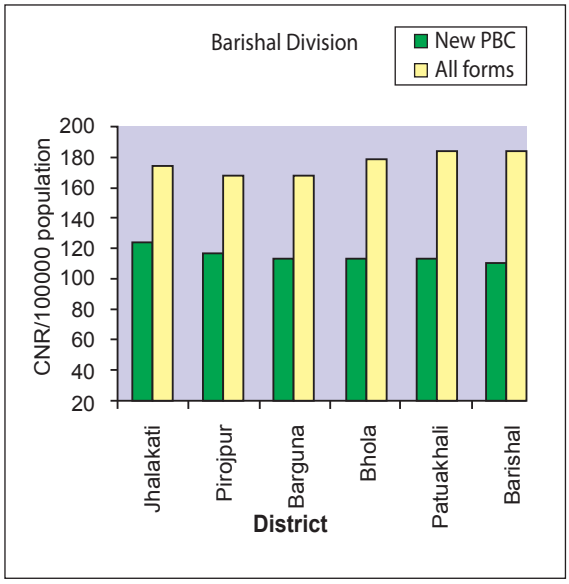
Table 4: Division-wise new pulmonary bacteriologically confirmed (PBC) & all forms of TB cases by type of reporting unit

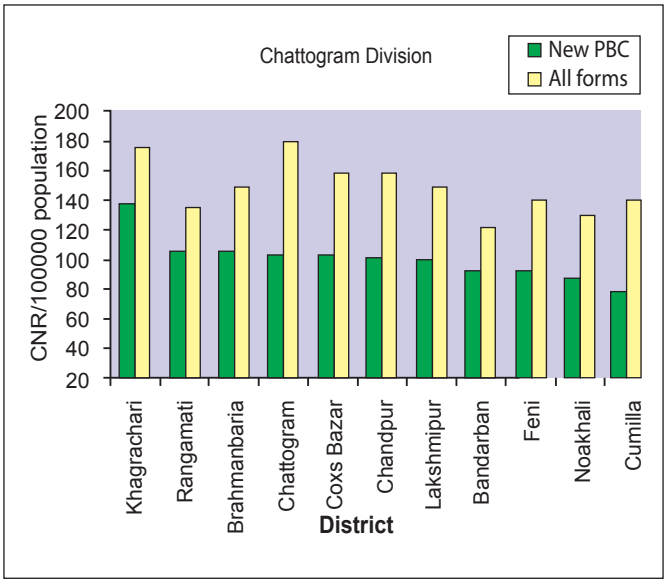
Division	Number of reported cases								Estimated Projected population of 2017	New PBC CNR /100000 population	All forms CNR /100000 population
	Upazila		Metro		CDC		Total				
	New PBC	All forms	New PBC	All forms	New PBC	All forms	New PBC	All forms			
Barishal	9,657	14,902	216	497	34	119	9,907	15,518	8,746,276	113.27	177.42
Chattogram	28,333	42,736	3,009	7,166	55	147	31,397	50,049	32,590,286	96.34	153.57
Dhaka	31,047	57,000	8,345	21,175	380	840	39,772	79,015	55,376,976	71.82	142.69
Khulna	20,705	28,538	515	1,154	203	429	21,423	30,121	16,947,761	126.41	177.73
Rajshahi	12,132	19,776	363	773	324	853	12,819	21,402	20,673,626	62.01	103.52
Rangpur	14,002	24,758	-	-	119	251	14,121	25,009	17,743,695	79.58	140.95
Sylhet	10,494	19,734	794	1,706	28	85	11,316	21,525	11,757,039	96.25	183.08
Total	**126,370**	**207,444**	**13,242**	**32,471**	**1,143**	**2,724**	**140,755**	**242,639**	**163,331,638**	**86.18**	**148.56**

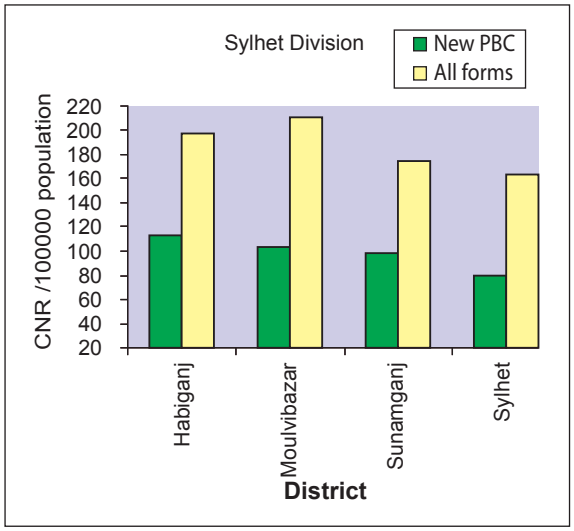
5.2.3 District-wise case notification rates (CNR)

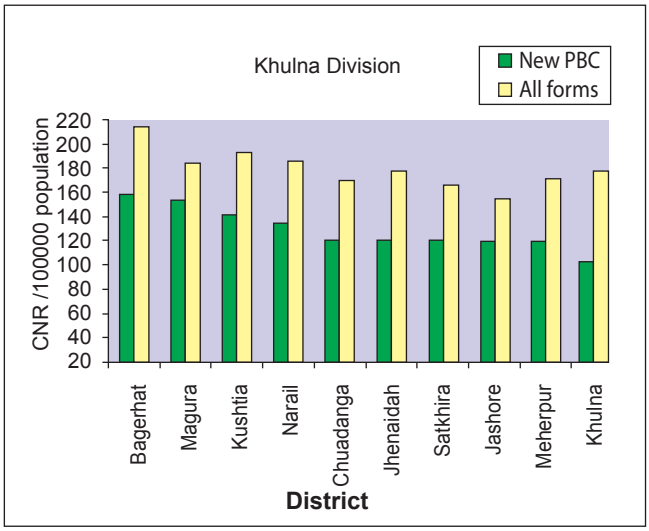
The district wise case notification rates of each division in 2017 are shown in Figure 10 and details of case notification by district are shown in Annex- 1

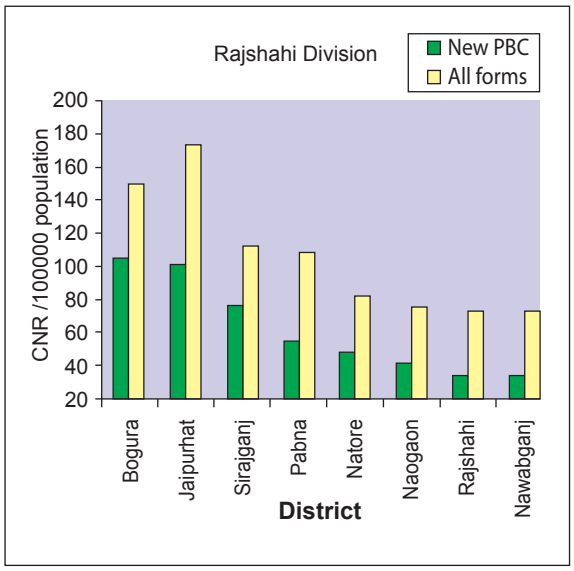
Fig. 10 District-wise CNR of New Pulmonary Bacteriologically Confirmed (PBC) and all forms of TB cases in 2017

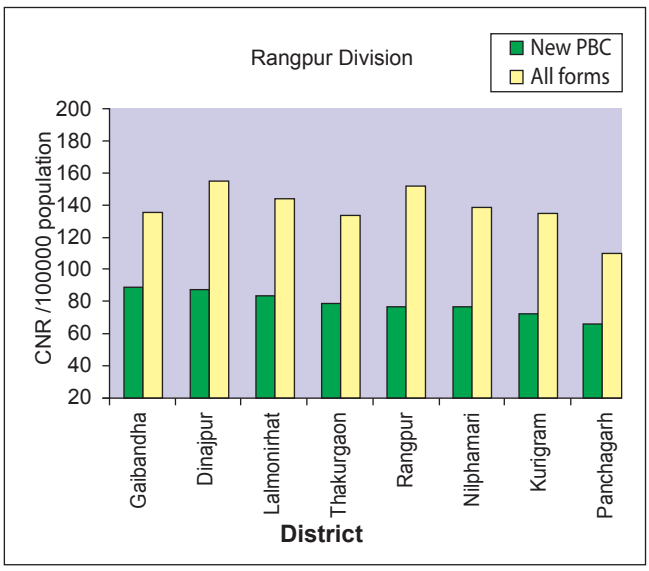


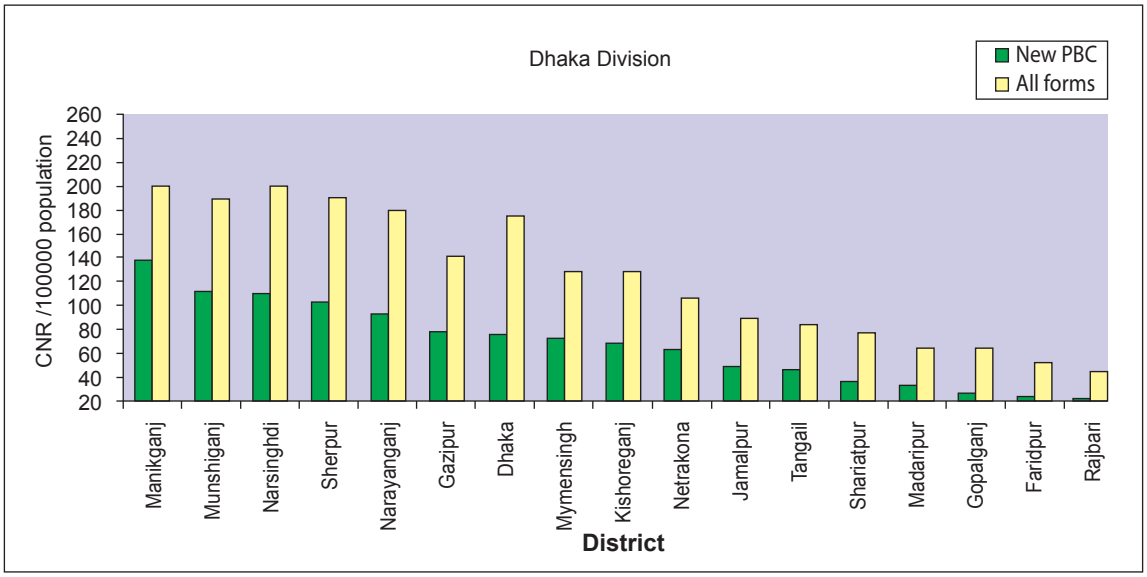



Sylhet Division
New PBC
All forms
CNR /100000 population
220
200
180
160
140
120
100
80
60
40
20
Habiganj
Mouvibazar
Sunamganj
Sylhet
District

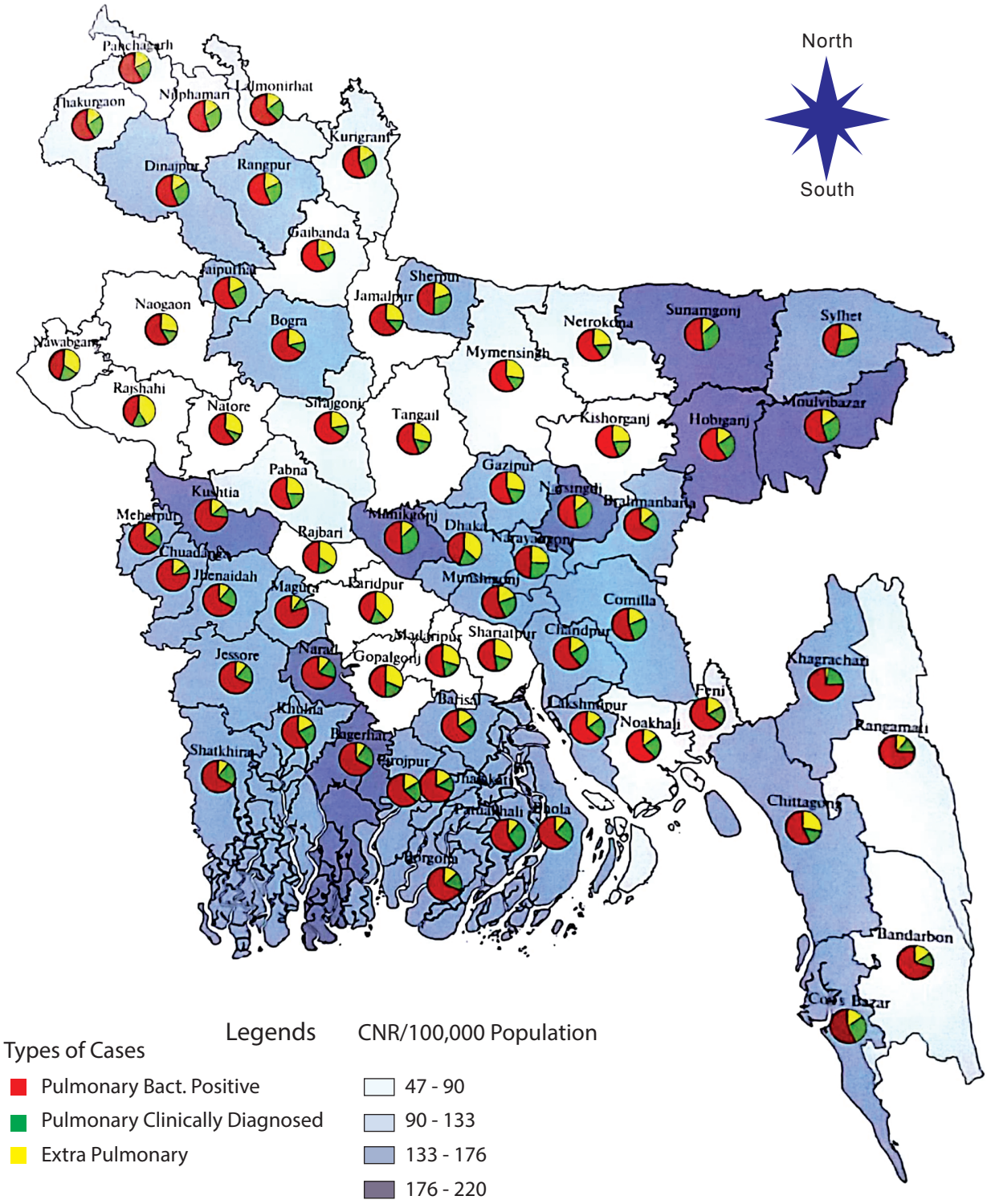

Khulna Division
New PBC
All forms
CNR /100000 population
220
200
180
160
140
120
100
80
60
40
20
Bagerhat
Magura
Kushtia
Narail
Chuadanga
Jhenaidah
Satkhira
Jashore
Meherpur
Khulna
District


Rajshahi Division
New PBC
All forms
CNR /100000 population
200
180
160
140
120
100
80
60
40
20
Bogura
Jaipurhat
Sirajganj
Pabna
Natore
Naogaon
Rajshahi
Nawabganj
District


Rangpur Division
New PBC
All forms
CNR /100000 population
200
180
160
140
120
100
80
60
40
20
Gaibandha
Dinajpur
Lalmonirhat
Thakurgaon
Rangpur
Nilphamari
Kurigram
Panchagarh
District


Dhaka Division
New PBC
All forms
CNR /100000 population
260
240
220
200
180
160
140
120
100
80
60
40
20
Manikganj
Munshiganj
Narsinghdi
Sherpur
Narayanganj
Gazipur
Dhaka
Mymensingh
Kishoreganj
Netrakona
Jamalpur
Tangail
Shariatpur
Madaripur
Gopalganj
Faridpur
Rajbari
District

5.2.4 District Wise Case Notification, All Forms (New & Relapse-2017



5.3 Treatment Outcomes

All diagnosed TB patients are regularly registered for treatment. The treatment continues for six months (new cases) to eight months (re-treatment cases). At the end of the treatment, the patients are evaluated for assessing treatment outcomes. The possible outcomes are: cured, treatment completed, died, treatment failure, lost to follow up and transferred out. "Cured" and "treatment completed" are also grouped as "treatment success" or treatment with favourable outcome while "died", "treatment failure", "lost to follow up" and "transferred out" are considered as unfavourable outcomes. In the same way as case finding, treatment outcomes are also analyzed by the central NTP unit at three levels: national, divisional and district. This report includes the outcomes of the treatments in TB patients registered during 2016 from all sources (upazilas, metropolitan cities and CDCs).

Definitions of treatment outcomes

Cured: A pulmonary TB patient with bacteriologically confirmed TB at the beginning of treatment who was smear- or culture-negative in the last month of treatment and on at least one previous occasion.

Treatment completed: A TB patient who completed treatment without evidence of failure BUT

with no record to show that sputum smear or culture results in the last month of treatment and on at least one previous occasion were negative, either because tests were not done or because results are unavailable.

Died: A TB patient who dies for any reason before starting or during the course of treatment

Lost to follow up: A TB patient who did not start treatment or whose treatment was interrupted for 2 consecutive months or more.

Treatment failure: i) A bacteriologically confirmed TB patient whose sputum smear or culture is positive at month 5 or later during treatment. ii) A clinically diagnosed Pulmonary TB patient whose sputum smear becomes positive at month 2/3.

Transfer out: Patient moved to another registration unit and no known treatment outcome.

5.3.1 Nation-wide Treatment Outcomes

Treatment success rates under DOTS have been consistently high from the beginning and crossed the global target of 85% in 2003. After strengthening DOTS and ACSM activities the unfavourable outcomes have been remarkably reduced. The NTP has been maintaining over 91% treatment success rates since 2005 (Figure 11). In fact the NTP has successfully treated 118 697 (95.26%) of the 124 603 new pulmonary bacteriologically confirmed cases registered in 2016. The lost to follow up rate was 0.66% while 2.96% of the patients have died during treatment (Figure 12).

Fig. 11: Trends in treatment success rates, 1993-2016 cohorts

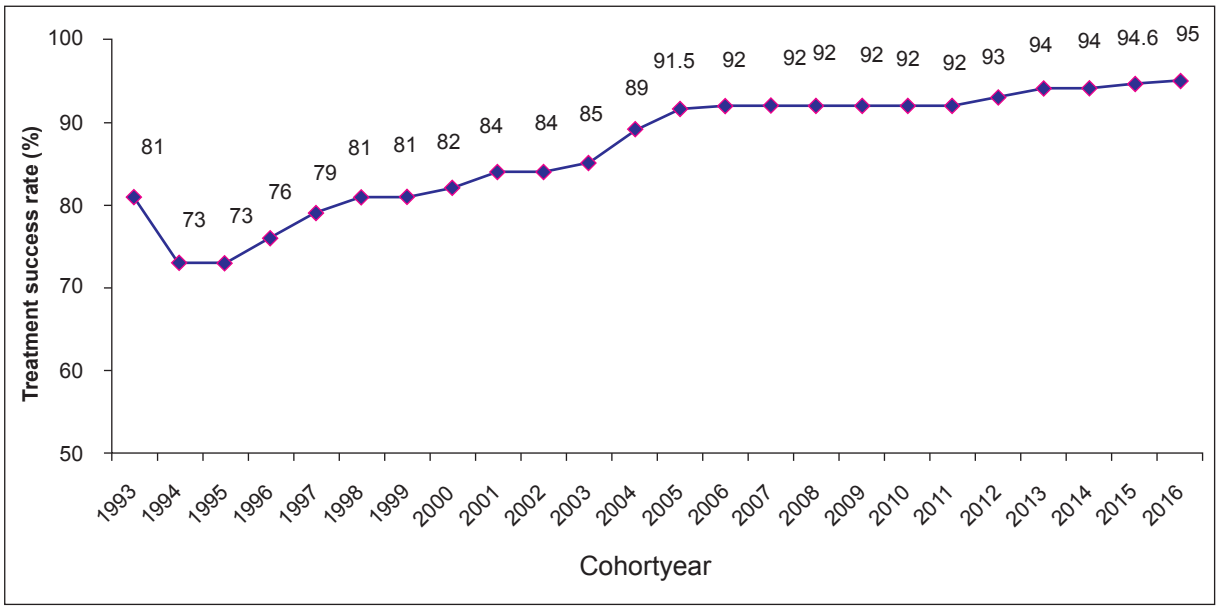
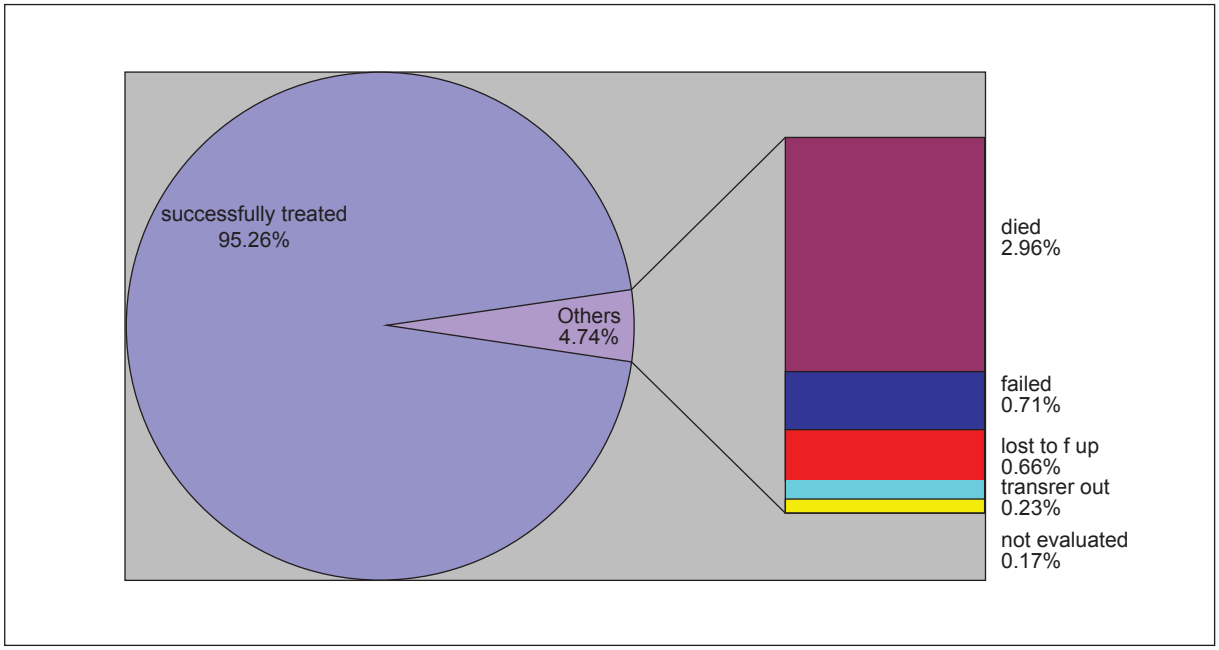


Fig.12: Treatment outcomes of new pulmonary bacteriologically confirmed cases registered in 2016

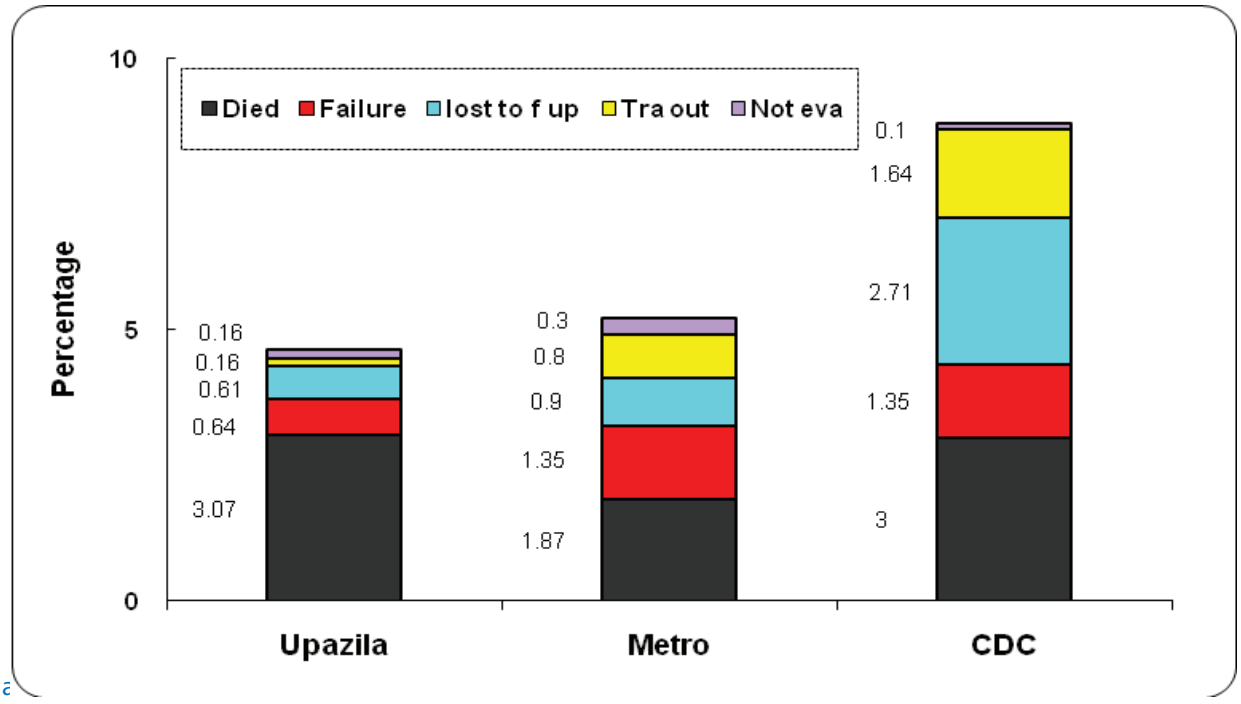


The treatment success rate of new pulmonary bacteriologically confirmed TB cases is highest (95.35%) among the cases registered in upazilas followed by among cases registered in metropolitan cities (94.73%) and the lowest is among those registered in CDCs (91.21%); (Table 5). This year the percentage of TB cases died has been reduced compared to the previous year (3.25% vs 2.96%) resulting in improving treatment success rate. The proportion of lost to follow up and transferred out cases are higher in CDCs (Figure 13) resulting in lower treatment success rate. In order to further improve the treatment success rate, emphasis is to be given on getting feedback of transferred out cases with special emphasis in urban setting.

Table 5: Treatment success by type of registration unit (2016 cohort)

Type of registration unit	Number of cases registered	Number of cases registered
Upazila	112,344	107,121 (95.35%)
Metropolitan city	11,224	10,632 (94.73%)
CDC	1,035	944 (91.21%)
Total country	**124,603**	**118,697 (95.26%)**

Fig. 13: Unfavourable treatment outcomes of new pulmonary bacteriologically confirmed cases by type of registration unit (2016 cohort)



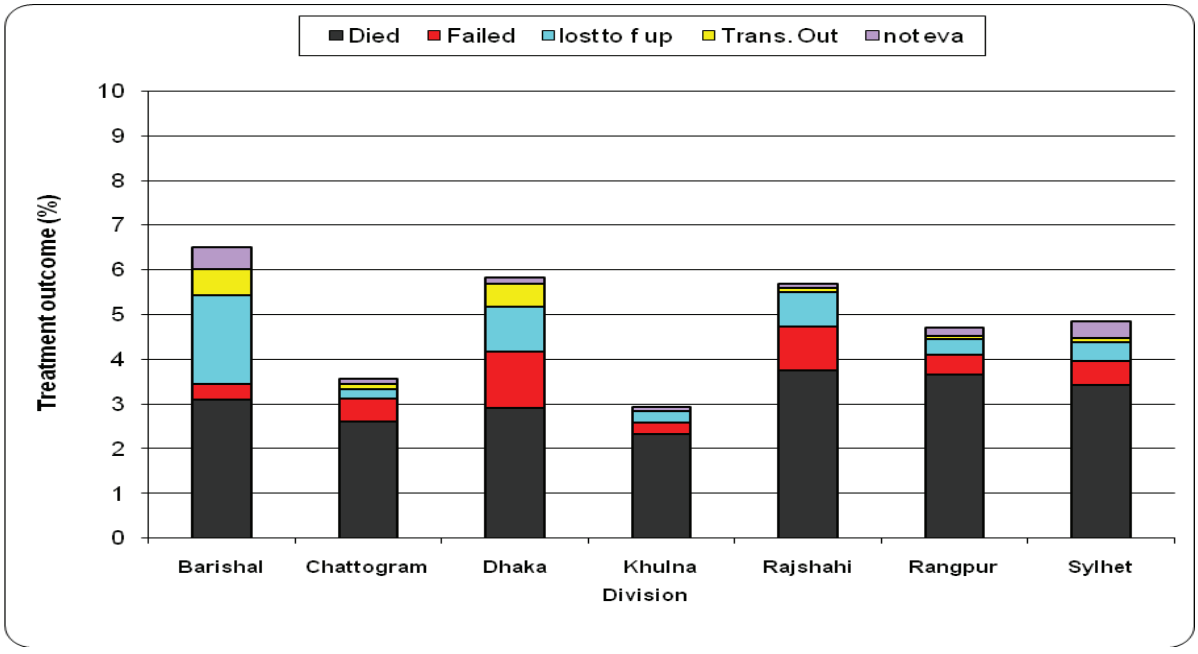
5.3.2 Division-wise Treatment Outcomes

Table 6 shows that all seven divisions have successfully treated more than 93% of the new pulmonary bacteriologically confirmed cases registered in 2016 with overall treatment success rate of over 95.26%. Division wise unfavourable outcomes are shown in fig 14. The patients died in the divisions during TB treatment varied from 2.32% to 3.75% while the failure rate varied from 0.27% to 1.25%. The lost to follow up rate among those patients varied from 0.21% to 1.97%. Data shown in Figure 14 include also metropolitan cities and CDCs.

Table 6: Division-wise treatment success rate of new pulmonary bacteriologically confirmed cases registered in 2016

Division	Number of cases registered	Successfully treated
Barishal	8,812	8,238 93.49%
Chattogram	27,033	26,072 96.45%
Dhaka	35,671	33,593 94.17%
Khulna	18,620	18,074 97.07%
Rajshahi	11,428	10,779 94.32%
Rangpur	12,909	12,301 95.29%
Sylhet	10,130	9,640 95.16%
Total country	124,603	118,697 95.26%

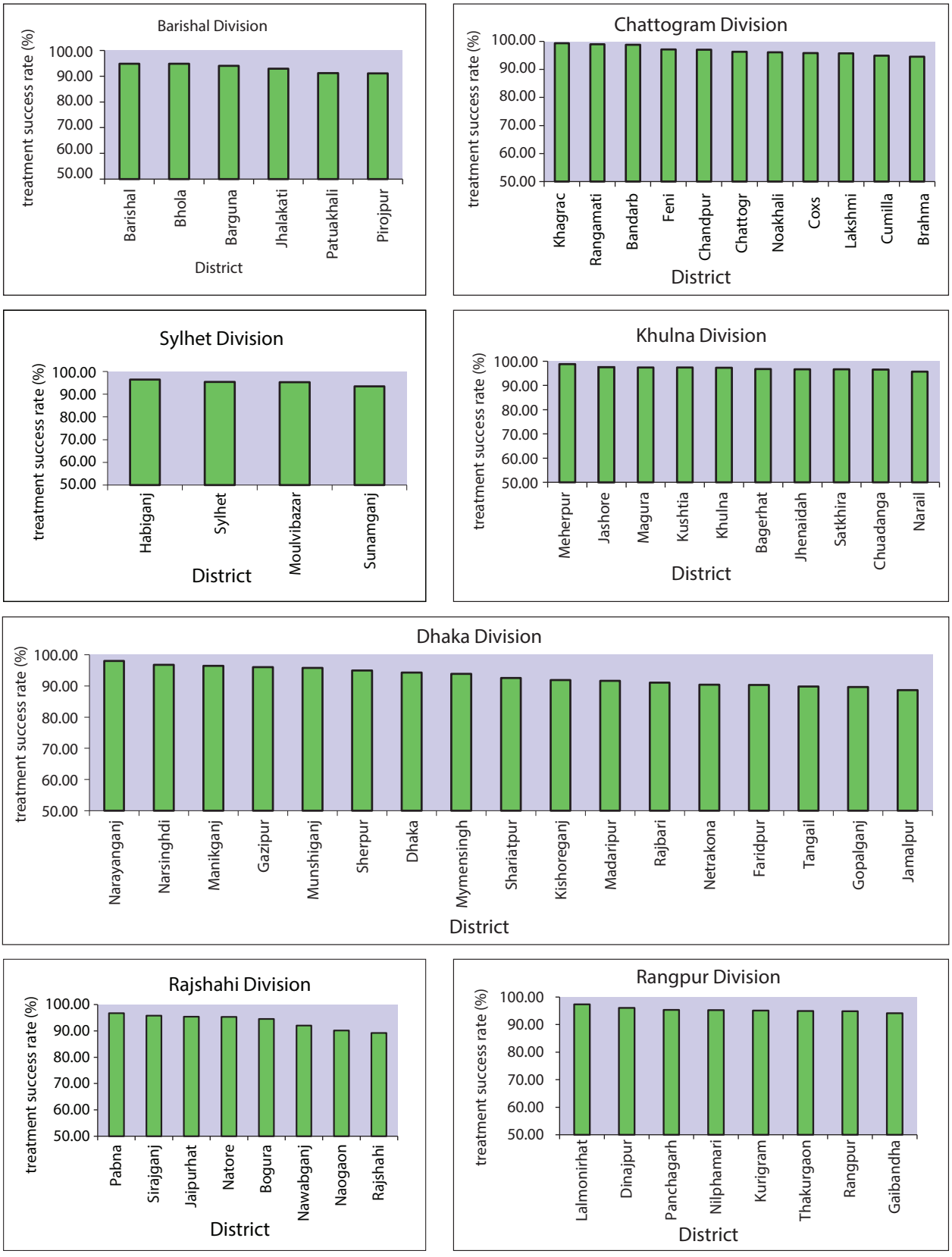
Fig. 14: Unfavourable outcomes of new pulmonary bacteriologically confirmed cases by division, 2016 cohort



5.3.3 District-wise Treatment Outcomes

The treatment success rates of new pulmonary bacteriologically confirmed cases in each district registered in 2016 are shown in Figure 15. Almost all the districts are showing over 90% treatment success rates.

Fig.15 District-wise treatment success rates of new pulmonary bacteriologically confirmed cases for each division; 2016 cohort



5.3.4 Treatment outcomes of relapse, new pulmonary clinically diagnosed and extra-pulmonary (new) cases

In 2016 a total of 9 064 relapse, 45 013 new pulmonary clinically diagnosed and 43 572 extra-pulmonary TB cases were registered. The treatment success rate of relapse cases was 89.7%, and treatment completion rates of new pulmonary clinically diagnosed and extra-pulmonary cases were 92.8% and 90.1% respectively. During the course of treatment 441 (4.87%) relapse, 2 239 (4.97%) pulmonary clinically diagnosed and 1 666 (3.82%) extra-pulmonary cases had died; over all death rate of these three categories was 4.45%.

6. Drug Resistant TB

Drug-resistant TB threatens global TB care and prevention, and it remains a major public health concern in many countries. In 2017, 2.0 million (30%) of the 6.7 million new and previously treated TB cases notified globally were tested for rifampicin resistance, with coverage of 24% for new TB patients and 70% for previously treated TB patients. The Global number of MDR/RR –TB cases notified in 2017 was 29% of the estimated 558,000 incident cases in 2017(Ref: WHO Global TB report 2018).

NTP Bangladesh has conducted countries first nationwide drug resistance survey in 2010-2011. According to this survey report the proportion of new TB cases with RR/MDR-TB is 1.6% and that of retreatment cases with RR/MDR-TB is 29%. On this assumption the estimated total numbers of MDR-TB cases in 2011 to 2017 in the country are shown in Table-7.

Table 7. Annual estimated number of MDR-TB cases in Bangladesh (2011-2017)

Year	Among new PTB cases	Among retreated pulmonary TB cases including relapse	Total
2011	1700	2100	3800
2012	1850	2300	4150
2013	2071	2425	4496
2014	2094	2703	4797
2015	2512	2507	5019
2016	2714	2571	5285
2017	3011	2557	5568

For diagnosis and management of multidrug resistant TB (MDR-TB), a National TB Reference Laboratory (NTRL) has been established in National Institute of Diseases of Chest and Hospital (NIDCH). The NTRL have been functioning since 27th June 2007 for culture and Drug Sensitivity Test (DST). It is linked with supranational reference laboratory (SRL) in Antwerp, Belgium. In August 2008 NIDCH started enrolment of MDR TB patients with GLC approved 24 months regimen and supported by the Global fund. As a part of Programmatic Management of Drug resistant TB (PMDT) plan NTP established one Regional TB Reference Laboratory (RTRL) at chest disease hospital (CDH), Chittagong in 2011 and also managing MDR-TB patients from that year. In 2013 NTP has also started managing MDR-TB in CDH of Pabna and Khulna. In CDH Khulna, an RTRL has been established in 2015.

The MDR TB patients are also managed in the CDH Rajshahi and in three other hospitals of Damien Foundation at Jalchatra under Tangail District, Anantapur under Netrokona District and Shambhuganj under Mymensingh District. A regional TB reference laboratory (RTRL) has been established in the CDH, Rajshahi in May 2008. The programme has been initiating around 900 patients consistently over past 4 years. Following the endorsement of Shorter MDR treatment regimen WHO in May 2016 the NTP Bangladesh initiated shorter regimen and scaled up all over the country by end of 2017.

As of 31 December 2017, countrywide a total of 6,420 MDR TB patients were enrolled for treatment including 920 in 2017. Among the 920 patients in 2017, 425 are under 24-month regimen and 495 under 9- month regimen.

Criteria for Presumptive DR-TB cases:

- Failures of Category I and II
- Non-converters of Category I and II
- All relapses
- All return after loss to follow up
- Close contacts of MDR-TB patient with symptoms.
- All HIV infected patients
- Others: Any Smear Negative or EP TB patients clinically not improving in spite of proper treatment.

The MDR patients diagnosed and enrolled for management are shown in the Table below :

Table 8: Summary, MDR TB Enrolment for Treatment

Year	Longer regimen						Short regimen				Grand Total
	NIDCH	CDH, CTG	CDH, Pabna	CDH, Khulna	CDH, Sylhet	Total	Under operational research (3 DF and Rajshahi)	NIDCH	CDH, Sylhet	Total	
2005 May-2007							(67+69+106) = 242			242	242
2008	107					107	129			129	236
2009	179					179	181			181	360
2010	183					183	154			154	337
2011	212	41				253	137			137	390
2012	290	86				376	129			129	505
2013	330	120	31	14		495	191			191	686
2014	447	123	31	61	54	716	230			230	946
2015	430	121	26	43	60	680	200			200	880
2016	461	113	21	60	95	750	168			168	918
2017*	145	114	24	62	81	426	211	279	4	494	920
Total	2,784	718	133	240	290	4,165	1,972	279	4	2,255	6,420

Treatment outcome of MDR-TB patients under GLC approved 24 months regimen:

Diagnosed MDR-TB patients are enrolled for treatment. The treatment continue for 20-24 months. Initially hospital duration was 6-8 months and rest period patients were treated in the community. From 2012 management modality has been modified with initial hospitalization for 1-2 months followed by community management for the rest period. At the end of the treatment, the patients are evaluated to assess treatment outcomes.

The overall trend of treatment success rates of MDR-TB patients is increasing. Table 9 shows the treatment outcomes of the patients enrolled during 2008- 2015 under 24 months regimen.

Table 9: Treatment Outcomes MDR TB, 2008 - 2015 cohorts

Year	Registered	Confirmed MDR	Outcomes Abs #						Outcomes Percentage							Evaluation
			Cured	Treat completed	Failed	Lost to Follow up	Died	Still on treatment	Cured	Treat completed	Failed	Lost to follow up	Died	Still on treatment	Treatment Success	
2008	107	104	61	6	1	28	8	0	58.7	5.8	1.0	26.9	7.7	0.0	64.42	After 36 months
2009	179	167	104	9	3	30	21	0	62.3	5.4	1.8	18.0	12.6	0.0	67.66	After 36 months
2010	183	175	99	24	0	25	27	0	56.6	13.7	0.0	14.3	15.4	0.0	70.29	After 36 months
2011	253	240	153	14	4	34	34	01	63.3	6.3	1.7	14.2	14.2	0.4	69.58	After 30 months
2012	376	372	236	35	3	50	42	5	63.4	9.4	0.8	13.4	11.3	1.3	72.85	After 30 months
2013	495	495	333	27	1	51	59	22	67.3	5.5	0.2	10.3	11.9	4.4	72.73	After 30 months
2014	716	716	233	271	0	73	109	23	32.5	37.8	0	10.2	15.2	3.2	70.39	After 24 months
2015	680	680	324	198	3	56	78	12	47.6	29.1	0.4	8.2	11.5	1.8	76.76	After 24 months

Treatment outcome of MDR-TB patients 9 months regimen:

Under an operational research NTP in collaboration with DF Bangladesh has been managing MDR-TB Patients with 9 months regimen since 2008 and showing a good results with treatment success rates of almost 86% for the cohort registered in 2016 (Table 10). NTP already enrolled 494 MDR TB in shorter regimen during the year 2017. The treatment outcome of the cohort will be known by next year.

Table 10: Treatment outcome of MDR-TB patients under 9 months regimen

Year	Registered	Confirmed MDR	Outcomes Abs #						Outcomes Percentage							Evaluation
			Cured	Treat completed	Failed	Lost to Follow up	Died	No Result	Cured	Treat completed	Failed	Lost to Follow up	Died	No Result	Treatment Success	
2008	129	129	103	0	3	12	6	5	79.84	0	2.3	9.3	4.65	3.876	79.84	after 1 year
2009	181	181	138	5	2	16	11	9	76.24	2.76	1.1	8.84	6.08	4.972	79.01	after 1 year
2010	154	154	125	2	2	17	8	0	81.17	1.3	1.3	11	5.19	0	82.47	after 1 year
2011	137	137	102	0	9	22	4	0	74.45	0	6.6	16.1	2.92	0	74.45	after 1 year
2012	129	129	91	2	2	18	16	0	70.54	1.55	1.55	13.95	12.4	0	72.09	after 1 year
2013	191	191	152	1	4	8	23	3	79.59	0.52	2.09	4.19	12.04	1.57	80.1	after 1 year
2014	230	230	195	2	7	16	10	0	84.78	0.87	3.04	6.96	4.35	0	85.65	after 1 year
2015	200	200	165	2	6	13	12	2	82.5	1.0	3.0	6.5	6.0	1.0	83.5	after 1 year
2016	168	168	142	0	1	7	14	0	87	0	0.59	4.17	8.33	0	84.52	after 1 year

7. Laboratory Activities

7.1 Sputum Microscopy and Quality Assurance

Quality assured smear microscopy services which are essential part of TB control program are available through a large laboratory network in Bangladesh. Under NTP during 2017, sputum microscopy was performed in 1149 (in 2016 it was 1116) laboratories across the country and sputum samples from a total of 20 41 708 presumptive TB cases were tested for AFB, out of which 142 280 cases were sputum smear positive (positivity rate 6.97%). As follow up of treatment a total number of 442 701 sputum slides were tested; out of which 3.75% were found positive. (Detailed lab report for the year 2017 is shown in Annex -3)

In 2017 number of EQA lab remains same as of 2016 i.e., 40. All 1149 laboratories were brought under the quality assurance network of the EQA centers. Assessment reports had been received from these EQA centers (List of EQA centers shown in Annex -4).

Lot quality assurance sampling method was used for quantifying the number of slides to be rechecked. Each month five slides were selected from each laboratory. Slides were blindly rechecked by a first controller. A total of 64 523 slides were rechecked. This sample contained approximately the same distribution as the pool from where they were selected i.e. 4 417 (6.85%) positive, 1 537 (2.38%) scanty and 58 569 (90.77%) negative. For comparison the error rates (%) found in 2014, 2015, 2016 and 2017 are also shown in the same table below (Table: 11).

Table 11: Result of blinded rechecking of AFB smears

Type of error	Number (2017)	Rate (2017)	Rate (2016)	Rate (2015)	Rate (2014)
Total False positive by MCs	56	0.94%	0.97%	1.00%	0.71%
High false positive	10	0.17%	0.33%	0.26%	0.31%
Low/scanty false positive	46	0.77%	0.64%	0.74%	0.39%
Total False negative by MCs	197	0.34%	0.39%	0.50%	0.50%
High false negative	75	0.13%	0.21%	0.25%	0.28%
Low/scanty false negative	122	0.21%	0.18%	0.25%	0.21%
Quantification error (QE) by MCs	145	2.44%	2.63%	3.30%	3.15%

7.2 National Tuberculosis Reference Laboratory (NTRL)

On 27th June 2007 the National Tuberculosis Reference Laboratory (NTRL) formally started functioning. NTRL is the WHO/The Union recommended TB reference laboratory of NTP. It is the only National level laboratory for GLC-Approved project. Along with previous microscopy (Z-N stain, Fluorescent Stain, and FDA staining), Culture (conventional culture both in solid and liquid media and identification) and DST(conventional DST in solid media, AST in liquid media by proportionate method); new diagnostic techniques such as GeneXpert and LPA (line probe assay) were introduced in 2012. GeneXpert_machines are used for detection of MTB and RR TB and this service assist NTP in two ways: (i) diagnosis and follow up of drug resistant forms of TB and (ii) Monitoring drug resistant trends through periodically conducting drug resistant surveys. LPA was introduced through Expand TB project at NTRL under NTP. By December 2014 this project was phased out and related activities were handed over to NTP.

Table: 12. Performance of GeneXpert Machines in detecting DR-TB

Year	Number of GenXpert Installed (Cumulative)	Presumptive–DR TB Tested	RR TB Diagnosed
2012	12	1,733	388 (22.4%)
2013	26	11,852	811 (6.8%)
2014	39	43,360	994 (2.3%)
2015	39	3,9176	893 (2.28%)
2016	39	47,141	980 (2.08%)
2017	96	77,560	944 (1.22%)

Table: 13. Performance through LPA in detecting DR-TB

Year	Presumptive–B Tested	MTB Positive	Resistant TB				
			1ST Line			2ND Line	
			HR	R	H	PRE-XDR	XDR
2012	705	220	213	18	32		
2013	869	265	180	43	49		
2014	320	154	48	12	21		
2015	428	403	53	10	30		
2016	105	104	12	1	10		
2017	315	255				56	1

7. 3 Regional Tuberculosis Reference Laboratory (RTRL) in Rajshahi, Chattogram and Khulna

On 10th May 2008 Regional Tuberculosis Reference Laboratory was formally inaugurated in Rajshahi Chest Disease Hospital. Damien Foundation is providing technical support for this laboratory. Culture and drug susceptibility Test (DST) for Tuberculosis are done within shortest duration by this laboratory. The RTRL in Chittagong has started its function since October 2010. After completion and renovation and installation of instrument (in 2014), Khulna RTRL has been formally inaugurated on 30 June 2015.

8.TB/HIV Co-infection

TB/HIV co- infection denotes two diseases in one body. HIV/AIDS and TB are so closely connected that the term "co-epidemic" "dual epidemic" or "twin epidemic" is often used to describe their relationship. The two diseases represent a deadly combination, since they are more destructive together than either disease alone. HIV affects the immune system and increases the likelihood of people acquiring new TB infection. It also promotes both the progression of latent TB infection to active disease and relapse of the disease in previously treated patients. On the other hand presence of TB bacteria in the body of a HIV infected people accelerate the progress of HIV infection to AIDS. TB is one of the leading causes of death in HIV-infected people.

Diagnosis of TB/HIV Co-infection

The diagnosis of TB means that a patient has symptomatic disease due to lesions caused by M. tuberculosis. The definitive diagnosis of HIV infection rests on a positive HIV test.

Diagnosis of TB in HIV patients

The diagnosis of tuberculosis is more difficult in HIV-positive people. Even then sputum smear examination for AFB remains the cornerstone of diagnosis to identify infectious patients so that trans mission can be stopped by treating with anti-TB drugs. However according to new policy, HIV infected persons with symptoms/signs of TB should be referred for GeneXpert test. Support of X-Ray and other diagnostic methods may also be taken for diagnosis of other types of TB cases.

Practical points

- TB is harder to diagnose in HIV-positive people.
- TB progresses faster in HIV-infected people.
- TB in HIV-positive people is almost certain to be fatal if undiagnosed or left untreated.
- TB is the leading cause of HIV related morbidity and mortality
- HIV is the most important factor fuelling the TB epidemic.

TB/HIV Activities:

Table:14: HIV among Diagnosed TB Patients in 2014-2017

Category of TB Patients	2014		2015		2016		2017	
	# tested for HIV before or during TB treatment	# found HIV positive before or during TB treatment	# tested for HIV before or during TB treatment	# found HIV positive before or during TB treatment	# tested for HIV before or during TB treatment	# found HIV positive before or during TB treatment	# tested for HIV before or during TB treatment	# found HIV positive before or during TB treatment
New pulmonary bacteriologically confirmed	330	1	268	15	1,977	8	2,001	8
New pulmonary clinically diagnosed	111	2	79	1	526	3	479	0
New Extra-pulmonary	150	4	131	0	1,245	3	1,123	6
All re-treatment	38		28	1	282	0	285	0
MDR	140	0	145	0	117	0	29	0
Total	**769**	**7**	**651**	**17**	**4,147**	**14**	**3,917**	**14**

Table :15 : TB among PLWHA in 2015-2017

# of PLWHA tested for TB			# of PLWHA diagnosed as TB	Number		
Year 2015	**Year 2016**	**Year 2017**	Type of TB	**Year 2015**	**Year 2016**	**Year 2017**
479	**697**	**559**	New pulmonary bacteriologically confirmed	17	33	17
			New pulmonary clinically diagnosed	22	22	28
			New Extra-pulmonary	28	18	30
			All re-treatment	7	14	14
			Total	**74**	**87**	**89**

9. Training Courses And Workshop

The development of skilled health staff in NTP is a prerequisite for a successful programme. NTP being primary responsible for training, plans all aspects of training and workshop with government and non-government entities to determine training content, develop materials, identify health staff to be trained, ensure training course implementation, and follow up for new hires and maintenance of training. Tables 16 and 17 give an overview of the activities related to training and workshop/ meeting on TB control performed by NTP January to December 2017. Besides these, 77 monitoring meetings in each quarter are organized at 64 districts.

Table 16: Tuberculosis training activities-2017

Subject	Duration (Days)	Category of Participants	Funding Source & No. of participants	
			GFATM	GOB
Training of Lab staffs on Culture and DST	14	Medical Technologist (Laboratory)	8	
TB management training of newly recruited Medical Officers	6	Medical Officers from Upazilla & District	36	
Managent Training on X-Ray, EP, PMDT, IC, TB/HIV	5	UH&FPO, MO(DC), Junior Consultant (CDC),Clinic Managers from NGO	123	
Train and retrain HIV counselor and other staff to identify and refer presumptive TB cases	1	HIV Counselor and other staffs providing HIV/AIDS service	34	
Training of Doctors (3 days training) on diagnosis of Child TB	3	UH&FPO, MO, Junior Consultant (CDC),	47	
Training of Paramedics (2 days training)	2	Paramedics	95	
Training for field level Ambulatory MDR-TB patient management team	3	UH&FPO, MO, Junior Consultant (CDC),PO, TLCA, Staff nurse, NGO personals	288	
Conduct 3-day Training on Programatic Management of Drug Resistence TB (PMDT)	3	CDH/Upazilla/Urban DOT centre/CDC	290	
6 Day refresher Training on LED fluresence microscopy	6	Medical Technologist (Laboratory)	135	
3-Day Training on Gene Xpert Testing	3	Physician and Medical Technologist (Laboratory)	106	

Workshop and Meeting related to TB Control-2017

Subject	Duration (Days)	Category of participants	Funding Source & No. of participants	
			GFATM	GOB
Six monthly coordination/partners meeting at national level involving all divisional consultant	1	GO-NGO personals involved TB control program	94	

10. Collaborating Partners of NTP with Area of Collaboration

A number of nongovernmental organization (NGOs) and institutes have been recognized as official partner of NTP. The relationship between NTP and most of these partner agencies is governed through a memorandum of understanding (MOU). Following are short profiles of each partner agency, listed in alphabetical order.

10.1 Ashar Alo Society (AAS):

Ashar Alo Society (AAS) is the pioneer and largest peer support group of PLHIV (People Living with HIV).Total registered PLHIV in AAS (Dhaka, Sylhet and Chattogram) up to 31st October 2018 is: 2807, of them died 784, total alive member 2023.

AAS has been implementing TB and HIV co infection program since 2010 under Global Fund with technical support from NTP and BRAC and in collaboration with other organizations (CAAP, MAB, IDH and CARE -B). AAS provides TB treatment for only TB and HIV co infected patients and report to NTP and BRAC as a national report. TB and HIV co infection is managed under National guidelines on TB and HIV through NTP and NASP. Since December 2017 NASP has been taken over ART distribution from 06 Government Health Facilities (BSSMU, Khulna Medical College Hospital, Chattagram Medical College Hospital, Sylhet Osmani Medical College Hospital, Infectious Diseases Hospital, Dhaka and Cox'sbazar Sadar Hospital). Since then only TB and HIV co infection data of AAS is reported to NTP. From January 2017 to 31st December 2017 total 89 patients received TB and HIV co infection treatment.AAS also provides different ACSM activities like TB and HIV orientation for NGO field level staff, Non graduate private practitioners and Care givers training.

10.2 BRAC

BRAC is the largest non-governmental development organization in the world with a vision and mission to empower people and communities in situation of poverty, illiteracy, diseases and social injustice. BRAC started TB Control Programme in 1984 as a pilot project in Manikgonj upazila (sub-district) and was extended to 10 other upazilas in 1992 in order to test the potential of scaling it up. Along with the government, BRAC has been the principal recipient of The Global Fund to strengthen health system in Bangladesh. BRAC signed a MoU with the Government of Bangladesh (GoB) in 1994 to expand DOTS services nationwide.

The high standard of diagnostic services is being maintained through sound laboratory management. To increase population access to diagnostic and treatment services, and improve the quality of microscopy services, BRAC has been operating through 484 laboratories including 15 in Forcibly Displaced Myanmar Nationals (FDMN) areas, 27 External Quality Assurance (EQA) laboratories for assuring the quality of these peripheral microscopy centers, 41 prisons, 49 academic institutions/medical college/hospital, 2 port authority hospitals, 3 EPZ (Chattogram, Karnofuly, Cumilla), 11 city corporations. At present, BRAC and 25 NGOs are working under the stewardship of the National Tuberculosis Control Program (NTP) against TB control in Bangladesh.

In order to end the TB epidemic, The GoB along with BRAC and other diverse partners from the public and private sectors have been successful in implementing their TB control programme over the years and are continuing their battle targeting "End TB" aligning with SDG targets.

BRAC's approach for TB diagnosis and treatment focuses on community level education and engagement. The Shasthya Shebika (SS), the first frontline community health worker, plays a pivotal role of connecting individuals with TB control services during household visits and health forums. BRAC conducts orientation with different stakeholders of the community to engage them in efforts to identify patients and ensure treatment adherence. The stakeholders include: cured TB patients, local opinion and religious leaders, other NGO health workers, village doctors, pharmacists and graduate private practitioners.

To find out the missing cases and reduce disease burden of the country, BRAC has been striving hard to ensure early case detection and engage private sectors (Formal and Informal providers). Moreover, special attention has been given to address cases in hard to reach areas such as haors, mountain, coastal and other remote areas ensuring successful treatment of those cases.

BRAC has been operating 62 TB Diagnostic Centers (TDC) including 39 X-ray facilities only and 23 facilities having both GeneXpert and X-ray technology throughout the country targeting the missing cases and have plan to expand further. They are providing financial support to poor presumptive specially smear negative, extra pulmonary, child TB and DR-TB. They have also strengthened laboratory services, diagnosis, treatment, follow-up, training and ACSM activities. Moreover nutritional support is given to DR-TB and TB-HIV co-infected patients. BRAC has been following patient centered approach in TB care for early case detection and prompt treatment.

Advocacy, Communication and Social Mobilization (ACSM) activities are integral part of TB projects that increase community awareness and reduce TB stigma. BRAC is conducting different types of advocacy workshops, round table discussion, conference and talk shows on TV with policy makers, media personnel, implementers and civil society representatives to enhance awareness and knowledge about TB. BRAC has been organizing outreach cough collection/smearing center in hard to reach area besides miking at the community level.

10.3 Damien Foundation Bangladesh

Damien Foundation (DF), a Belgian NGO, has been active in Bangladesh since 1972 and meaningfully contributing to tuberculosis control and leprosy elimination in Bangladesh. The organization was engaged primarily in leprosy elimination in 6 districts. Later, considering the disease burden DF included Tuberculosis in its agenda and expanded its working area. The organization in collaboration with National TB Control and Leprosy Elimination Programme now covers a total of about 32 million people in 14 districts (112 upazilas) of Bangladesh, of which 13 districts (103 upazilas) are for combined TB and leprosy. The organization has set up 150 combined TB-Leprosy centres in rural areas including 7 in medical colleges and 1 in workplace (DEPZ). Beside, DF is organizing sputum collection centers regularly at the remote areas of the Upazilas to increase the accessibility and effective coverage. Moreover, 3 daily & 7 intermittent centres are engaged in leprosy service only.

The organization also runs three own hospitals with a total 255 beds to guarantee quality services for complicated TB (including MDR TB) and leprosy patients. A total of 555 national staffs including 11 doctors are engaged with DF in providing service in Bangladesh. A total of 25,633 TB cases including 211 MDR TB and 475 new leprosy cases were detected and brought under treatment during 2017. Damien Foundation conducts several operational researches which contribute in making the national and international policy decisions. As such Damien Foundation introduced the shortest 9-month MDR TB treatment regimen in Bangladesh and has been successfully implementing in Bangladesh since 2005 with encouraging results. This shorter regimen, also known as 'Bangladesh Regimen', has also been experimented in many other countries. The government of Bangladesh has also been scaling up this shorter regimen throughout the country under programmatic condition.

Orientation of Village Doctors

Orientation of Village Doctors

10.4 Heed Bangladesh

HEED Bangladesh started TB Control activities in 1980 in Kamalganj Upazila of Moulvibazar District.TB program of HEED Bangladesh is operating in Sylhet, Moulvibazar & Habigonj Districts. The program has already covered 240 Union Parishad of 27 upazillas.

In 2004, HEED Bangladesh started GFATM funded TB control Program in a partnership with BRAC. The total numbers of microscopy/DOTs centers in three districts are 41. Additionally 14 Periphery laboratories are running for TB case detection and 2 EQA centers to ensure the quality of microscopy centers. In each Upazila HEED Bangladesh is operating one TB clinic with the close supervision of the government. Each Upazila health complex laboratory is using for sputum microscopy test. All these activities of TB Control Program are running under NTP guideline. HEED Bangladesh implements awareness creation and capacity building activities i.e. opinion leaders, TB club meeting, Orientation of village doctors, Orientation of Tea garden volunteers, Sputum campaign, Miking & Celebration world TB Day.

10.5 ICDDR,B

icddr,b, located in Dhaka, the capital city of Bangladesh, is a leading international health research institution established in 1960. From discovery of oral rehydration solution to the innovative methods for treating severe malnutrition, icddr,b's researchers have developed some of the most important health interventions of the past century. icddr,b is supported by over 50 donor countries and organizations, including the Government of Bangladesh, UN agencies, foundations, universities, research institutes and private-sector organizations and companies. Tuberculosis, an important health problem in Bangladesh, remained a focused area of research in icddr, b. icddr, b respects and values all national guidelines and policies, and maintains a highly esteemed partnership with NTP.

icddr,b as SR of NTP under GFATM NFR 2018-2020 , developed and established the Social Enterprise Model (SEM) as an innovative public-private mix (PPM) initiative which has enhanced case-finding activities as well as referral, follow-up and reporting of newly identified cases to the NTP from the private sector. Starting with 3 TB screening centres (SCs) in Dhaka city in 2014, the model expanded to a total of 6 SCs across 2 major cities of Bangladesh over the last 4 years. As per the National Strategic Plan – PPM 2016-2020 and corresponding Operational Plan 2017-2020 published by the NTP, icddr,b established 3 additional TB screening centres (2 in Dhaka and 1 in Chattogram) in 2017 with funding support of GFATM via NTP and TB REACH Wave 5 initiative. Each site is equipped with state-of-the-art digital X-ray and Xpert MTB/RIF systems. The SEM helped to increase early TB case

detection and strengthen TB management in the private sector of Bangladesh by engaging graduate private practitioners (PPs), pharmacists, deploying 360 degree communication materials including newspaper advertisements, orientation programs, community outreach campaigns and contact tracing to identify patients. icddr,b has established a network of around 10,000 PPs (Pulmonologist, Internist, General Physicians and other specialists), and more than 400 pharmacies across the two cities in 2017. Under icddr, b SEM, a total of 26,732 presumptive TB cases were tested, and 4419 TB cases including 89 Rifampicin Resistant (RR) cases were detected in 2017. All Rifampicin Resistant (RR) patients were referred to the National Institute of Diseases of the Chest and Hospital (NIDCH) in Dhaka and to Chest Disease Hospital, Foujderhaat in Chattogram for further confirmatory testing, clinical evaluation and second-line treatment initiation. The SEM established 5 DOTS centers in 2017 and initiated treatment for 950 patients and enrolled 76 children for Isoniazid Preventive Therapy. As a part of free service provided by the SEM to the patients visiting the screening centres, icddr, b identified 317 cases with raised blood sugar who were counseled for further diagnostic tests to confirm diabetes.

10.6 IOM

International Organization for Migration (IOM)
The UN Migration Agency

IOM Bangladesh, Migration Health Division

In South and South-East Asia many people move in search of better living conditions, short or long-term work opportunities, while others may be displaced due to recurring natural or man-made disasters, including the increasing impact of environmental degradation and climate change. IOM estimates that approximately 43% of Asian migrants move within the region[1]. International migration and cross-border mobility is expected to increase with the increasing integration of national economies, particularly with the establishment of the ASEAN Community in the coming years. Through different projects since 1998, IOM Bangladesh has been supporting the Government in enhancing its capacity on migration management, counter-trafficking, border management, reintegration of returnee migrants, disaster relief and migration health in the country, in close collaboration with different Ministries, government departments, UN agencies, local NGOs and relevant stakeholders.

International Organization for Migration (IOM), Migration Health Division (MHD) delivers and promotes comprehensive, preventive and curative health programmes, which are beneficial, accessible, and equitable for migrants and mobile populations. Bridging the needs of both migrants and IOM's member states, MHD, in close collaboration with partners, contributes towards the physical, mental and social well-being of migrants, enabling them and host communities to achieve social and economic development.

In Bangladesh, IOM's Migration Health Division (MHD) has been providing prospective migrants with health assessment services since 2005. It has two Migration Health Assessment center (MHAC) located in Dhaka and Sylhet which conducts Migration Health Assessments for prospective Bangladeshi migrants travelling to United Kingdom (UK), United States of America (USA), Australia, Canada and New Zealand.

In 2017, 36 TB cases were diagnosed at IOM MHACs (Dhaka and Sylhet). Among them 17 received treatment at IOM DOTS center in Dhaka and 8 received treatment at Sylhet. Out of 36 diagnosed 3 were smear positive and 33 were smear negative culture positive TB cases. The treatment success rate was 100%. The cumulative TB cases diagnosed in last 5 years is 139 from 2013 to 2017.

10.7 National Anti-Tuberculosis Association of Bangladesh (NATAB)

National Anti-Tuberculosis Association of Bangladesh (NATAB) was established in 1948 in Sylhet as an extension of the Assam Bengal TB Association of the then British India. NATAB is the constituent member of The Union (International Union against TB and Lung Disease). In the year 2004 NATAB signed the memorandum of understanding with the Ministry of Health and Family Welfare and BRAC. Since then NATAB became a partner of the National TB Control Program funded by GFATM.

Through Advocacy, Communication and Social Mobilization (ACSM), NATAB creates positive behavior change, influences decision makers, engages and empower communities to fight with the vision to make Bangladesh free from TB and other Lung and Chest Diseases.

NATAB mission is to establish environment for people to access TB Services which is effective, of good quality and free of cost. Ensure accountability of the service provider through policy advocacy, community participation and mass campaign.

10.8 PIME Sisters

Dhanjuri Leprosy and TB Control Project, Khulna Branch of PIME Sisters is involved in the Leprosy and TB National Elimination Programmes. This project started to work in TB Programme in Khulna since 2001 and performing activities of surveys, information and health education in Khulna Metropolitan Area for the prevention and care of both Leprosy and TB.

The organization provides TB control services through 15 DOTS centers and a central laboratory located in our 33 beds hospital. In the hospital it admit patients in need of treatment follow up or special care. The more serious cases are referred to Khulna Chest Disease Hospital.

10.9 Rangpur Dinajpur Rural Services (RDRS)

আরডিআরএস বাংলাদেশ
RDRS Bangladesh

RDRS established in 1972 to assist with relief and rehabilitation of greater Rangpur-Dinajpur region immediately following the War of Independence of Bangladesh in 1971. In 1980 RDRS started it's Tuberculosis Control Programme, initially at 3 upazillas and gradually expanded to all upazilla of Lalmonirhat and Kurigram districts. Since December 1996, RDRS as a collaborating partner of NTP took responsibilities of TB patients in Lalmonirhat & Kurigram districts through 22 DOT centers, 22 microscopy centers and one EQA lab. Out of 22 DOT centers, 14 DOT centers (including microscopy center) are situated within the Upazila Health Complex and rests of them are at RDRS operated clinics. 6 microscopy centers out of 8 additional microscopy centers are situated at remote char (Sandbar Island) areas of Kurigram district and 2 additional microscopy centers is situated at remote area of Lalmonirhat district. One EQA lab is situated in the RDRS Bangladesh, Lalmonirhat office to ensure quality laboratory services for both the Lalmonirhat and Kurigram district.

RDRS Bangladesh has been implementing TB control program in the area of Char and Islands since inception of TB Program by the organization. There are more than 21 big or small rivers with 117 Char and Island in the Kurigram and Lalmonirhat district. About one million people living in char areas and 70% are poor. Boat is the main way of communication from one char to another. RDRS Bangladesh provides organizational support for field visit, patients follow-up and outreach smearing centre during rainy season. Such support is not adequate, where special attentions and additional resources is essential to ensure quality TB Control Program in Char areas.

Quarterly Staff Meeting

Village Doctors Orientation on TB

10.10 Salvation Army

The Salvation Army Mirpur TB Control Unit operate under the leadership of the National Leprosy Elimination Program which functions through the LTCC. The NTBEP (National TB Elimination Program) has allocated Mirpur –11 under Dhaka North Zone to The Salvation Army Bangladesh for operating TB Control Program. National TB Control Programme (NTP) is providing TB drugs, IEC (Information, Education, and Communication) materials, all laboratory reagents along with sputum containers and microscope. NTP also provide staff training when needed. TSA-B decided to utilize the power of women in the community in order to halt the spread of TB. The project has already established 10 women peer groups and 13 DOTS providers in the community. It was assumed that women would be able to break the stigma of TB and also would persuade people to continue the course of their medication.

10.11 Challenge TB Bangladesh (CTB) Project

Challenge TB Bangladesh is part of a 5 year cooperative agreement funded by USAID. It supports the National TB Program of Bangladesh to achieve the goals of its National Strategic Plan for TB. Management Sciences for Health (MSH) is the lead implementing agency while KNCV & Interactive Research and Development (IRD) are the two partners of the project.

CTB, work with NTP and local partners worked for key priority areas for 2017 under three main objectives:

- Objective 1: Improved access to quality patient-centered care for TB, TB/HIV, and MDR-TB services (quality of care
- Objective 2: Prevention of transmission and disease progression (case finding-all kinds)
- Objective 3: Strengthen TB platform- (leadership, Financing-M&E, Research)

In 2017, CTB implemented its activities in Dhaka and Sylhet division directly and through five sub-awardees: BRAC, Diabetic Association of Bangladesh (BADAS), Damien Foundation, HEED Bangladesh and Nari Maitree.

CTB also has four contracts with icddr, b to implement Social Enterprise Model (SEM); set up mandatory notification system for TB; TB intervention at prison setting, and conduct an operations research on use of stool samples to diagnose pediatric TB.

The array of interventions which the project covers include: upgrading TB laboratory network, strengthening Public Private Mix for TB control, ACSM and PMDT, addressing co-morbid conditions such as TB-HIV, TB-Diabetes and introducing mHealth in TB program and Improving M&E and surveillance. In addition to that, CTB started implementing active case finding approaches of childhood TB at Dhaka and Sylhet districts.

In 2017, Challenge TB incorporated active child TB screening in pediatric OPDs of six selected tertiary health facilities (five in Dhaka and one in Sylhet) to increase the detection of childhood TB. Of these, four are tertiary medical college hospitals and the remaining two are specialized pediatric hospitals. CTB developed an electronic tool for screening childhood TB and orient field staff on this tool. In this reporting year CTB identified total 404 childhood TB cases.

CTB provided support to NTP for maintenance of 39 USAID procured GeneXpert machines and the EQA mechanism . CTB supported NTP to install GxAlert system in GeneXpert machines to develop the real time monitoring system of the machines, improve the inventory management, strengthen the maintenance system, and improve the utilization of the machine. CTB worked closely with the NTP and the civil society to set up the Biosafety Level 3 (BSL3) lab at Sylhet and to make this functional.

CTB Bangladesh supported NTP to enroll DR TB patients under shorter treatment regimen (STR); the first patient was enrolled under STR on April 1, 2017 at the National Institute of Diseases of the Chest and Hospital (NIDCH). CTB collaborated with NTP to develop Standard Operating Procedures (SOPs) and training materials on STR, revised and printed DR TB recording formats and distributed throughout the country. CTB supported NTP to train 1,107 (Male- 892; Female-215) health staff of NIDCH and other treatment initiation centers.

CTB supported NTP to digitalize the TB reporting system to incorporate indicators into DHIS2, including three TB reporting formats (case finding, treatment results and sputum conversion). CTB provided support to NTP for nationwide training on DHIS2 reporting for TB to all Upazilla Health Complexes (UHC) statisticians and other relevant government/NGO officials in rural and urban reporting centers. All 873 TB reporting centers are now connected with DHIS2. In June 2017, the NTP first received UHC's compiled TB reports through DHIS2.

CTB under the leadership of NTP organized the Conference on Urban TB Initiative in Bangladesh on May, 2017 with major stakeholders from Government organizations. The objectives of the conference were to exchange evidence based experiences on urban health approaches for tuberculosis prevention and care; Identify lessons learned, successes and failures implementing urban health approaches for TB.

CTB also organized the Zero TB Cities Initiative (ZTBCI) launching event on October 28, 2017. The Government has provided strong political commitment to end TB by signing the declaration with a call for action "uniting to make our cities TB free.

10.12 IRD Bangladesh

Interactive Research and Development, Bangladesh (IRD Bangladesh) is spearheading the development of patient-centered health infrastructure. With significant investment in innovative technology and processes – IRD Bangladesh is paving the way for cutting edge health inventions. In Bangladesh, IRD is providing technical assistance to the National TB Control Program (NTP) since 2015 through following collaborative projects:

USAID funded Challenge TB Project: MSH, IRD and KNCV in partnership with the NTP are implementing USAID's TB strategy under the Challenge TB flagship program in Bangladesh. Under this program, MSH and IRD are jointly providing technical assistance to strengthen the National TB Program to reduce morbidity, mortality and transmission of TB in urban settings. The accomplishments of the Challenge TB Project are reported separately.

end TB Project: endTB (Expand New Drug Markets for TB) is a global initiative funded by UNITAID and being implemented by IRD Global in partnership with Partners In Health (PIH) and Médecins Sans Frontières (MSF) in 16 countries including Bangladesh. Under this global initiative, IRD Bangladesh is supporting the NTP in the implementation of the Drug-resistant TB Treatment since April 2016 with an aim to improve access to and uptake of effective new anti-TB drugs - i.e. Bedaquiline (BDQ) and Delamanid (DLM) regimens. The project leverages in-country expertise and collaborates closely with the NTP to initiate and monitor treatment of 252 MDR-TB patients using new drugs under the existing programmatic condition in Bangladesh. The NTP continues supporting patients those who are enrolled for new drug regimens with essential second line drugs, some ancillary drugs and routine laboratory tests within the PMDT framework. The MDR-TB patients at NTP treatment

sites are screened for the eligibility and treatment with the new anti-TB drugs. Each patient enrolled under new drug treatment is being monitored closely for potential adverse events and treatment response. As of 2017, two hundred and three (203) MDR-TB patients are enrolled under the new anti-TB drugs regimen.

Enrolled patient follow-up by Doctor and Nurse at NIDCH MDR-TB wardOrientation of Cured TB Patients

IRD field worker visiting patient at home for treatment follow-up and ensuring DOTS

TB REACH Child TB Project: IRD Bangladesh has recently received a TB REACH Wave 6 grant from the STOP TB Partnership to increase childhood TB detection and promoting preventive treatment among household contacts in one district of Bangladesh. The project will be implemented from September 2018 to September 2019 at selected public and private health facilities under the oversight of the NTP to increase child TB case notification in Mymensingh District.

10. 13 The Leprosy Mission International-Bangladesh

The Leprosy Mission International Bangladesh
dignity.inclusion.rigts

The Leprosy Mission International (TLMI) is an international Christian services organization founded in 1874. TLM was registered as a non-governmental organization in Bangladesh in May 1991. TLMI is mainly working for the people affected by leprosy, ranging from health and development to advocacy and community empowering and it started TB control in 1994 and at 10 upazilas of Panchagarh and Thakurgaon districts covering 25,51,245 population.

TB Control Project under the DBLM Hospital Program of TLMI-B implements the TB control project in the northern area of Bangladesh. A total number of 54 staffs for TB Control activities were recruited following the recruitment policy of GFATM and with Principal Recipient, BRAC for its currently implementing "TB Care and Prevention in Bangladesh" for achieving the targets as stated by NTP.

TLMI-TB control project has decentralized the sputum collection centres at the union levels including Community Clinics and enhanced partnership with government health and related departments in Thakurgaon and Panchagarh to promote awareness on TB and DOTS provision through village doctors, NGO workers, cured TB patients, private practitioners, Shasthya Sebeka's, local elite and government health and family planning staffs.

Recognized 18 DOTS and microscopy centres in two districts are continuing the sputum microscopy examination to diagnose the new smear positive cases at the early stage. And an EQA laboratory based at TLMI-B TB Control Project Office at Salandar, Thakurgaon continues its support for quality control of the microscopy activities in this area.

Orientation of NGPP on TB

Field staff is providing TB drugs (DOTS) to TB Patient

10. 14 The World Health Organization (WHO)

World Health Organization
Bangladesh

WHO collaborative activities for TB control programme in 2017

WHO is providing support to increase efforts for detection of TB cases; diagnostics and laboratory strengthening; maintain high cure rates; improve the quality of the TB control services and strengthen major critical components of the service delivery system; address the issue of drug resistance; setting up norms and standards; assisting to take evidence based policy decisions; mobilizing partnerships for TB control and supporting research, monitoring and development.

Major activities performed in 2017 with the technical support of WHO are as follows.

1. Proposal development for Global Fund proposal (2018-2020)

WHO provided technical assistance for development of GF proposal which included an epidemiological analysis and an extensive consultation with NTP, national experts and key stakeholders. The targets and activities are set in accord with the national strategic plan for TB control (2018-2022), the report on the Joint Monitoring Mission (2016) and preliminary findings of the TB prevalence survey (2015-2016).

2. TB Prevalence Survey

The TB prevalence survey was successfully concluded in March, 2017 and the report was endorsed by Ministry of Health and Family Welfare of Bangladesh Government on September 2017. WHO supported the Government of Bangladesh to carry out the TB prevalence survey. The survey's results highlighted prevalence, distribution patterns of TB in general population and challenges in addressing this public health priority disease. Among other, the data showed that 95 percent of bacteriologically confirmed pulmonary TB cases were detected by GeneXpert advanced molecular technique and the overall incidence was 287 per 100,000 population aged 15 years and above. From the confirmed TB cases 72.3 percent were male, and 27.7 percent were female, with higher prevalence in rural areas.

Additionally, the result showed the significant gap between the prevalent cases and notification which has a ratio of 2.8:1. One of the key findings is that more than 50% of the survey cases were smear-negative which indicates a need to expand rapid and advanced diagnostic services. NTP's plan for expansion of the diagnostics network together with the implementation of the revised diagnostics algorithm will address this issue and further support strengthening of active screening of a significant number of asymptomatic TB patients and improve quality of early diagnosis and treatment.

3. Second Drug Resistance Survey (DRS)

WHO provided technical assistance in development of protocol for the second TB drug resistance survey. This is a follow-on survey of the first survey in 2010. This survey will determine the level of anti-TB drug resistance among TB patients in Bangladesh. The duration of survey is 19 months and a study population consists of all ages who satisfy the case definition. A total of 2,083 samples from the new smear positive cases will be collected from 52 upazila health complexes. The survey is scheduled to begin in February 2018.

The national TB reference laboratory under national institute of diseases of chest and hospital (NIDCH) will implement activities in coordination with NTP and WHO. The Instituut voor Tropische Geneeskunde (Institute of Tropical Medicine) Antwerp, Belgium is a supranational laboratory which will provide technical assistance for quality assurance mechanism of laboratory. The survey will focus on quality assurance of the testing of the first and second line drugs, sequencing of isolates for rpoB discordance, NTM identification and prevalence of fluroquinolone resistance.

WHO will monitor quality of work and provide regular feedback to the principle investigator and key partners for further improvement of the survey.

Strategy documents

WHO provided technical assistance in updating and disseminating of the following strategy documents and printing of these documents.

a. National Strategic Plan for TB control (2018-2020)

WHO provided technical assistance in revision of the national strategic plan of 2015- 2020 to develop a strategic guidance for preparation of the funding proposal for Global Fund and to be consistent with the fourth five-year plan of health, nutrition and population sector plan (HNPSP) of the Ministry of Health and Family Welfare (MOHFW). This revised strategy is fully aligned with the End TB strategy and its activities are set to achieve the End TB's milestone and targets of reduction in tuberculosis deaths and incidence rate. Additionally, the revised diagnostics algorithm which promotes the use of advanced laboratory network has been incorporated.

b. National Guidelines on Public Private Mix (PPM) of Tuberculosis Control

WHO provided technical assistance for review of the first edition of the second National Guidelines on Public Private Mix (PPM) of Tuberculosis Control. This effort led to the development of the second edition which provides strategic and operational guidance on different implementation models to strengthen public private partnership for TB control. Principally, it is fully aligned with the current five-year national strategic plan and the WHO End TB strategy. This guideline serves as a reference document for health care providers from both public and private sectors at different levels.

c. National Guidelines on Sputum Transportation

In collaboration with NTP, WHO revised the standard operating procedure (SOP) for sputum transportation. It streamlines the process of transporting sputum from community to the different laboratories to undergo GeneXpert, culture and line probe assay. As the network of GeneXpert is being expanded to districts and some upazila levels, the SOP will be a constructive guidance for health care workers at different levels.

Programmatic Management of Drug Resistant TB (PMDT) Mission

Through the regional green light committee (rGLC), WHO supported the PMDT mission from16-20 July 2017. The mission reviewed the draft SoPs for shorter regimen for MDR-TB, existing PMDT guidelines on shorter regimen, implementation of PMDT and country preparedness for expansion of shorter regimen. The mission noted the progress such as scaling up of GeneXpert and LPA for RR/MDR TB diagnosis, increasing number of treated RR/MDR patients, scaling up of shorter regimen and introduction of newer drugs. Additionally, the mission recommended undertaking a workload assessment of GeneXpert, updating the PMDT guideline, scaling up of second DST and setting up active TB drug-safety monitoring and management (aDSM).

Other activities

WHO provided support for printing of the report of the seventh joint monitoring mission which reviewed the progress of NTP in 2016. The key recommendations have been incorporated in the revised national strategic plan (2018-2022). WHO also supported reproduction of ten different recording and reporting forms of NTP for further strengthening of data collection and data management system.

Additionally, WHO supported senior government officials and NTP staff to attend to the different technical and advocacy meetings such as third annual End TB strategy summit, 12th global meeting on public-private mix and ministerial meetings.

WHO technical staff conducted field visits to observe the progress on Childhood TB, registration of TB data using e-TB Manager and utilization of Gene X pert testing etc. and provided on-site technical support to ensure quality of services in different areas of TB control programme.

Moreover, the TB technical expert from WHO regional office in South East Asia Region visited Cox's Bazar and assessed the situation in October 2017 after the mass population influx. Together with the expert form the national TB program (NTP), the WHO expert made a quick assessment of laboratories and case management services for TB. The team observed the extensive efforts of NTP and NGO partners on expanding laboratory services, volunteers network and referral system. The team recommended additional services on symptom screening, diagnostics facilities (GeneXpert, digital X-ray), refresher training for health staff and coordination.

District-wise case notification rate, 2017

Annex 1

SL.	District	Upazila							Metro							CDC							Total							Grand Total	P. Population	New PBC CNR as per 1,00,000 pop.	All Forms CNR as per 1,00,000 pop.
		Pulmonary Bacteriologically Confirmed		Pulmonary Clinically Diagnosed		Extra-Pulmonary		All Retreatment	Pulmonary Bacteriologically Confirmed		Pulmonary Clinically Diagnosed		Extra-Pulmonary		All Retreatment	Pulmonary Bacteriologically Confirmed		Pulmonary Clinically Diagnosed		Extra-Pulmonary		All Retreatment	Pulmonary Bacteriologically Confirmed		Pulmonary Clinically Diagnosed		Extra-Pulmonary		All Retreatment				
		New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses		New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses		New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses		New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses					
1	Barguna	1076	27	269	74	147	9	4															1076	27	269	74	147	9	4	1606	956,148	112.53	167.55
2	Barishal	2404	23	834	126	407	19	9	216	1	122	6	144	8	4	23	2	19	6	23	1	1	2643	26	975	138	574	28	14	4398	2,395,968	110.31	182.97
3	Bhola	2125	19	903	43	255	9	9								5	0	5	0	4	0	0	2130	19	908	43	259	9	9	3377	1,893,471	112.49	177.87
4	Jhalakati	870	2	176	14	156	3	2															870	2	176	14	156	3	2	1223	702,711	123.81	173.76
5	Patuakhali	1834	44	659	165	273	4	4								6	0	14	0	9	2	0	1840	44	673	165	282	6	4	3014	1,643,848	111.93	183.11
6	Pirojpur	1348	18	297	41	219	10	5								0	0	0	0	0	0	0	1348	18	297	41	219	10	5	1938	1,158,604	116.35	166.84
	Barishal Div	**9657**	**133**	**3138**	**463**	**1457**	**54**	**33**	**216**	**1**	**122**	**6**	**144**	**8**	**4**	**34**	**2**	**38**	**6**	**36**	**3**	**1**	**9907**	**136**	**3298**	**475**	**1637**	**65**	**38**	**15556**	**8,746,276**	**113.27**	**177.42**
7	Bandarban	440	6	73	8	43	2	3															440	6	73	8	43	2	3	575	473,449	92.93	120.82
8	Brahmanbaria	3418	77	751	55	527	23	17								6	0	0	0	3	0	0	3424	77	751	55	530	23	17	4877	3,266,413	104.82	148.79
9	Chandpur	2639	57	825	48	480	9	8								8	0	12	0	8	0	0	2647	57	837	48	488	9	8	4094	2,607,548	101.51	156.70
10	Chattogram	5897	99	842	147	1214	56	14	3009	207	1202	170	2484	94	73	8	0	1	1	5	0	0	8914	306	2045	318	3703	150	87	15523	8,606,804	103.57	179.35
11	Cumilla	4810	86	2101	88	1495	36	24								0	0	0	0	0	0	0	4810	86	2101	88	1495	36	24	8640	6,159,744	78.09	139.88
12	Coxs Bazar	2836	33	811	135	483	23	12								31	3	13	0	35	0	4	2867	36	824	135	518	23	16	4419	2,775,590	103.29	158.63
13	Feni	1500	25	370	39	337	17									1	0	1	0	6	0	0	1501	25	371	39	343	17	0	2296	1,633,112	91.91	140.59
14	Khagrachari	965	6	219	11	33	0	1															965	6	219	11	33	0	1	1235	700,821	137.70	176.08
15	Lakshmipur	1949	37	507	105	314	12	1															1949	37	507	105	314	12	1	2925	1,964,705	99.20	148.83
16	Noakhali	3156	52	901	100	482	8	4								0	0	0	0	0	0	0	3156	52	901	100	482	8	4	4703	3,613,400	87.34	130.04
17	Rangamati	723	13	125	7	48	2	1								1	0	1	0	3	0	0	724	13	126	7	51	2	1	924	681,887	106.18	135.36
	Chattogram Div	**28333**	**491**	**7525**	**743**	**5456**	**188**	**85**	**3009**	**207**	**1202**	**170**	**2484**	**94**	**73**	**55**	**3**	**28**	**1**	**60**	**0**	**4**	**31397**	**701**	**8755**	**914**	**8000**	**282**	**162**	**50211**	**32,590,286**	**96.34**	**153.57**
18	Dhaka	3346	105	859	51	1330	90	37	8345	721	3278	216	8241	374	118	36	1	4	0	16	0	0	11727	827	4141	267	9587	464	155	27168	15,423,874	76.03	175.14
19	Faridpur	473	28	196	6	356	9	21								7	1	4	0	5	0	2	480	29	200	6	361	9	23	1108	2,091,496	22.95	51.88
20	Gazipur	3794	125	1040	118	1709	71	12															3794	125	1040	118	1709	71	12	6869	4,850,183	78.22	141.38
21	Gopalganj	321	17	186	10	219	7	20								10	0	11	0	15	1	2	331	17	197	10	234	8	22	819	1,222,713	27.07	65.18
22	Jamalpur	1158	49	299	17	495	26	84								72	2	14	2	95	4	14	1230	51	313	19	590	30	98	2331	2,506,580	49.07	89.09
23	Kishoreganj	2112	115	722	79	881	54	145								84	6	25	3	76	3	10	2196	121	747	82	957	57	155	4315	3,243,119	67.71	128.27
24	Madaripur	384	17	125	6	219	1	23								17	0	6	0	23	0	2	401	17	131	6	242	1	25	823	1,224,626	32.74	65.16
25	Manikganj	1916	29	1395	25	352	11	1															1916	29	1395	25	352	11	1	3729	1,518,463	126.18	245.51
26	Munshiganj	1778	28	645	60	489	16	3								0	0	0	0	0	0	0	1778	28	645	60	489	16	3	3019	1,604,956	110.78	187.92
27	Mymensingh	4087	312	1024	166	1574	64	147								58	2	6	1	36	2	0	4145	314	1030	167	1610	66	147	7479	5,737,292	72.25	127.80
28	Narayanganj	3422	93	1375	146	1535	86	6															3422	93	1375	146	1535	86	6	6663	3,691,397	92.70	180.34
29	Narsinghdi	2788	45	1526	132	582	22	2															2788	45	1526	132	582	22	2	5097	2,546,607	109.48	200.07
30	Netrakona	1558	82	362	60	545	19	98															1558	82	362	60	545	19	98	2724	2,479,745	62.83	105.90
31	Rajbari	242	15	81	10	168	8	21															242	15	81	10	168	8	21	545	1,156,659	20.92	45.30
32	Shariatpur	462	21	217	5	251	6	29															462	21	217	5	251	6	29	991	1,249,247	36.98	77.01
33	Sherpur	1488	46	667	166	411	13	5															1488	46	667	166	411	13	5	2796	1,463,503	101.67	190.71
34	Tangail	1718	104	455	40	804	28	110								96	1	27	0	67	1	7	1814	105	482	40	871	29	117	3458	3,957,103	45.84	84.43
	Dhaka Div	**31047**	**1231**	**11174**	**1097**	**11920**	**531**	**764**	**8345**	**721**	**3278**	**216**	**8241**	**374**	**118**	**380**	**13**	**97**	**6**	**333**	**11**	**37**	**39772**	**1965**	**14549**	**1319**	**20494**	**916**	**919**	**79934**	**55,376,976**	**71.82**	**142.69**

District-wise case notification rate, 2017

Annex 1
Contd.

SL.	District	Upazila							Metro							CDC							Total							Grand Total	P. Population	New PBC CNR as per 1,00,000 pop.	All Forms CNR as per 1,00,000 pop.
		Pulmonary Bacteriologically Confirmed		Pulmonary Clinically Diagnosed		Extra-Pulmonary		All Retreatment	Pulmonary Bacteriologically Confirmed		Pulmonary Clinically Diagnosed		Extra-Pulmonary		All Retreatment	Pulmonary Bacteriologically Confirmed		Pulmonary Clinically Diagnosed		Extra-Pulmonary		All Retreatment	Pulmonary Bacteriologically Confirmed		Pulmonary Clinically Diagnosed		Extra-Pulmonary		All Retreatment				
		New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses		New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses		New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses		New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses	New/ Treatment History Unknown	Relapses					
35	Bagerhat	2364	14	558	32	223	5	8								7	0	1	0	5	0	0	2371	14	559	32	228	5	8	3217	1,491,357	158.98	215.17
36	Chuadanga	1510	79	239	25	221	13	5								20	2	5	0	27	2	1	1530	81	244	25	248	15	6	2149	1,257,251	121.69	170.45
37	Jashore	3610	36	573	37	386	11	17								46	2	16	0	44	1	2	3656	38	589	37	430	12	19	4781	3,074,471	118.91	154.89
38	Jhenaidah	2371	18	737	94	273	15	2															2371	18	737	94	273	15	2	3510	1,971,830	120.24	177.91
39	Khulna	1917	12	883	37	220	3	9	515	23	206	6	396	8	8	6	0	1	0	3	0	0	2438	35	1090	43	619	11	17	4253	2,371,834	102.79	178.60
40	Kushtia	3003	21	650	28	377	12	5								38	2	11	1	34	1	2	3041	23	661	29	411	13	7	4185	2,163,022	140.59	193.16
41	Magura	1488	11	166	5	97	3									69	1	12	0	23	1	5	1557	12	178	5	120	4	5	1881	1,018,111	152.93	184.26
42	Meherpur	855	5	237	2	122	1									1	0	2	0	11	0	0	856	5	239	2	133	1	0	1236	724,332	118.18	170.64
43	Narail	1032	8	242	9	118	8	14															1032	8	242	9	118	8	14	1431	764,971	134.91	185.24
44	Satkhira	2555	12	630	65	255	5	3								16	2	9	0	7	0	0	2571	14	639	65	262	5	3	3559	2,141,822	120.04	166.03
Khulna Div		**20705**	**216**	**4915**	**334**	**2292**	**76**	**63**	**515**	**23**	**206**	**6**	**396**	**8**	**8**	**203**	**9**	**57**	**1**	**154**	**5**	**10**	**21423**	**248**	**5178**	**341**	**2842**	**89**	**81**	**30202**	**16,947,761**	**126.41**	**177.73**
45	Bogura	4024	46	549	3	1058	35	45								3	0	1	0	1	0	0	4027	46	550	3	1059	35	45	5765	3,803,521	105.88	150.39
46	Jaipurhat	994	6	449	6	259	7	3															994	6	449	6	259	7	3	1724	994,188	99.98	173.11
47	Naogaon	1161	42	356	15	552	14	54															1161	42	356	15	552	14	54	2194	2,839,869	40.88	75.36
48	Natore	879	17	142	7	365	15	9								44	1	8	0	70	2	3	923	18	150	7	435	17	12	1562	1,900,479	48.57	81.56
49	Nawabganj	463	20	154	17	327	8	22								66	1	43	1	61	2	6	529	21	197	18	388	10	28	1191	1,868,947	28.30	62.23
50	Pabna	1482	55	591	14	743	21	13								75	4	26	0	89	5	0	1557	59	617	14	832	26	13	3118	2,866,697	54.31	108.31
51	Rajshahi	581	22	127	11	480	12	29	363	22	59	4	318	7	10	30	1	14	1	55	3	0	974	45	200	16	853	22	39	2149	2,909,951	33.47	72.51
52	Sirajganj	2548	44	458	8	580	9	16								106	14	25	1	93	7	1	2654	58	483	9	673	16	17	3910	3,498,849	75.85	111.27
Rajshahi Div		**12132**	**252**	**2826**	**81**	**4364**	**121**	**191**	**363**	**22**	**59**	**4**	**318**	**7**	**10**	**324**	**21**	**117**	**3**	**369**	**19**	**10**	**12819**	**295**	**3002**	**88**	**5051**	**147**	**211**	**21613**	**20,673,626**	**62.01**	**103.52**
53	Dinajpur	2897	43	1379	72	753	17	7								5	0	2	0	5	0	0	2902	43	1381	72	758	17	7	5180	3,345,791	86.74	154.61
54	Gaibandha	2315	51	594	32	515	17	17								13	5	1	0	17	1	0	2328	56	595	32	532	18	17	3578	2,633,987	88.38	135.19
55	Kurigram	1652	9	1019	4	402	3	18								37	1	9	0	21	0	0	1689	10	1028	4	423	3	18	3175	2,343,676	72.07	134.70
56	Lalmonirhat	1179	10	567	1	254	7	10															1179	10	567	1	254	7	10	2028	1,405,219	83.90	143.61
57	Nilphamari	1583	19	833	47	395	11	5								0	0	0	0	0	0	0	1583	19	833	47	395	11	5	2893	2,090,894	75.71	138.12
58	Panchagarh	750	9	325	2	155	1	5															750	9	325	2	155	1	5	1247	1,132,928	66.20	109.63
59	Rangpur	2443	31	1544	20	796	13	7								17	10	7	1	4	1	0	2460	41	1551	21	800	14	7	4894	3,227,766	76.21	151.41
60	Thakurgaon	1183	32	525	13	235	1	13								47	2	21	0	24	0	7	1230	34	546	13	259	1	20	2103	1,565,740	78.56	133.04
Rangpur Div		**14002**	**204**	**6786**	**191**	**3505**	**70**	**82**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**119**	**18**	**40**	**1**	**71**	**2**	**7**	**14121**	**222**	**6826**	**192**	**3576**	**72**	**89**	**25098**	**17,743,695**	**79.58**	**140.95**
61	Habiganj	2737	167	1137	128	584	18	5															2737	167	1137	128	584	18	5	4776	2,407,087	113.71	198.21
62	Moulvibazar	2307	90	1531	142	581	25	12								2	0	5	0	7	0	0	2309	90	1536	142	588	25	12	4702	2,212,380	104.37	211.99
63	Sunamganj	2834	87	1300	256	562	22	24								5	0	2	0	6	0	0	2839	87	1302	256	568	22	24	5098	2,894,984	98.07	175.27
64	Sylhet	2616	126	1365	69	1021	29	13	794	25	498	11	357	21	8	21	0	10	0	27	0	0	3431	151	1873	80	1405	50	21	7011	4,257,847	80.58	164.17
Sylhet Div		**10494**	**470**	**5333**	**595**	**2748**	**94**	**54**	**794**	**25**	**498**	**11**	**357**	**21**	**8**	**28**	**0**	**17**	**0**	**40**	**0**	**0**	**11316**	**495**	**5848**	**606**	**3145**	**115**	**62**	**21587**	**11,757,039**	**96.25**	**183.08**
Grand Total :		**126370**	**2997**	**41697**	**3504**	**31742**	**1134**	**1272**	**13242**	**999**	**5365**	**413**	**11940**	**512**	**221**	**1143**	**66**	**394**	**18**	**1063**	**40**	**69**	**140755**	**4062**	**47456**	**3935**	**44745**	**1686**	**1562**	**244201**	**163,331,638**	**86.18**	**148.56**

District-wise Treatment Results, new pulmonary bacteriologically confirmed cases registered in 2016

Annex - 2

SL.	District	Absolute numbers							Percentage					
		Res. Case	Succ. Treated	Died	Fail	Def.	T. Out	Not Eva.	Succ. Treated	Died	Fail	Def.	T. Out	Not Eva.
1	Barguna	**970**	912	31	2	17	2	6	94.02%	3.20%	0.21%	1.75%	0.21%	0.62%
2	Barishal	**2477**	2350	65	10	37	7	8	94.87%	2.62%	0.40%	1.49%	0.28%	0.32%
3	Bhola	**1927**	1827	55	7	16	18	4	94.81%	2.85%	0.36%	0.83%	0.93%	0.21%
4	Jhalakati	**764**	710	27	1	14	3	9	92.93%	3.53%	0.13%	1.83%	0.39%	1.18%
5	Patuakhali	**1647**	1503	57	6	72	6	3	91.26%	3.46%	0.36%	4.37%	0.36%	0.18%
6	Pirojpur	**1027**	936	38	5	18	15	15	91.14%	3.70%	0.49%	1.75%	1.46%	1.46%
	Barishal Div	**8812**	**8238**	**273**	**31**	**174**	**51**	**45**	**93.49%**	**3.10%**	**0.35%**	**1.97%**	**0.58%**	**0.51%**
7	Bandarban	**367**	363	3	1	0	0	0	98.91%	0.82%	0.27%	0.00%	0.00%	0.00%
8	Brahmanbaria	**2997**	2849	121	8	12	1	6	95.06%	4.04%	0.27%	0.40%	0.03%	0.20%
9	Chandpur	**2243**	2183	38	18	2	0	2	97.33%	1.69%	0.80%	0.09%	0.00%	0.09%
10	Chattogram	**7560**	7307	161	49	19	19	5	96.65%	2.13%	0.65%	0.25%	0.25%	0.07%
11	Cumilla	**4501**	4293	159	25	19	1	4	95.38%	3.53%	0.56%	0.42%	0.02%	0.09%
12	Coxs Bazar	**2088**	2009	58	16	1	1	3	96.22%	2.78%	0.77%	0.05%	0.05%	0.14%
13	Feni	**1348**	1313	33	2	0	0	0	97.40%	2.45%	0.15%	0.00%	0.00%	0.00%
14	Khagrachari	**869**	864	2	1	1	0	1	99.42%	0.23%	0.12%	0.12%	0.00%	0.12%
15	Lakshmipur	**1761**	1692	52	7	2	5	3	96.08%	2.95%	0.40%	0.11%	0.28%	0.17%
16	Noakhali	**2661**	2567	71	11	2	2	8	96.47%	2.67%	0.41%	0.08%	0.08%	0.30%
17	Rangamati	**638**	632	5	0	0	1	0	99.06%	0.78%	0.00%	0.00%	0.16%	0.00%
	Chattogram Div	**27033**	**26072**	**703**	**138**	**58**	**30**	**32**	**96.45%**	**2.60%**	**0.51%**	**0.21%**	**0.11%**	**0.12%**
18	Dhaka	**10308**	9719	246	124	113	80	26	94.29%	2.39%	1.20%	1.10%	0.78%	0.25%
19	Faridpur	**485**	438	17	15	15	0	0	90.31%	3.51%	3.09%	3.09%	0.00%	0.00%
20	Gazipur	**3404**	3269	75	22	21	12	5	96.03%	2.20%	0.65%	0.62%	0.35%	0.15%
21	Gopalganj	**327**	293	18	4	11	0	1	89.60%	5.50%	1.22%	3.36%	0.00%	0.31%
22	Jamalpur	**1304**	1156	61	33	43	11	0	88.65%	4.68%	2.53%	3.30%	0.84%	0.00%
23	Kishoreganj	**2103**	1932	71	50	24	25	1	91.87%	3.38%	2.38%	1.14%	1.19%	0.05%
24	Madaripur	**405**	371	21	8	5	0	0	91.60%	5.19%	1.98%	1.23%	0.00%	0.00%
25	Manikganj	**1670**	1611	48	8	0	0	3	96.47%	2.87%	0.48%	0.00%	0.00%	0.18%
26	Munshiganj	**1547**	1481	43	1	9	3	10	95.73%	2.78%	0.06%	0.58%	0.19%	0.65%
27	Mymensingh	**3676**	3449	97	61	31	37	1	93.82%	2.64%	1.66%	0.84%	1.01%	0.03%
28	Narayanganj	**2878**	2820	33	11	13	0	1	97.98%	1.15%	0.38%	0.45%	0.00%	0.03%
29	Narsinghdi	**2535**	2453	75	6	0	1	0	96.77%	2.96%	0.24%	0.00%	0.04%	0.00%
30	Netrakona	**1436**	1298	63	43	29	3	0	90.39%	4.39%	2.99%	2.02%	0.21%	0.00%
31	Rajbari	**246**	224	8	6	8	0	0	91.06%	3.25%	2.44%	3.25%	0.00%	0.00%
32	Shariatpur	**429**	397	13	11	8	0	0	92.54%	3.03%	2.56%	1.86%	0.00%	0.00%
33	Sherpur	**1215**	1153	53	4	1	1	3	94.90%	4.36%	0.33%	0.08%	0.08%	0.25%
34	Tangail	**1703**	1529	95	40	34	4	1	89.78%	5.58%	2.35%	2.00%	0.23%	0.06%
	Dhaka Div	**35671**	**33593**	**1037**	**447**	**365**	**177**	**52**	**94.17%**	**2.91%**	**1.25%**	**1.02%**	**0.50%**	**0.15%**

District-wise Treatment Results, new pulmonary bacteriologically confirmed cases registered in 2016

Annex - 2
Contd.

SL.	District	Absolute numbers							Percentage					
		Res. Case	Succ. Treated	Died	Fail	Def.	T. Out	Not Eva.	Succ. Treated	Died	Fail	Def.	T. Out	Not Eva.
35	Bagerhat	**1998**	1934	54	9	0	0	1	96.80%	2.70%	0.45%	0.00%	0.00%	0.05%
36	Chuadanga	**1465**	1415	39	5	5	0	1	96.59%	2.66%	0.34%	0.34%	0.00%	0.07%
37	Jashore	**2951**	2877	56	12	6	0	0	97.49%	1.90%	0.41%	0.20%	0.00%	0.00%
38	Jhenaidah	**2071**	2001	61	2	7	0	0	96.62%	2.95%	0.10%	0.34%	0.00%	0.00%
39	Khulna	**2298**	2237	53	5	3	0	0	97.35%	2.31%	0.22%	0.13%	0.00%	0.00%
40	Kushtia	**2785**	2712	63	3	6	0	1	97.38%	2.26%	0.11%	0.22%	0.00%	0.04%
41	Magura	**1160**	1130	26	3	1	0	0	97.41%	2.24%	0.26%	0.09%	0.00%	0.00%
42	Meherpur	**772**	763	8	1	0	0	0	98.83%	1.04%	0.13%	0.00%	0.00%	0.00%
43	Narail	**964**	922	26	5	8	0	3	95.64%	2.70%	0.52%	0.83%	0.00%	0.31%
44	Satkhira	**2156**	2083	46	6	11	0	10	96.61%	2.13%	0.28%	0.51%	0.00%	0.46%
	Khulna Div	**18620**	**18074**	**432**	**51**	**47**	**0**	**16**	**97.07%**	**2.32%**	**0.27%**	**0.25%**	**0.00%**	**0.09%**
45	Bogura	**3544**	3350	142	11	36	0	5	94.53%	4.01%	0.31%	1.02%	0.00%	0.14%
46	Jaipurhat	**952**	908	41	0	2	0	1	95.38%	4.31%	0.00%	0.21%	0.00%	0.11%
47	Naogaon	**996**	898	54	29	15	0	0	90.16%	5.42%	2.91%	1.51%	0.00%	0.00%
48	Natore	**806**	768	25	12	0	0	1	95.29%	3.10%	1.49%	0.00%	0.00%	0.12%
49	Nawabganj	**513**	472	18	11	12	0	0	92.01%	3.51%	2.14%	2.34%	0.00%	0.00%
50	Pabna	**1478**	1429	34	11	3	0	1	96.68%	2.30%	0.74%	0.20%	0.00%	0.07%
51	Rajshahi	**798**	712	37	18	19	11	1	89.22%	4.64%	2.26%	2.38%	1.38%	0.13%
52	Sirajganj	**2341**	2242	78	20	1	0	0	95.77%	3.33%	0.85%	0.04%	0.00%	0.00%
	Rajshahi Div	**11428**	**10779**	**429**	**112**	**88**	**11**	**9**	**94.32%**	**3.75%**	**0.98%**	**0.77%**	**0.10%**	**0.08%**
53	Dinajpur	**2756**	2646	97	4	4	2	3	96.01%	3.52%	0.15%	0.15%	0.07%	0.11%
54	Gaibandha	**1893**	1781	79	16	10	0	7	94.08%	4.17%	0.85%	0.53%	0.00%	0.37%
55	Kurigram	**1590**	1512	69	8	1	0	0	95.09%	4.34%	0.50%	0.06%	0.00%	0.00%
56	Lalmonirhat	**1083**	1054	19	10	0	0	0	97.32%	1.75%	0.92%	0.00%	0.00%	0.00%
57	Nilphamari	**1466**	1396	53	3	7	3	4	95.23%	3.62%	0.20%	0.48%	0.20%	0.27%
58	Panchagarh	**645**	615	18	5	5	0	2	95.35%	2.79%	0.78%	0.78%	0.00%	0.31%
59	Rangpur	**2436**	2310	100	3	16	4	3	94.83%	4.11%	0.12%	0.66%	0.16%	0.12%
60	Thakurgaon	**1040**	987	38	7	2	0	6	94.90%	3.65%	0.67%	0.19%	0.00%	0.58%
	Rangpur Div	**12909**	**12301**	**473**	**56**	**45**	**9**	**25**	**95.29%**	**3.66%**	**0.43%**	**0.35%**	**0.07%**	**0.19%**
61	Habiganj	**2454**	2366	66	12	4	0	6	96.41%	2.69%	0.49%	0.16%	0.00%	0.24%
62	Moulvibazar	**2325**	2217	89	9	3	1	6	95.35%	3.83%	0.39%	0.13%	0.04%	0.26%
63	Sunamganj	**2565**	2398	102	15	29	5	16	93.49%	3.98%	0.58%	1.13%	0.19%	0.62%
64	Sylhet	**2786**	2659	90	19	5	4	9	95.44%	3.23%	0.68%	0.18%	0.14%	0.32%
	Sylhet Div	**10130**	**9640**	**347**	**55**	**41**	**10**	**37**	**95.16%**	**3.43%**	**0.54%**	**0.40%**	**0.10%**	**0.37%**
	Grand Total :	**124603**	**118697**	**3694**	**890**	**818**	**288**	**216**	**95.26%**	**2.96%**	**0.71%**	**0.66%**	**0.23%**	**0.17%**

Lab report: Year 2017

Annex- 3

Quarter	Diagnosis Examinations (Case Finding)						Follow-up Examinations			
	Presumptive TB tested	AFB positive cases	Positivity Rate among presumptive	Smears tested	Positive smears		Smears tested	Positive smears		Positivity Rate
					(1+, 2+ & 3+)	Scanty		(1+, 2+ & 3+)	Scanty	
1st	519,931	32,298	6.21	1,031,718	51,299	11,663	106,066	1,215	2,563	3.56
2nd	470,064	33,819	7.19	932,026	53,537	12,299	106,247	1,407	2,891	4.05
3rd	498,620	37,168	7.45	989,974	58,374	14,258	112,788	1,245	2,928	3.70
4th	553,093	38,995	7.05	1,096,246	60,662	15,630	117,600	1,247	3,109	3.70
Total	**2,041,708**	**142,280**	**6.97**	**4,049,964**	**223,872**	**53,850**	**442,701**	**5,114**	**11,491**	**3.75**

List of EQA Centre: 2017

Annex- 4

Division	EQA ID	Location of EQA 1st Control Centre	Organization	Coverage (district)	# of MCs Coverage
Rajshahi	1	CDC Bogura	BRAC	Bogura	31
	2	CDC Dinajpur	BRAC	Jaipurhat	20
	6	LEPRA Sirajganj	LEPRA	Natore	28
				Pabna	8
				Sirajganj	15
	7	CDH/DF Rajshahi	DF	Naogaon	21
				Nawabganj	8
				Rajshahi	10
Rangpur	1	CDC Bogura	BRAC	Gaibandha	16
	2	CDC Dinajpur	BRAC	Dinajpur	7
	3	CDC Rangpur	BRAC	Nilphamari	11
				Rangpur	16
	4	TLMB Thakurgaon	TLMB	Panchagarh	16
				Thakurgaon	12
	5	RDRS Lalmonirhat	RDRS	Kurigram	7
				Lalmonirhat	19
Khulna	8	CDC Jashore	BRAC	Jashore	20
				Narail	7
	36	CDC Bagerhat	BRAC	Bagerhat	17
	9	CDC Khulna	BRAC	Khulna	25
	40	CDC Satkhira	BRAC	Satkhira	16
	10	CDC Magura	BRAC	Jhenaidah	12
				Magura	10
	11	CDC Meherpur	BRAC	Chuadanga	10
				Kushtia	13
				Meherpur	6
Barishal	12	CDC Barishal	BRAC	Barishal	25
	38	CDC Bhola	BRAC	Bhola	16
	13	CDC Patuakhali	BRAC	Barguna	10
				Patuakhali	16
	14	CDC Pirojpur	BRAC	Jhalakati	9
				Pirojpur	12
Sylhet	15	CDC Sylhet	BRAC	Sunamganj	15
				Sylhet (urban)	9
	16	HEED Kamlgonj/Moulvibazar	HEED	Sylhet (rural)	15
	17	CDC Moulvibazar	HEED	Habiganj	12
				Moulvibazar	12

List of EQA Centre: 2017

Annex- 4 Contd.

Division	EQA ID	Location of EQA 1st Control Centre	Organization	Coverage (district)	# of MCs Coverage
Dhaka	18	BRAC, Dakkinkhan	BRAC	Dhaka (Peri-urban)	20
				(Urban)	48
	19	KMSS Pallabi Extention	UPHCSDP	Dhaka-urban, UPHCSDP area	16
	20	CWFD Tejgaon	NHSDP	Dhaka-urban, NHSDP area	21
	21	TB Control & Training Institute	**GOB**	Dhaka-urban	9
	22	CDC Shyamoli	**GOB**	Dhaka-urban	
	23	CDC Munshiganj	BRAC	Munshiganj	11
				Narayanganj	16
	24	CDC Mymensingh	BRAC	Gazipur	17
				Manikganj	11
				Sherpur	10
				Mymensingh (urban)	12
	25	DF Mymensingh	DF	Mymensingh (rural)	15
				Kishoregarnj	20
	26	DF Faridpur	DF	Faridpur	12
				Gopalganj	8
				Madaripur	6
				Rajbari	5
				Shariatpur	7
	27	DF Tangail	DF	Jamalpur	15
				Tangail	20
	28	DF Netrakona	DF	Netrakona	12
	29	CDC Brahmanbaria	BRAC	Narsinghdi	12
Chattogram	29	CDC Brahmanbaria	BRAC	Brahmanbaria	16
	30	CDC Cumilla	BRAC	Cumilla	34
	31	CDC Cox's Bazar	BRAC	Cox's Bazar	28
	39	CS Office Bandarban	BRAC	Bandarban	25
	32	CDC Chandpur	BRAC	Chandpur	17
				Lakahmipur	12
	33	CDC Chattogram	BRAC	Chattogram-rural	34
				Chattogram-urban	27
	34	CDC Noakhali	BRAC	Feni	11
				Noakhali	20
	35	CDC Rangamati	BRAC	Rangamati	42
	37	CDC Khagrachari	BRAC	Khagrachari	28
Total					**1149**

Annex - 5
Contd.

TB diagnostic and treatment services affiliated to NTP in metropolitan cities

SL	Ward No.	Agency	Address	Service facility	Remark
Dhaka Metropolitan Area					
1	1 (North)	DAM	Sector No. 4, House No. 241, Jalal Uddin Ahmed Saroni Road, Jamtola,(New Rail Line) Uttara, Dhaka.	Microscopy & DOT	
2	2 (North)	CWFD	Surjer Hashi Clinic, House# 1, Road# 9, Block D, Section-12, Pallabi, Mobile: 01190-697342	Microscopy & DOT	
3	4 (North)	BRAC	House 328, Avenue 2, Block-A, Mirpur-13, Dhaka. Mobile: 01727-300752	Microscopy & DOT	
4	5 (North)	BRAC	House 1, Road 8, Block- A, Nannu Market, Mirpur 11, Dhaka. Mobile: 01731-956575	Microscopy & DOT	
5	6 (North)	KMSS	House No. 27, Extended Pallabi G, Sare Egaro Mirpur, Dhaka	Microscopy & DOT	
6	8 (North)	KMSS	House No. 32, Road No. 6 Mirpur-1, Dhaka	Microscopy & DOT	
7	9 (North)	Swanirvar Bangladesh	Surjer Hashi Clinic, City Corporation Building, Golartek (near Shahid Buddijibi Kabarsthan), Mirpur-1, Dhaka, Mobile: 01819-838988	Microscopy & DOT	
8	10 (North)	UTPS	Second Colony, Mazar Road, Horirampur Bazar(South Community Centre), Mirpur, Dhaka	DOT	
9	11 (North)	UTPS	House No. 490, Dakkhin Paikpara (Near New Bazar), Dhaka. Mobile: 01712-288752	Microscopy & DOT	
10	12 (North)	Swanirvar Bangladesh	Surjer Hashi Clinic, 26/A, Ahammad Nagar (Near Kasem's Shop), Mirpur-1, Dhaka, Mobile: 01712-895371	DOT	
11	13 (North)	Swanirvar Bangladesh	Surjer Hashi Clinic, House# 277/1, Madhya Pierbagh (Near Paka Mosque), Dhaka-1216. Mobile: 01716-094233	Microscopy & DOT	
12	14 (North)	Swanirvar Bangladesh	Surjer Hashi Clinic, House# 674, West Shewrapara, Kacha Bazar Goli, Mirpur, Dhaka-1216, Mobile: 01716-402933	Microscopy & DOT	
13	15 (North)	CWFD	Surjer Hashi Clinic, 640 Manikdi Bazar, Dhaka Cantonment, Mobile:01715-283036	Microscopy & DOT	
14	15(North) & Peri-urban	BRAC	203/2 Old Kachukhet, Cantonment, Dhaka. Mobile: 01718-669107	Microscopy & DOT	
15	16 (North)	UTPS	House# 422, Near Nagar Shasthya Kandra Ibrahimpur, Dhaka	Microscopy & DOT	
16	17 (North)	DAM	Kheya Villa, House# Kha 32/1,Khilkhet, Modhyapara, Dhaka.	Microscopy & DOT	
17	18 (North)	CWFD	Surjer Hashi Clinic, Ga-6, Shahjadpur, Gulshan, Dhaka-1212. Mobile: 01719-052262	Microscopy & DOT	
18	20 (North)	Nari Maitree	House# G-188/3, Mohakhali School Road, (Wireless Gate), Gulshan, Dhaka-1212	Microscopy & DOT	
19	22 (North) Partially	BRAC	House# 5, Road# 1, Merul Badda, Dhaka. Mobile: 01721-537046	Microscopy & DOT	
20	22 (North) Partially	BRAC	258 DIT WAPDA, Poschim Rampura, Rampura, Dhaka. Mobile: 01646-935456	DOT	
21	24 (North)	CWFD	23/4F, Abir Manzil, Konipara Happy Homes Tejgaon, Dhaka-1208	Microscopy & DOT	
22	25 (North)	BAMANEH	House# 466/1, Shaheenbagh, Nakhalpara Tejgaon, Dhaka-1215	DOT	
23	27 (North)	Swanirvar Bangladesh	Surjer Hashi Clinic, 52/A, West Raja Bazar, Indira Road, Farmgate, Near Ronoda Farmacy, Dhaka-1215, Mobile: 01716-527301	Microscopy & DOT	
24	29 (North)	Swanirvar Bangladesh	Surjer Hashi Clinic, ADB Clinic Building, Block- F Babar Road, Chader Hat Khaler Math, Johurimohalla, Dhaka Mobile: 01190-799294	Microscopy & DOT	
25	30 (North)	Swanirvar Bangladesh	Surjer Hashi Clinic, House# 324, Road# 3, Baitul Aman Housing Society, Near Adabor, Mohammadpur, Mobile: 01725-248990	DOT	

Annex - 5
Contd.

SL	Ward No.	Agency	Address	Service facility	Remark
Dhaka Metropolitan Area					
26	31 (North)	Nari Maitree	House# W/3, Noorjahan Road, (Behind of Mohammadpur Girls' High School), Mohammadpur, Dhaka-1207	Microscopy & DOT	
27	34 (North)	Nari Maitree	97/5-A, North Jafarabad, Pulpar Mohammadpur, Dhaka-1207	Microscopy & DOT	
28	35 (North)	Nari Maitree	House# 177, Noyatola (Opposite site of RAB Camp) Maghbazar, Dhaka-1217	Microscopy & DOT	
29	1 (South) & 23 (North)	BRAC	House# 331,Road # 13, Tilpapara, Khilgaon, Dhaka-1219. Mobile:01821-935963	Microscopy & DOT	
30	2 & 3 (South)	BRAC	House No: 400, Dokkin Goran, (Near Taz Pharmachy), Khilgoan, Dhaka-1219. Mobile: o1775-970242	Microscopy & DOT	
31	4 & 5 (South)	BRAC	81/1 Sabujbag (Near Sabujbag Bauddha Mondir,Protham Gali), Dhaka-1214. Mobile: 01925-591625	Microscopy & DOT	
32	6 & 21 (South)	BRAC	House#111/B, Uttar Mugdapara, Mugda, Dhaka-1214. Mobile: 01711-731947	Microscopy & DOT	
33	7 & 49 (South)	BRAC	House 12, South side of Dholpur Community Centre, Dholpur, Dhaka. Mobile: 01712-407724	Microscopy & DOT	
34	11 & 13 (South)	BRAC	House# 486/1, North Shahjahanpur, Dhaka-1217. Mobile: 01751-457863	Microscopy & DOT	
35	8 (South)	BRAC	House# 171, Dokhin Kamalapur, Motijhil, Dhaka-1217. Mobile: 01746-067210	DOT	
36	14 (South)	CWFD	Surjer Hashi Clinic, 113 Gozmohal, Opposite of Hazaribagh Thana, Rayerbazar. Dhaka-1207. Tel: 8611886, Mobile: 01731-909951	Microscopy & DOT	
37	16 & 17 (South)	BRAC	House 183, Green Road, Dhaka-1207. Mobile: 01749-407024	Microscopy & DOT	
38	19 (South)	BRAC	House#72/Kha, Circular Road, Siddeswari, Dhaka. Mobile: 01747-024173	Microscopy & DOT	
39	20(South) & Peri-urban	BRAC	House# 9, Block# C, Main Road South Banosri, Madartek, Dhaka. Mobile: 01721-261010	Microscopy & DOT	
40	22 (South)	BAPSA	House# 65, Nilambar Saha Road (Beside Saleh School), Hazaribagh, Dhaka-1205	Microscopy & DOT	
41	24 (South)	BAPSA	House# 42/1,KA,R N D Road, Shahidnagor Boubazar, (Killar Moor), Dhaka	Microscopy & DOT	
42	25 & 26 (South)	CWFD	Surjer Hashi Clinic, 36, Sheikh Shaheb Bazar, Lalbagh Road, Dhaka-1205. Tel: 8618533	Microscopy & DOT	
43	29 (South)	BAPSA	House# 38/3b/2 Alierghat (Lal Khan Bari), Islambagh, Dhaka-1211	Microscopy & DOT	
44	30 (South)	KMSS	47, Nelgola, Immamganj, Nagar Shasthya Kandra, Chalk Bazar, Dhaka	Microscopy	
45	33 (South)	KMSS	90/1, Aga Sadaque Road, Nazira Bazar, Dhaka.	DOT	Coverage ward# 30, 31, 32, 33 & 34
46	33 (South)	KMSS	26 No. Majed Sorder Road, Nagar Shasthya Kendra (Old Pakisthan Maath) Aga Sadaque Road, Bongshal, Dhaka.	Microscopy	
47	35 (South)	KMSS	56, Goal Nagor (Bandar Goli), English Road, Bongshal, Dhaka	DOT	Coverage ward# 35, 36, 37 & 43
48	38 & 41 (South)	CWFD	Surjer Hashi Clinic, 72, BCC Road, JoyKali Mandir, Wari, Dhaka-1203.	Microscopy & DOT	
49	39 (South)	BRAC	House 14/2, Avoy Das Lane, Tikatuli, Dhaka. Mobile:01818-017175	DOT	
50	40 (South)	CWFD	Surjer Hashi Clinic, 45, Doyagonj More, Doyagonj, Dhaka-1203. Mobile: 01556-305871	Microscopy & DOT	

Annex - 5
Contd.

SL	Ward No.	Agency	Address	Service facility	Remark
Dhaka Metropolitan Area					
51	42 & 44 (South)	CWFD	Surjer Hashi Clinic, 33, Begumgonj Lane, Begumgonj, Dhaka-1203. Mobile: 01913-399545	Microscopy & DOT	
52	43 (South)	KMSS	Farashganj, Lalkuthi truc stand, Nager Shasthya Kandra, Farashganj, Dhaka	Microscopy	
53	45 (South)	CWFD	Surjer Hashi Clinic , 114/A, Distillery Road (Dhupkhola Math), Gandaria, Dhaka-1204. Tel: 7448272	Microscopy & DOT	
54	48(South) & Peri-urban	BRAC	69/1/F, Bibir Bagicha, 3 no gate,North Jatrabari,Dhaka, Mobile:01744-462499	Microscopy & DOT	
55	49 (South)	FOB	Saidabad Clinic, Saidabad, Ph: 7546402	Microscopy & DOT	
56	50 & 51 (South)	BRAC	255/B, Abbasuddin Road, South Jatrabari, Dhaka. Mobile: 01746-723395	Microscopy & DOT	
57	52 & 54 (South)	BRAC	House#342/5, Mazar gate, London school goli, shampur, Dhaka. Mobile: 01734-645728	Microscopy & DOT	
58	53 (South)	CWFD	Abdul Majid Sarkar Nagar Shasthya Kendra, Commissioner Road (College Road) Muradpur (East Jurain), Dhaka. Tel: 7440293	Microscopy & DOT	
59	55 & 56 (South)	BRAC	622, Khan Manjil, Chairmanbari,(Near WAPDA Mosque), Rasulpur, Dhaka. Mobile: 01928-093761	Microscopy & DOT	
60	56 & 57 (South)	BRAC	House#77, Ashrafabad (Near thana), Kamrangirchor, Dhaka. Mobile: 01718-908531	Microscopy & DOT	
61	Peri-urban (North)	BRAC	House# 6, Dhour main Road, Kamarpara, Hanif Ali Mor,Batulia, Turag, Uttara, Dhaka. Mobile: 01719-547541	Microscopy & DOT	
62	Peri-urban (North)	BRAC	156/A, Atipara Bazar, Uttarkhan, Dhaka. Mobile: 01924-463628	Microscopy & DOT	
63	Peri-urban (North)	BRAC	Near DakkhinKhan Bazaar, DakkhinKhan, Uttara, Dhaka. Mobile: 01797-909366	Microscopy & DOT	
64	Peri-urban	BRAC	6/B/A, 2nd Colony, Majar Road,Sector 1, Mirpur-1, Dhaka. Mobile: 01735-442221	Microscopy & DOT	
65	Peri-urban (North)	BRAC	150/2 Kuril Bisho Road, Kazi Bari Mosque Lane, Jagonnathpur, Dhaka. Mobile: 01769-932261	Microscopy & DOT	
66	Peri-urban (North)	BRAC	House # Cha 89/2/1, Hasenuddin Road (Puraton Thana Road), North Badda, Dhaka. Mobile: 01718-975488	Microscopy & DOT	
67	Peri-urban	BRAC	68/Kha, Zigatola, Near Bitul Mohram Mosjid, Dhanmondi, Dhaka, Mobile: 01918-013503	Microscopy & DOT	
68	Peri-urban	BRAC	36 Badda Nagar (Near Hazaribagh Park), Bhagolpur, Dhaka. Mobile: 01756-237350	Microscopy & DOT	
69	Peri-urban	BRAC	16/D/03, Dino Nath Sen Lane (Near Sadhana Owshadhaloy), Gandaria, Sutrapur, Dhaka. Mobile:01743-929177	Microscopy & DOT	
70	Peri-urban	BRAC	449 Shohid Zakir Hossain Lane, Muradpur (Near Muradpur Bus Stand), Shampur, Dhaka. Mobile: 01769-931449	Microscopy & DOT	
71	Peri-urban	BRAC	Paity Bottala,(BRAC Nursery) Demra Road, Matuail, Dhaka. Mobile: 01728-943216	Microscopy & DOT	
72	DOTS Corner	BRAC	Shaheed Monsur Ali Medical College Hospital, Sector #11, Road # 10, Uttara, Dhaka (TB DOTS Corner, Room#16, Outdoor)	Microscopy & DOT	
73	DOTS Corner	BRAC	Women Medical College and Hospital, Sector-01, Road # 8,9 Plot-04, Uttara, Dhaka . (TB DOTS Corner, Room#132, Gynae Outdoor)	Microscopy & DOT	
74	DOTS Corner	BRAC	East West Medical College Hospital, Taltola, Ashulia Road, Turag, Dhaka, Room # 26, Outdoor)	Microscopy & DOT	

Annex - 5
Contd.

SL	Ward No.	Agency	Address	Service facility	Remark
Dhaka Metropolitan Area					
75	DOTS Corner	BRAC	Shaheed Sharowardi Hospital, Dhaka (TB DOTS Corner, Room-20, Block -2, Outdoor)	Microscopy & DOT	
76	DOTS Corner	BRAC	Shishu Hospital, Dhaka	Microscopy & DOT	
77	DOTS Corner	BRAC	Bangladesh Medical College Hospital, Dhanmondi, Dhaka-1209. (TB DOTS Corner, Room# 118, Outdoor)	DOT	
78	DOTS Corner	BRAC	Dhaka Medical College Hospital, Dhaka (TB DOTS Corner, Room# 10, Outdoor)	Microscopy & DOT	
79	DOTS Corner	BRAC	Bangabandhu Sheikh Mujib Medical University, Shahbagh, Dhaka-1100. (TB DOTS Corner, C-block, Outdoor)	Microscopy & DOT	
80	DOTS Corner	BRAC	BIRDEM Hospital, Shahbagh, Dhaka-1000. (TB DOTS Corner, Near Room# 127, Medicine Outdoor)	Microscopy & DOT	
81	DOTS Corner	BRAC	Sir Salimullah Medical College Hospital, Dhaka. (TB DOTS Corner, Room# 120, Medicine Outdoor)	Microscopy & DOT	
82	DOTS Corner	BRAC	Dhaka National Medical College Hospital, 53/2 Janson Road, Dhaka. (TB DOTS Corner, Room# 130, Outdoor)	Microscopy & DOT	
83	DOTS corner	BRAC	Institute of Child and Maternal Health, (ICMH), Matuail, Dhaka. (TB DOTS Corner, Near Record Room, Outdoor)	Microscopy & DOT	
84	DOTS corner	BRAC	Kurmitola General Hospital, Dhaka Cantonment, Room # 327, 3rd Floor(Out Door)	Microscopy & DOT	
85	DOTS corner	BRAC	Holy Family Red Crescent Medical College Hospital, Mogbazar, Room # 24, 1st Floor (Out Door)	DOT	
86	DOTS corner	BRAC	Uttara Adhunik Medical College Hospital, House # 34, Road # 4, Scetor # 9, Sonargaon Janapath, Uttara Model Town, Uttara	Microscopy & DOT	
87	DOTS corner	BRAC	Mugda General Hospital, Mugda, Dhaka, Mobile: 01716-280659	Microscopy & DOT	
88	DOTS corner	BRAC	Sarkari Karmachari Hospital, Fulbaria, Dhaka, Mobile: 01724-732310	Microscopy & DOT	
89	DOTS Corner	GoB	NIDCH, TB Gate, Mohakhali	Microscopy & DOT	
90	DOTS Corner	GoB	Shyamoli 250 bed TB Hospital, Shyamoli, Ph.-9111892	Microscopy & DOT	
91	DOTS Corner	GoB	Kuwait Bangladesh Friendship Govt. Hospital, Sector # 6, Uttara, Dhaka, (Room # 206 & 217), Mobile: 01818-765930	Microscopy & DOT	
92	DOTS Corner	GoB	DOTS Corner, Isolation Ward, Medical Unit, Combined Military Hospital, Cantonment	Microscopy & DOT	
93	DOTS Corner	GoB	Dhaka Central Jail Hospital, Nazimuddin Road	Microscopy & DOT	
94	DOTS Corner	GoB	DOTS Corner, Police Hospital, Razarbagh Police Line	Microscopy & DOT	
95	DCC (North)	IOM	House # 13/A, Road # 136, Gulshan-1, Dhaka- 1212, Tel: 55044811-13.	Microscopy & DOT	
96	DOTS Corner		DOTS Corner, Dhaka Community Hospital, 190/1, Baro Moghbazar, Wireless Rail Gate, Ph.-9351190-1, 8314887	Microscopy & DOT	
97	DCC (South)	BGMEA	30/B, Malibagh, Chowdhurypara, Dhaka, Tel: 8311124	Microscopy & DOT	
98	DCC (North)	BGMEA	Plot # 5, Road # 5, Milkvita Road, Mirpur-7, Dhaka, Mobile: 01712-677667	Microscopy & DOT	
99	DCC (North)	BGMEA	Road # 6, Block # B, House # 5 (2nd floor), Nabodoy Housing Society, Mohammadpur, Dhaka-1200, Tel: 9120832, Mobile: 01716-159076	Microscopy & DOT	
100	DCC (North)	BGMEA	Saru Kunja, House # 64, Block # G, Niketan Eastern Housing Ltd., Gulshan-1, Dhaka, Tel: 9858549	Microscopy & DOT	

Annex - 5
Contd.

SL	Ward No.	Agency	Address	Service facility	Remark
Dhaka Metropolitan Area					
101	DCC (North)	BGMEA	House # 16/A, Road # 16, Sector # 4, Uttara, Dhaka Tel: 8950208	Microscopy & DOT	
102	DCC (North)	CPHD	65/D, Zigatala, Dhaka-1209.	Microscopy & DOT	
103	DCC (North)	icddr,b	68 Shaheed Tajuddin Ahmed Sarani, Mohakhali, Dhaka-1212. Mobile: 01779-100100	GeneXpert & DOT	
104	DCC (South)	icddr,b	House#11/A, Golapbagh Bishwa Road (near to Golgotha baptist church & Golapbagh CNG station), Dhaka-1213. Mobile: 01779-700700	GeneXpert & DOT	
105	DCC (South)	icddr,b	House# 15, Road# 07, Dhanmondi (near to orchard point centre), Dhaka-1205. Mobile: 01779-600600	GeneXpert & DOT	
106	DCC (South)	icddr,b	1 no. West Hazipara, Rampura, DIT Road, P.O: Khilgaon, Dhaka-1219, (Opposite to Appex showroom). Mobile: 01766 667628	GeneXpert & DOT	
107	DCC (North)	icddr,b	House# 31 (1st Floor), Sector# 11, Gareeb-e-Nawaz Avenue, Uttara, Dhaka-1230. (opposite to Milestone College main campus) , Mobile: 01766 667629	GeneXpert & DOT	
108	DCC (North)	icddr,b	House# 03, Main Road, Bloack# A, Road# 11 Pallabi, Mirpur, Dhaka-1216. Mobile: 01766 667617	GeneXpert	
109	DCC (South)	icddr,b	32 Lalmohon Shah Road, Dholaikhal Mor, Old Dhaka-1203. Mobile: 01766 667618	GeneXpert	
110	DCC (South)	DCC	Dhaka Mohanagar General Hospital, Nayabazar, Dhaka-1100, Tel: 7390860	Microscopy & DOT	

Annex - 5
Contd.

SL	Ward No.	Agency	Address	Service facility	Remark
Chattogram Metropolitan Area					
1	1	Image	Kashem Mansion (1st floor) Hathazari Road, Aman Bazar, South Pahartali, Phone # 031-2581799	DOT	
2	2	Image	16 Baizid Bostami R/A, Jalalabad, Phone # 031-681906, 2581726	Microscopy & DOT	
3	2	GoB	Government Urban Dispensary, Shersha Colony, Jalalabad	DOT	
4	3	CCC	City Corporation dispensary, Panchlaish	DOT	
5	3	GoB	Government Urban Dispensary, Rowfabad, Panchlaish	DOT	
6	4	GoB	Government Urban Dispensary, Gausul Azam, Chandgaon	DOT	
7	4	Image	Marium Vila, Mouluvi Pukur Par, Chandgaon, Phone # 031-672552	Microscopy & DOT	
8	5	BRAC	DOTS Centre, Kalurghat I/A, Hazi Dulamiah Road, Nazumiah Hat, Mohara	DOT	
9	8	BRAC	DOTS Corner, Chittagong Medical College Hospital	Microscopy & DOT	
10	8	NATAB	NATAB Bhaban, 62 Katalganj, Panchlaish	Microscopy & DOT	
11	9	GoB	Government Urban Dispensary, North Pahartoli , Colonelhat	DOT	
12	9	GoB	Government Urban Dispensary, North Pahartoli, Ferozshah	DOT	
13	9	Nishkrity	Rafique Chowdhury Bhaban, New Monsurabad, Pahartoli	Microscopy & DOT	
14	10	BRAC	DOTS Centre, Fouzdarhat I/A	DOT	
15	10	Image	Bashar Champa Bhaban, Hazrat AmanUllah road, North Kattali, Pahartali, Phone # 031-2770943	DOT	
16	11	GoB	Government Urban Dispensary, Halishar, South Kattali	DOT	
17	11	CCC	Chadu chowdhury Primary Health Care Centre, Chadu Chowdhury Road, Custom Academy, South Kattali	DOT	
18	12	CCC	City Corporation dispensary (CCD), Saraipara	DOT	
19	13	MAMATA	380/A, Flora Pass Road, Ambagan, Pahartoli, Chittagong, Mobile: 01711-903395	DOT	
20	13	Image	Saleh Mansion, 22/A Zakir hossain Road, East Nasirabad, Phone # 031-615125.	Microscopy & DOT	
21	14	CCC	City Corporation dispensary (CCD), Lalkhan Bazar	DOT	
22	14	MAMATA	Nagar Matree Shadan, Salam Building, 61, Chandmari Road, Lalkhan Bazar, Chittagong, Phone: 031-625804	Microscopy & DOT	
23	14	BRAC	DOTS Corner, Railway Hospital	Microscopy & DOT	
24	15	MAMATA	27 Betari Goli, Bagmoniram, Chittagong, Mobile: 01711-903395	DOT	
25	16	CCC	City Corporation dispensary (CCD), Ward Commissioner's Office, Chawkbazar	DOT	
26	17	Nishkrity	Rahman Manson, Rahattarpool, West Bakalia	Microscopy & DOT	
27	17	GoB	Government Urban Dispensary, West Bakalia, Panchlaish	DOT	
28	18	CCC	City Corporation dispensary, Ward Commissioner's Office, Kala Meah Bazar, East Bakalia	DOT	
29	19	CCC	City Corporation dispensary, Nurul Islam Maternity Hospital, South Bakalia	DOT	
30	20	CCC	City Corporation dispensary, Ward Commissioner's Office, Dewan Bazar	DOT	
31	21	Nishkrity	129, Jamal Khan by lane (north side of DC Hill)	Microscopy & DOT	
32	22	MAMATA	Amin Mansion, Plot No-582/605, Batali Road, Enayet Bazar, Chittagong, Mobile: 01817-757939	DOT	
33	23	CCC	City Corporation dispensary, Ward Commissioner's Office, Dewanhat, Uttar Pathantoly	DOT	
34	24	Nishkrity	217, North Agrabad (Mollapara more), Rongipara	DOT	
35	24	MAMATA	Panwala Para, Haddi Companir Moor, North Agrabad, Chittagong, Mobile: 01913-618282	DOT	
36	26	GoB	Government Urban Dispensary, Agrabad (Masjid Colony), North Halishahar	DOT	

Annex - 5
Contd.

SL	Ward No.	Agency	Address	Service facility	Remark
Chattogram Metropolitan Area					
1	27	CCC	City Corporation Dispensary, South Agrabad (Doublemooring)	DOT	
2	27	GoB	Skin & V.D. Hospital, South Agrabad	Microscopy & DOT	
3	27	BRAC	DOTS Corner, Ma O Shishu General Hospital	Microscopy & DOT	
4	28	BRAC	DOTS Centre, Ward Commissioner's Office, Pathantoly	DOT	
5	29	CCC	City Corporation dispensary, Ward Commissioner's Office, West Madarbari	Microscopy & DOT	
	29	MAMATA	81, Mogoltoli By Lane # 1, West Madarbari, Chittagong, Phone # 031-2514481	Microscopy & DOT	
6	30	CCC	City Corporation dispensary, Younus mia, Ward Commissioner's Office, East Madarbari	DOT	
7	31	BRAC	Khelaghor Ashor, Alkaran	DOT	
8	32	GoB	Chest Disease Clinic, Andarkilla	Microscopy & DOT	
9	33	CCC	City Corporation dispensary, Ward Commissioner's Office, Firingee Bazar	DOT	
10	33	Nishkrity	62/63, Poet Kazi Nazrul Islam Road, Firingee Bazar, Kotowali	DOT	
11	34	BRAC	DOTS Centre, Patharghata	DOT	
12	35	BRAC	DOTS Centre, Jail Hospital, Government Urban Dispensary, Baxirhat	Microscopy & DOT	
13	37	Nishkrity	Borapole, North Middle Halishahar	DOT	
14	40	BRAC	DOTS Corner, CEPZ Hospital, South Halishahar	Microscopy & DOT	
15	39	BRAC	DOTS Corner, Port Hospital, South Halishahar	Microscopy & DOT	
16	39	GoB	Government Urban Dispensary, Seamen Hostel, South Halishahar	DOT	
17	39	MAMATA	Mamata Clinic, Baitush Sharaf Bhaban, Taltala, Bandartila, South Halishahar,Chittagong, Phone: 031-740476, Mobile: 01920-470753	Microscopy & DOT	
18	40	Youngone Ltd.	Youngone Ltd. Hospital, CEPZ, North Patenga	Microscopy & DOT	
19		BRAC	DOTS Corner, Chest Disease Hospital, Fauzderhat	Microscopy & DOT	
20		BRAC	DOTS Centre, Karnaphuli I/A	DOT	
21		GoB	DOTS Corner, CMH Cantonment	Microscopy & DOT	
22		GoB	DOTS Corner, CMH BNS Patenga	Microscopy & DOT	
23		GoB	Government urban Dispensary, Marine Academy	DOT	
24		BRAC	DOTS Corner, KEPZ Hospital	Microscopy & DOT	
25		BGMEA	BGMEA Hospital, Saltgola Rail Crossing, Seamens Hostel Gate, South Halishahar, Bandar, Chittagong, Tel: 031-740814, Mobile: 01813-277530	Microscopy & DOT	
26		BRAC	DOTS Corner, Chattagram International Medical College Hospital	Microscopy & DOT	
27		BRAC	DOTS Corner, Bangabandhu Memorial Hospital (USTC)	Microscopy & DOT	
28		icddr,b	1306, OR Nizam Road, Golpahar Mor, P.O: Chittagong Medical College, Chittagong-4203. (opposite to Shwapno super store), Mobile: 01766 667630	GeneXpert & DOT	
29		icddr,b	Sardar Plaza (1st floor), Bondortila, South Halishahar, Chittagong- 4218. Mobile: 01766 667627	GeneXpert	
Khulna Metropolitan Area					
1	01	PKS	Maheshwarpasha,Daulatpur. UPHCP Bhaban, Khulna	DOT	
2	02	PKS	TB Hospital Road, Mirerdanga. UPHCP Bhaban, Khulna	DOT	
3	02	BRAC	DOTS Center for Industrial Center. Khulna. (Located at BRAC office at Fulbarigate area)	Microscopy & DOT	
4	03	PIME Sisters	PIME Sisters DALIT. 37/1, Kedarnath Road, Ralligate, Maheshwarpasha, Daulatpur. Khulna	DOT	
5	04	PKS	Deyana,Daulatpur. UPHCP Bhaban, Khulna	DOT	
6	05	PIME Sisters	Muhsin Upa Sasthya Kendra. Daulatpur Bazar. Daulatpur, Khulna.	DOT	
7	06	PKS	02,CrossRoad, Pabla, Daulatpur. UPHCP Bhaban,Khulna	Microscopy & DOT	
8	07	PIME Sisters	Nazirghat urban clinic, Borobari, Khulna	DOT	
9	08	PIME Sisters	Sadar Hospital DOT Corner, Khulna	DOT	
10	8	KMSS, KCC	Fire Brigade Road (Near 11 No. Ward Counselor's office), Khulna City Corporation, Khulna	DOT	
11	09	PIME Sisters	Blue Sister DOTS Center, Tootpara zoracall bazar	DOT	
12	10	PIME Sisters	PIME Sisters. Lal Hospital. Khalishpur. Khulna	DOT	
13	11	PIME Sisters	Khanjahan Ali Datobo Health Center, Lobonchara, Khulna	DOT	

Annex - 5
Contd.

SL	Ward No.	Agency	Address	Service facility	Remark
Chattogram Metropolitan Area					
1	11	KMSS, KCC	Fire Brigade Road (Near 11 No. Ward Counselor's office), Khulna City Corporation ,Khulna.	Microscopy & DOT	
2	12	PKS	103,Central Block,Eidgah Road Khalishpur.Tel..# 763518. Khulna	Microscopy & DOT	
3	13	PIME Sisters	PIME Sisters. Missionaries of Charity. Duttapara, Khalishpur, Khulna.	DOT	
4	14	PIME Sisters	PIME Sisters. Daspara Road, Boyra. Khulna. Tel. # 761782	Microscopy & DOT	
5	16	PIME Sisters	Demien Clinic, 9/1 Daspara Road, Bayra, Khulna	DOT	
6	17	BRAC	BRAC DOTS Corner. Khulna Medical College Hospital.	Microscopy & DOT	
7	DOTS Corner	BRAC	BRAC DOTS Corner. Ad-din Akij Medical College, Boikali,Dhaka Highway, Khulna	Microscopy & DOT	
8	17	GoB	Chest Clinic , Lower Jessore Road, Khulna,Te # I731105	Microscopy & DOT	
9	18	PIME Sisters	PIME Sisters. KhUDA House. South of Bus Terminal, Sonadanga, Khulna.	DOT	
10	19	PKS	Islamabad (Paipara) Community Center. Infront of Eidgah. UPHCP Bhaban, Khulna	DOT	
11	20	PKS	Shaikhpara Bazar, Shaikhpara UPHCP Bhaban, Khulna	DOT	
12	21	PIME Sisters	Khulna Prison.	DOT	
13	21	PIME Sisters	PIME Sisters. DOTS Corner, 150 Bedded General Hospital, Khulna.	DOT	
14	22	PKS	Mushipara, Custo M 6Grat, Nuton Bazar, Rupsha	DOT	
15	23	PIME Sisters	Sadar Hospital, Khulna	DOT	
16	24	PKS	Dighirpar, Nirala R/A. Road #.01, UPHCP Bhaban, Khulna	DOT	
17	25, 26	PIME Sisters	Majirghat Arban Dispensary, West Baniya Mor, Sonadanga, Khulna	DOT	
18	26	PIME Sisters	Olirbagan.. Nazirghat Barobari, Nazirghat Road. Khulna	DOT	
19	27	PKS	Islampur Road, Tarer Pukur. UPHCP Bhaban. Khulna	Microscopy & DOT	
20	28	PKS	Surjer Hashi Clinic, Tootpara	DOT	
21	29	PKS	47,South Central Road, Khulna. Tel. # 730024	Microscopy & DOT	
22	30	PIME Sisters	BLUE SISTERS. Sisters Ashram Charles De Foucald. 29/A, East Link Road,Tootpara Khulna	DOT	
23	31	PIME Sisters	PIME Sisters. Taltola Hospital, Tootpara, Khulna.	DOT	
24	31	PIME Sisters	Khan Jahan Ali Charitable Dispensary. Labon Chara Main Road, Khulna	DOT	
Rajshahi Metropolitan Area					
1	4, 5, 6	Tilottama	Surjer Hashi Clinic, Bulunpur, Rajshahi Court	Microscopy & DOT	
2	6	GoB	Rajshahi Chest Disease Hospital, Laxmipur	Microscopy & DOT	
3	7	Tilottama	Surjer Hashi Clinic, Shreerampur T-badh, Rajshahi	DOT	
4	8	Damien Foundation	Rajshahi Jail	DOT	
5	9	GoB	Chest Disease Clinic, Hossenigonj	Microscopy & DOT	
6	10	Damien Foundation	DOTS Corner, Rajshahi Medical College Hospital, Laxmipur	Microscopy & DOT	
7	11	Tilottama	Surjer Hashi Clinic, Hetemkhan, Rajshahi	DOT	
8	16	Tilottama	Surjer Hashi Clinic, Koyerdara, Rajshahi	DOT	
9	13	RIC, RCC	Jahan Ara Monjil, House No -355, Dorikhorbona, Behind of Barnalir More (Near passport office), Rajshahi,	Microscopy & DOT	
10	17,19	Tilottama	Surjer Hashi Clinic, North Naodapara, Bypass More,Naodapara,Rajshahi, Organization's own building	Microscopy & DOT	
11	28	BRAC	House No: 109/1, Shakopara, (North side of Grave), Baze Kazla,(East side of Mosque), Motihar, Rajshahi-6204	Microscopy & DOT	

Annex - 5
Contd.

SL	Ward No.	Agency	Address	Service facility	Remark
Barisal Metropolitan Area					
1	4, 5, 6, 18, 19	GoB	Chest Disease Clinic, Amanatganj	Microscopy & DOT	
2	10,11,12,13,14 ,15,16,17,23,2 4,25,28	BRAC	DOTS Corner, Sher-e-Bangla Medical College Hospital	Microscopy & DOT	
3	9, 20, 21, 22	BRAC	General Hospital	Microscopy & DOT	
4	1, 2, 3, 26, 27, 29, 30	BRAC	DOTS Centre, BRAC Sadar Office, Kashipur	Microscopy & DOT	
Sylhet Metropolitan Area					
1	1,2,3,10, 11, 12,13,16,17	BRAC	DOTS Corner, M.A.G. Osmani Medical College Hospital	Microscopy & DOT	
2	4, 5, 6, 7, 8, 9	BRAC	DOTS Corner, Jalalabad Ragib Rabeya Medical College Hospital, Pathantula	Microscopy & DOT	
3	25, 26	BRAC	DOTS Corner, North-East Medical College Hospital, Sekhghat, Telihaor	Microscopy & DOT	
4	14	BRAC	DOTS Corner, Sylhet Prison	Microscopy & DOT	
5	18, 19, 20, 21	GoB	Chest Disease Clinic, Baluchar, Sahi Eidgah	Microscopy & DOT	
6	15, 22, 23, 24, 27	BRAC	DOTS Corner, BRAC Urban Office, Shahjalal Upashahar	Microscopy & DOT	
7	DOTS Corner	BRAC	Park View Medical College Hospital, Telihaor Road, Sylhet	Microscopy & DOT	
8		IOM	Medi-Aid Heart Centre, South Dorgah Gate (Near Minar), Dorgah Mohalla, Sylhet 3100	Microscopy & DOT	
9		icddr,b	Rikabi bazar point, VIP Road, Sylhet-3100 Mobile: 01766 667621	GeneXpert	

List of the Sub-Recipients (SR)-27

Annex - 6

SL No.	Name of the Sub-Recipients	Remarks
1	Damien Foundation	
2	TLMI-B	
3	RDRS Bangladesh	
4	LAMB	
5	HEED Bangladesh	
6	Lepra Bangladesh	Till December 2017
7	PIME Sisters	
8	CWFD	
9	BAMANEH	
10	Swanirvar Bangladesh	
11	PSTC	Till December 2017
12	Tilottama	
13	IMAGE	
14	Nishkriti	
15	PKS Khulna	
16	KMSS	
17	BAPSA	
18	Nari Maitree	
19	UTPS	
20	Dhaka Ahsania Mission (DAM)	
21	Resource Integration Centre (RIC)	
22	MAMATA	
23	Ashar Alo Society (AAS)	
24	ICDDR,B	
25	NATAB	
26	BGMEA	
27	BKMEA	