rGLC COUNTRY SUPPORT MISSION REPORT

Country: Bangladesh

Inclusive dates of mission: 07- 13 July 2018

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The mission team also acknowledges the use of some of the graphs and figures used in this document from NTP presentation/s

The programme has agreed with open sharing of this report ☒

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Abbreviations and acronyms

AFB	Acid-fast bacilli
AIDS	Acquired immunodeficiency syndrome
CBO	Community-based organizations
CPT	Co-trimoxazole preventive therapy
DGHS	Director General of Health Services
DOTS	Directly observed therapy – short course
DRS	Drug resistance survey/surveillance
DR-TB	Drug-resistant tuberculosis
DST	Drug susceptibility testing
DTCO	District TB control officer
EP-TB	Extrapulmonary tuberculosis
EQA	External quality assurance
FDC	fixed-dose combination
FLD	First-line (anti-TB) drugs
GDF	Global (TB) Drug Facility
GF	Global Fund (Global Fund to Fight AIDS, Tuberculosis and Malaria)
HRD	Human resource development
IC	Infection control
IPT	Isoniazid preventive therapy
IC	Infection control
MDR-TB	Multidrug-resistant tuberculosis
M&E	Monitoring and evaluation
NGO	Nongovernmental organization
NTRL	national TB reference laboratory
PHC	Primary health care
PLHIV	Persons living with HIV/AIDS
PMDT	Programmatic management of drug-resistant tuberculosis
PPM	public-private mix
RR	Rifampicin-resistant
RTRL	Regional TB reference laboratory
SDG	Sustainable Development Goals
SEAR	South-East Asia Region (of WHO)
SLD	Second-line anti-TB drugs
SOPs	Standard operating procedures
TA	Technical assistance
TB	Tuberculosis
TWG-TB	Technical Working Group on TB
WHO	World Health Organization
XDR-RB	Extensively drug-resistant TB

Executive summary

i. TORs of the mission

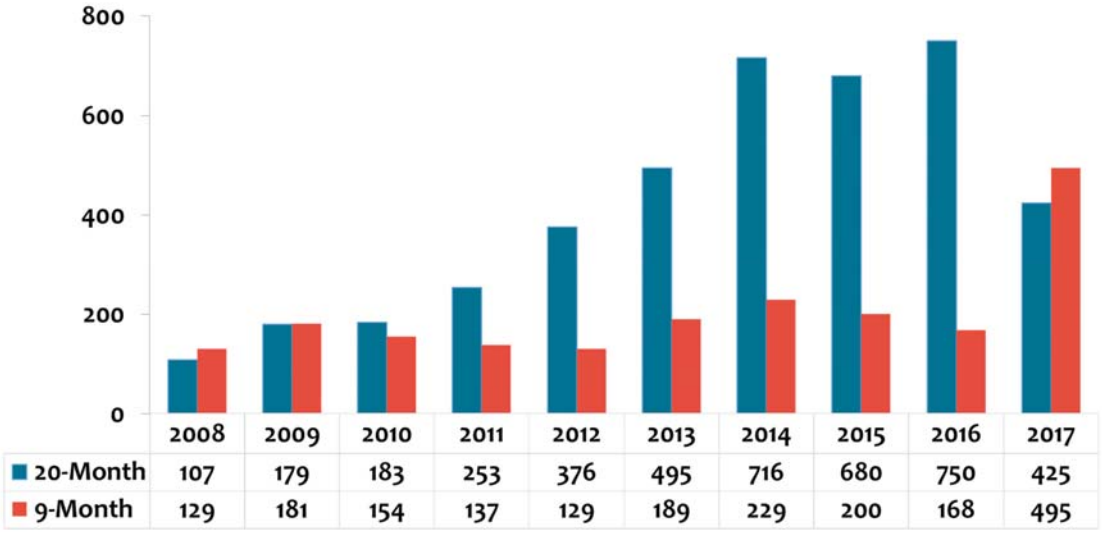
- Review status of expansion of PMDT services and implementation of recommendations
- Discuss operational manual and guidelines for management of drug-resistant TB – updates needed for diagnostic algorithm and treatment protocol
- Discuss lab expansion plan and its alignment with PMDT expansion plan
- Recommendations and way forward with guideline updates

The main focus of the mission was to initiate discussions on update of DR-TB guidelines in addition to the review. Hence only salient components of programme implementation were reviewed. A 2 ½ day meeting of all stakeholders was held for discussing guidelines update.

ii. Overall implementation status of PMDT

The programme has been initiating around 900 patients consistently over past 4 years. In last year, there has been a significant shift in the regimen being used with a larger proportion being initiated on shorter treatment regimen (STR) based on 2106 WHO guidelines.

Figure 1: Patients enrolled on second line treatment - longer and shorter regimen



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
20-Month	107	179	183	253	376	495	716	680	750	425
9-Month	129	181	154	137	129	189	229	200	168	495

iii. Significant achievements since last visit

- Rapid expansion of GeneXpert with GF contribution – 163 sites with 193 machines
- Shorter regimen being scaled up – more than 50% of total MDR-TB patients enrolled on STR in 2017 and more than 80% in 2018
- SoPs for us of new drugs in place. Enrollment of patients on bedaquiline (Bdq) and delamanid (Dlm) under end TB project complete
- Drug Resistance Survey (DRS) is progressing well

- The country is planning start of zero-TB cities project

iv. Key challenges identified in this mission in relation to the ToRs

- Static levels of detection of RR/ MDR-TB cases
- Limited capacity at NTRL to perform the functions as a reference laboratory and lack of laboratory networking system
- RTRLs sphere of activities and area of work to be defined.
- aDSM not yet fully in place – reporting of adverse events is not systematic.
- Partner services are not fully integrated with NTP – no transition plan for takeover of activities

v. Priority recommendations of the mission:

Recommendation	Responsible persons/agency	Timeline	Support required to fulfil the recommendation
The TB lab network to be defined and aligned within NTP	NTP	Six months	Laboratory expert
Updating diagnostic algorithm to expand the scope of diagnosis and include all vulnerable populations	NTP	Two months	
Expansion of liquid culture DST facility to RTRLs	NTP/ MOH	Six months	
LPA needs to be expanded to at least 2 more sites and thereafter conduct needs assessment for further expansion	NTP/ MOH	by 2019	Partner support along with TA
Plan for phase out of challenge TB support at NIDCH • NIDCH could consider having an MDR-TB specific unit or at least assigning an MO for MDR-TB • Further decentralization of treatment my reduce patient load at NIDCH	NTP/ Partners	By Q4 2018	
Expansion and uniform administration of patient support activities	NTP/ MOH/ Partners	By Q4 2018	
Greater emphasis on infection control in clinics and wards	NTP/ MOH	Ongoing	
Prepare plan for takeover of partner activities that may end soon through alternate sources or domestic funding as per needs (specifically HR)	NTP/ MOH/ Partners	By Q4 2018	
Constitute guidelines writing group for update of guidelines taking in consideration upcoming changes	NTP/MDR-TB advisors/ partners	Six weeks for collation of first draft	WHO and partners

vi. Status of priority recommendations of previous mission:

Recommendations	Status
• Undertake a workload assessment of the existing Xpert sites and take necessary steps to optimize their use. This can be done by expanding the criteria for presumptive DR-TB; promoting its use for diagnosis of pediatric and extra-pulmonary TB and strengthening the sputum transport mechanism	• GeneXpert sites expanded to 163 with 193 machines. Algorithm at GeneXpert sites expanded to screen all presumptive TB cases for improving utilization. However a workload assessment has not been done
• Update the national PMDT guidelines to include the revised diagnostic algorithm, shorter regimen and newer drugs. Develop training material for various cadre staff for implementation of PMDT activities	• PMDT guidelines update could not be done earlier. Being undertaken during this mission
• Scale up the shorter regimen and newer drugs with matching expansion of rapid second line DST to ensure accessibility to all diagnosed RR/MDR patients	• Good scale up of shorter regimen. However SL DST capacity limited to NTRL. Turnaround time for SL DST is also long at this stage (around 2 – 3 weeks)
• Set up all elements of aDSM	• Adverse events being recorded but reporting not yet fully functional
• The PMDT is funded almost entirely by external sources. The MOH has increased its contribution for TB significantly which primarily covers the first line treatment. The MOH should also consider covering some critical components of PMDT	TB budget for 2018 • Total budget USD 66.44 million (USD 85 million) • Funding available USD 46.15 million (USD 49 million) • Domestic funding USD 9.5 million (USD 5.7 Million)
• The affected community groups are an important resource and efforts should be undertaken to identify representatives (individual and groups) from the affected community who are then trained for supporting for advocacy, peer counselling and delivery of PMDT services. This should be a budgeted activity in the national strategic plan which is currently under development	• Affected communities are not directly engaged by NTP but through NGOs. Govt field staff being engaged as DOT provider for RR/MDR-TB patients
• Strengthen the supervisory and monitoring functions of the NTRL through provision of adequate HR and enhanced oversight and ownership from the NTP. The NTRL should receive regular technical assistance from the SRL Antwerp lab including 1-2 onsite visits annually	• Although this is planned, there has not been much progress because of limited capacity of NTRL and RTRLs • SRL visits have been for specific purpose but not regular visits as envisaged
• Strengthen coordination with partners through regular meetings at least quarterly with definite agenda and discussion points. These meetings	• Regular meetings are held but exit plan/ transition plan has not been developed so far

should serve as a platform for sharing the project updates, ensuring alignment with the NTP objectives and discussing and resolving challenges faced by the partners. Every project led by partners should have a formal exit plan, prepared by the partner in consultation with NTP, which should get triggered well in advance of the closure of the project ensuring smooth transition and sustainability	

Achieved	
Some progress/ ongoing	
No change	

Detailed report

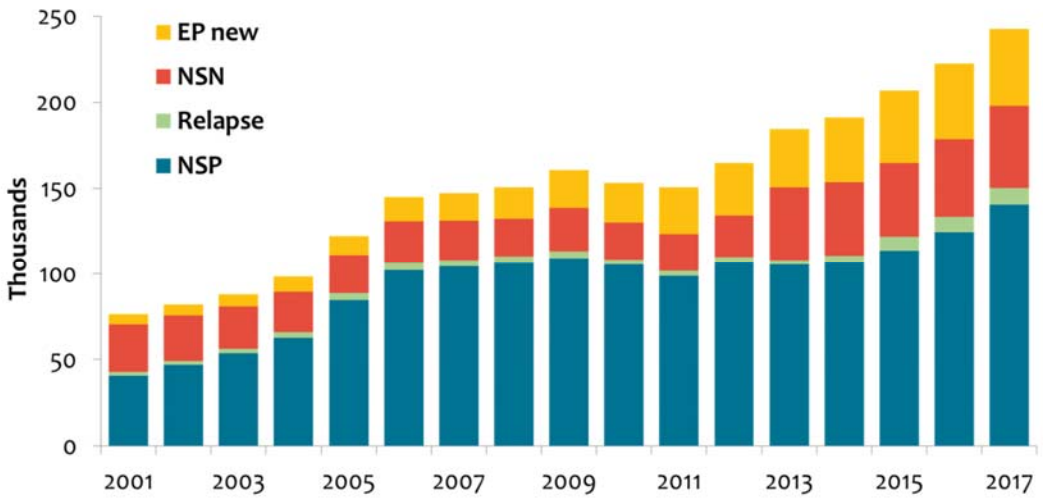
A. Introduction/Background

Bangladesh is administratively divided into 8 divisions, 64 districts, 490 upazilas, 4,553 unions, 11 city corporations and 323 municipalities. The NTP falls under the Directorate of Mycobacterial Disease Control (MBDC) under the Directorate of General Health Services (DGHS) of the MoH&FW.

The implementation of TB prevention and care services at various levels is undertaken by the staff mentioned below.

- Central level- The Director, Line Director and Program Manager who are entrusted with policy formulation, partners' coordination, technical assistance, procurement, monitoring and supervision, etc.
- Divisional level- The Divisional Director undertakes monitoring and supervision and technical guidance of districts.
- District level- The Civil Surgeon is responsible for DOTS implementation, monitoring and supervision.
- Upazila level- The Upazila Health and Family Planning Officer (UH&FPO).
- Union/ward and village level- Medical Assistant, Health Assistant and other community health care providers (CHCP).

Figure 2: TB notification trends in the country

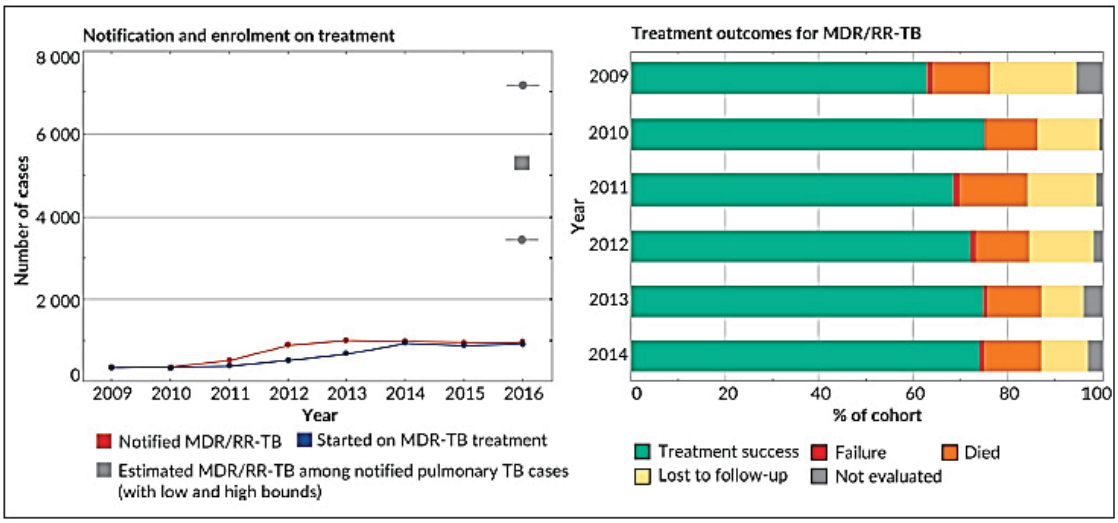


There has been a steady increase in case notification of TB cases, although percentage-wise, greater increase is seen in New smear negative (NSN) and extra-pulmonary (EP) TB cases rather than new smear positive (NSP) cases. Moreover, this classification has now become redundant. The programme should move towards more recent classification of bacteriologically confirmed and clinically diagnosed cases among pulmonary and EP-TB cases even for internal documentation, in alignment with WHO reporting requirements.

B. Overall DR-TB programme performance

The case notification has been steady for past several years, around 920 cases being initiated on treatment. A good treatment success rate of around 75% among patients initiated on second-line treatment has been maintained for past 4 years

Figure 3: Notification and treatment outcome trends



Source: http://www.who.int/tb/data

Out of all reported cases in 2016, only 43 991 were screened for drug resistance. Although this includes a significant proportion of retreatment patients, it does appear that a large proportion of drug resistant cases are missed, given that only 969 DR-TB cases out of the estimated 5300 RR/MDR-TB cases were confirmed through laboratory tests.

Table 1: Notification and enrolment of DR-TB cases in 2016

Drug-resistant TB care, 2016	New cases	Previously treated cases	Total number***
Estimated MDR/RR-TB cases among notified pulmonary TB cases			5 300 (3 500–7 200)
Estimated % of TB cases with MDR/RR-TB	1.6% (0.59–2.6)	29% (22–36)	
% notified tested for rifampicin resistance	16%	62%	43 991
MDR/RR-TB cases tested for resistance to second-line drugs			139
Laboratory-confirmed cases		MDR/RR-TB: 969, XDR-TB: 9	
Patients started on treatment ****		MDR/RR-TB: 918, XDR-TB: 8	

Recommendations

- The programme should move towards universal DST at the soonest possible with necessary strengthening of lab infrastructure to identify and put on treatment all RR/MDR-TB cases on appropriate treatment

C. Role of partners in delivery of TB and MDR-TB care

Overall good engagement with partners was observed by the mission team. Bangladesh NTP is supported by a multitude of NGOs and other partners, mostly through USAID funded projects. All partners playing a vital role in implementation of TB and MDR-TB services. NGOs and local civil society provide screening, referral, and treatment services nationwide, including services in hard to reach areas and underserved population targeting the missing cases.

International NGOs provide all types of services in all most all parts of the country. Most work independently; Contracted by local governments and NTP for services and operational research. Several partners provide TB-specific and TB-related technical and implementation inputs in quantification and electronic recording and reporting (SIAPS), CCM functioning (GMS), provision of urban TB services (NHSDP; combined with GF funding of the same network), and a wide range of TB technical areas (Challenge TB). Damien Foundation (DF) has been pioneer in testing and implementing shorter regimen in the country. New drugs have been implemented through end-TB project in close association with IRD. Another NGO providing support is URC.

However, it was also observed that partner led projects are being mostly run as independent entities without much integration into MoH services. Stopping of partner support creates a crisis like situation where there is no takeover of services by the programme. A gfew recent examples have been

- SIAPS support for aDSM. Stoppage of support has led to an almost non-functional aDSM reporting mechanism
- Challenge TB support for MDR-TB control room in NIDCH and patient support has been vital. However stoppage of funding through the project for its activities has led to scale down of patient support. It is also not clear as to how MDR-TB control room activities will be conducted after end of Challenge TB support. The control room is responsible for all the public health functions related to DR-TB management

Recommendations

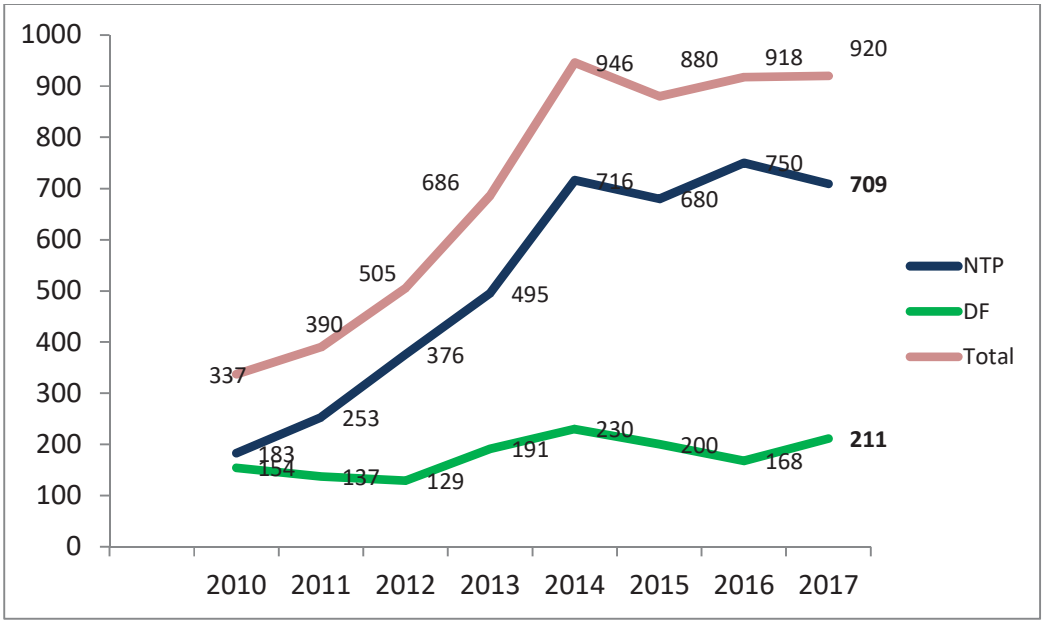
- Prepare plan for takeover of partner activities that may end soon through alternate sources or domestic funding as per needs - specifically HR component.
- Plan for phase out of challenge TB support at NIDCH
    - NIDCH could consider having an MDR-TB specific unit or at least assigning an MO for MDR-TB
    - Further decentralization of treatment my reduce patient load at NIDCH and hence need for additional staff may also be reduced.
- Partners need to work with national programme towards better integration of activities with NTP so that it functions as one “Programme”.

D. Case finding strategy

As of 2016, 16% of new and 62% of retreatment cases were screened for drug resistance. Notification of RR/MDR-TB cases has been static for past 4 years

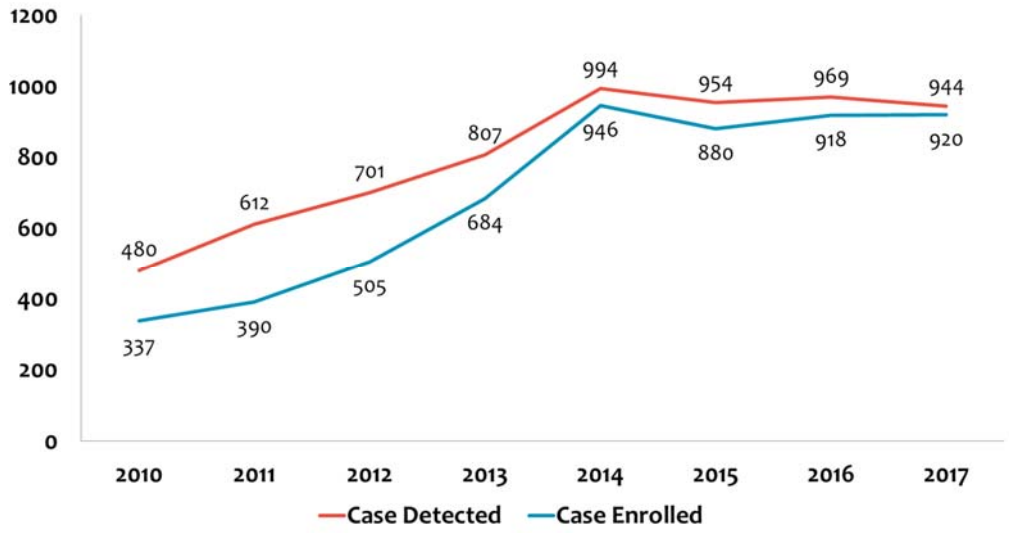
Distribution of these cases between NTP and DF project implementing areas has been variable with no specific trend specifically since 2014 because of possible internal migration of cases within two areas.

Figure 4: Trend of RR/MDR-TB case notification in DF project area and remaining country



The gap between diagnosed and enrolled cases has reduced signifying a significant improvement in case holding over past years.

Figure 5: Gap between diagnosed and enrolled RR/MDR-TB cases



There is a mandatory TB case notification gazette from the government of Bangladesh but the mechanism of implementation has not developed yet. NTP needs to develop a implementation mechanism in coordination with all stakeholders.

GeneXpert MTB/RIF testing is recommended by NTP for detection of TB and resistance to RIF as a first test for risk groups.

Symptomatic (longer than 3 weeks cough and weight loss and night sweats) smear negative individuals are also eligible for Xpert MTB/RIF testing irrespective of HIV (human immunodeficiency virus) status.

Recommendations

- Need for expanding criteria of 'risk groups' for initial screening using GeneXpert in areas where the test is not being used among symptomatic cases
- Universal DST must be achieved at the soonest possible – by 2020 given the increasing availability of GeneXpert machines
- Algorithm to be updated to utilise optimally the existing lab technologies
- Algorithm may consider provision of rapid DST to all TB cases being initiated on treatment.
- To assess the utilisation of the existing technologies, formats for monthly reports to be generated, collected and analysed.

E. Laboratory services and expansion plans

The TB laboratory services are organized according to the four levels of the general health services to perform TB laboratory functions under the NTP: national, regional, intermediate (district) and peripheral. There is one national TB reference laboratory (NTRL) located in Dhaka. The NTRL was

observed to have good infrastructure and equipment available to carry out tests needed by the porgramme. Trainings as per NTP needs are conducted in the NTRL. However there is limited capacity to carry out all functions expected from a national reference laboratory. No supervisory activity has been performed in recent past and there is limited EQA being done – only panel testing for one lab. NTRL is located in (National Institute of Chest Diseases and Hospital) is equipped with BSL2+ (biosafety level) facility and seven BSCs (biological safety cabinet). PCR (LPA) lab had been established at NTRL as well.

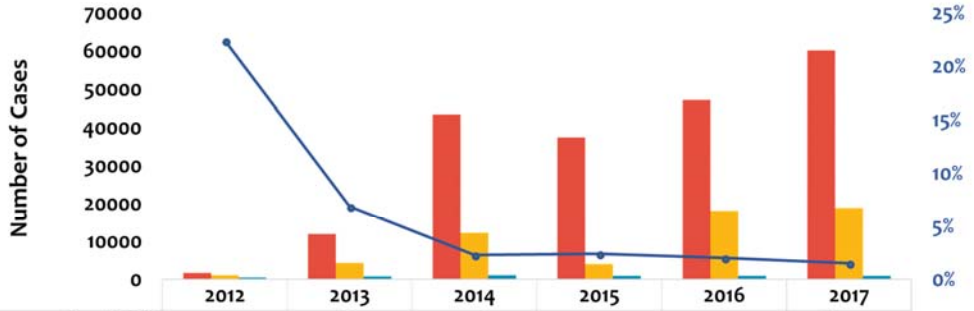
Regional laboratories (RTRL) are functional in Chittagong, Rajshahi, and Khulna. Besides culture and DST these reference laboratories also perform sputum smear microscopy. MoH is establishing another RTRL at Sylhet. NTP plans to establish RTRLs in all 7 regions. NTRL and RTRLs perform mycobacterial culture using home-made Lowenstein-Jensen (LJ) media. NTRL also uses liquid MGIT960 technology for isolation of mycobacterium. Coverage of culture laboratories is 0.13 labs per 5 M population which is 8 times less than international requirements (1 lab per at least 5 M population)

At the district level, Chest Disease Clinics (CDC), Medical colleges & hospitals, district *sadar* hospitals all have functional TB laboratories where sputum smears are examined (total 64). There is 1 microscopy centre per approximately 140 000 population (1104 NTP labs). Number of laboratories equipped with LED microscopes is 300. All laboratories including culture labs perform direct microscopy. Most of the labs except for CDCs (44), Chest Disease Hospitals (4) and segregation hospitals (7) share space with generals labs.

Identification of Mycobacterium tuberculosis (MTB) complex and non-tuberculous mycobacterium (NTM) is done at the time of drugs susceptibility testing (DST) using para-nitro benzoic (PNB) test. Conventional DST for 1st and 2nd line drugs is based on proportional method. The testing for FLD currently is done at NTRL (solid, liquid) and two RTRLs (solid); SLD DST is done at NTRL only. Solid, liquid or both techniques are used when appropriate. First line drugs are streptomycin (STR), isoniazid (INH), rifampicin (RIF) and ethambutol (EMB). Second line drugs are ofloxacin (OFX), amikacin (AMK), kanamycin (KM) and capreomycin (CAP). Critical concentrations used are internationally recommended.

Total number of GeneXpert instruments are currently operating in the NTP network is 190 at 163 sites (51 functional till 2017). All districts are covered for Gx services

Figure 6: Screening and detection of RR/TB cases using GeneXpert



	2012	2013	2014	2015	2016	2017
Presumptive DR TB	1733	11852	43360	37313	47141	60190
MTB Detected	1126	4265	12158	3999	18130	18857
RR-TB	388	811	994	884	956	918
%RR-TB	22.39%	6.84%	2.29%	2.37%	2.03%	1.53%

No. of GX Machine	**12**	**26**	**39**	**39**	**39**	**51**

GeneXpert laboratories had been established in old facilities rooms that underwent minor renovations. Voltage in electrical supply chain is mostly not high enough to support function of all the equipment in the labs (Xpert instrument, refrigerator and air conditioner).

Outreach hubs established for collection and transportation of specimens are not provided with any infrastructure. Smears are prepared at any place available, including outside areas including packing specimens for transport.

One more laboratory is designed and being developed to maintain negative pressure and contain infectious aerosols and meets biosafety requirements to high risk level of testing such as liquid culture and DST with assistance from international NGO(From South Africa).

There are no national standards for infrastructure of TB laboratories with different risk levels.

Waste management is performed according to the national regulations and facilities practices. Waste is mostly burnt in either pits or drums in an open fire. (which is not as per international Standards).

External quality assurance:

There are 40 EQA centers which regularly carry out the activity. Panel testing is used only during training activity. RTRLs are not quality assessed by NTRL (for any technology). It was also seen that RTRLs are not fully linked to the NTRL. NTRL have no funds to carry out onsite evaluation and to carry out EQA of RTRLs in the NTP. For all repairs and consumables purchases and staff issues the NTRL need to approach the NICDH the parent institution.

Recommendations

- NTRL and RTRL capacity strengthening for carrying our supervisory and EQA activities
- Placement of microbiologists at divisional level
- Calculate GeneXpert machine needs based on universal DST
- LPA needs to be expanded to at least 2 more sites by 2019 (including use of LPA available at BITRD) and conduct needs assessment for further expansion
- Liquid culture and DST to be established in all RTRLs
- The TB lab network to be defined and aligned within NTP with necessary funds to deliver Programme related activities
- Roles and responsibilities of labs under the network including reporting requirements within network and in reference to NTP to be defined.
- RTRLs sphere of activities and geographical area of work to be defined. All labs providing TB services in the Identified geographical area to be linked to RTRL
- Infrastructure of RTRLs needs to be upgraded to meet requirements of biosafety in TB labs performing DST as planned by NTP/NTRL.
- HR component to be considered for lab related NTP activities.

F. Treatment strategy

Bangladesh has maintained high treatment success rates for patients on both longer and shorter regimen, with slightly higher rates in latter case. Till 2016 most cases in NTP areas were initiated on a standard longer regimen while those in Damien Foundation project area were initiated on shorter regimen (STR). From 2017, there is a distinct move towards using STR and more than 50% of 920 cases initiated on treatment in 2017 were put on shorter regimen. However, a consolidated updated PMDT guideline is still not available with various sections being available as separate documents.

Figure 7: Treatment outcome of NTP enrolled patients

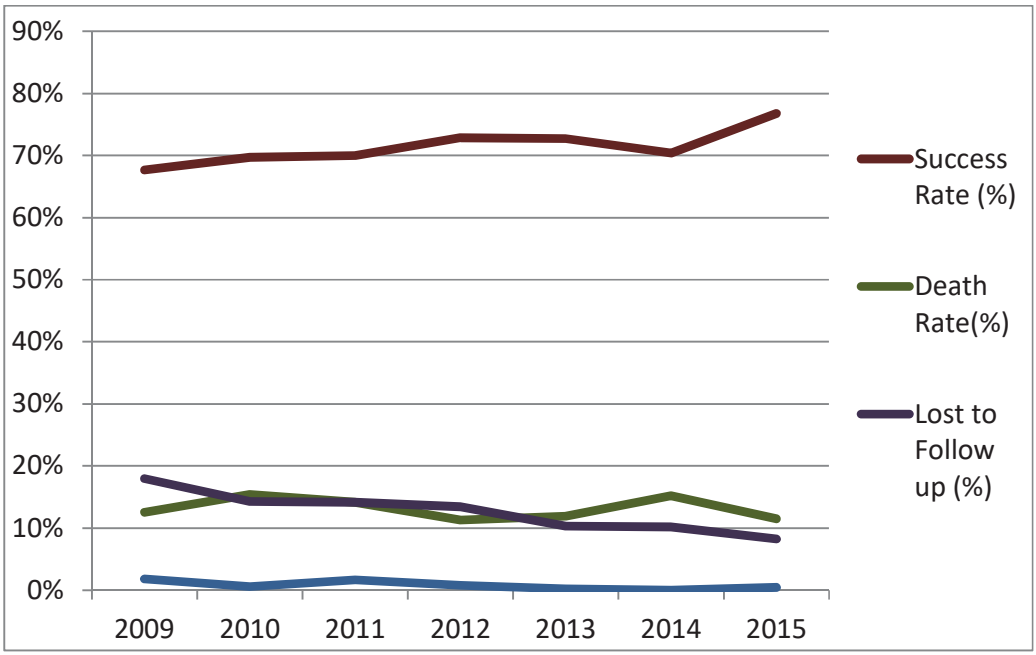


Figure 8: Treatment outcome of DF enrolled patients

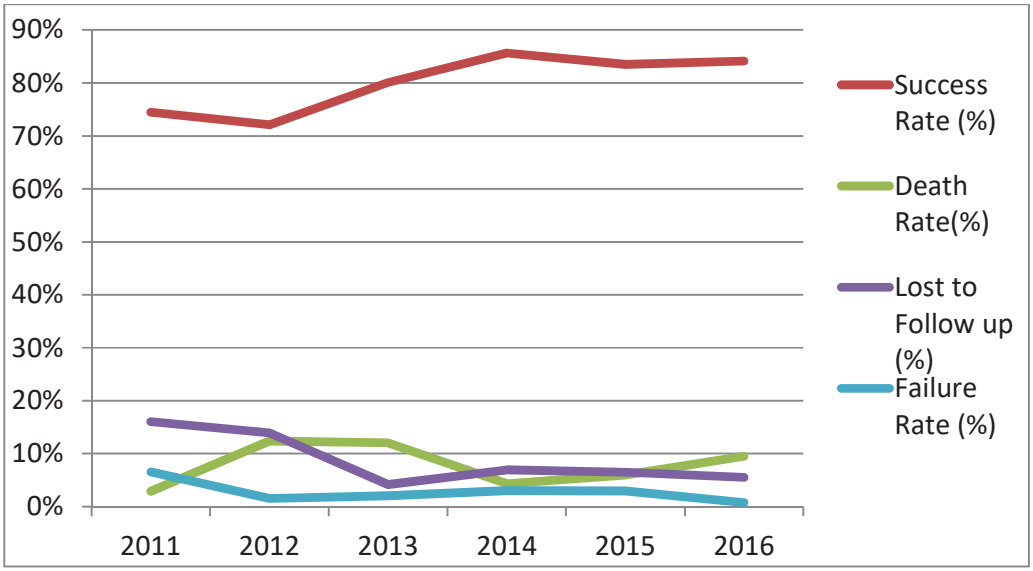
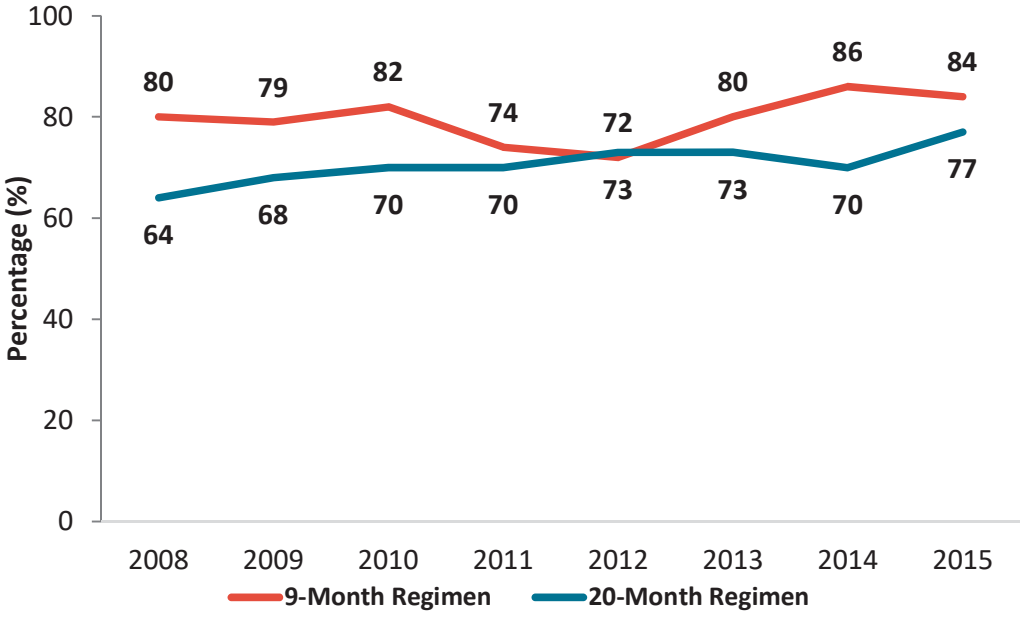


Figure 9: Comparative treatment success for 9 moth and 20 months regimen



Treatment delivery (DOT), adherence and social support

- STR has been started under programmatic conditions from April 2017. More than 50% of MDR-TB cases were initiated on STR in 2017 and more than 80% in 2018 (as per the information shared with mission team).
- Drug dosages are being administered as per national guidelines
- New drugs being provided to patients under End-TB project – targeted enrolment of 259 patients under the project is now complete.
- Baseline investigations and follow-up investigations are being done but found to be more consistent and extensive in the End-TB project.
- Most of the public health/ programmatic activities related to PMDT at national hospital are being done through Challenge TB project which raises questions about their sustainability after the project support is over.
- Some of the patients started on STR but for whom regimen was changed because of pre-treatment sputum results were labelled as failure.
- Treatment cards at NIDCH not fully updated.

Patient interview

The interviewed patient was well aware of the disease condition and treatment needs. He had Cat 1 treatment 3 years back, regular and complete. As of now the patient was receiving treatment as per guidelines and had received social support as per national guidelines. The patient was confident that treatment will cure him. However, the family members had apparently not been screened so far for TB/DR-TB

Patient support available under the programme

- Nutritional support for enrolled patients- BDT 1000 per month (reduced from 1500*)
- Provide Incentive for DOT Provider- BDT 1000 per month (reduced from 1800*)
- Cost of ancillary investigations - BDT 2500 (reduced from 6600)
- Travel Allowance to the patients and accompanying health worker during ambulatory period for follow-up was available. However, recently travel allowance for the accompanying health worker has stopped
- Ancillary drugs - Pyridoxine, Omeprazole, Antacid, Domperidone, Vitamin-B complex, Diazepam, NSAIDs are available through health systems

* The reductions have been enforced after stoppage of funding for this activity under Challenge TB project

Recommendations

- Complete contact investigation of all cases needs to conducted – household and workplace
- Patients needing to change regimen because of pre-treatment sputum results need not be given an outcome and be removed from STR cohort.
- Expansion of patient support activities and uniform administration could further improve treatment outcomes
- Earlier support levels for patients – nutrition and ancillary treatment need to be restored
- Follow up TB related tests as well as ancillary tests to be made free to all patients to reduce the out of pocket expenditure burden for patients
- Patients in whom regimen is changed because of pre-treatment DST results should not be labelled as treatment failure
- For ancillary tests required labs to be identified to provide free testing to the patients as per the MOUs to be developed under divisional heads

G. Pharmacovigilance/ aDSM

Although not discussed in detail, it was obvious that while the adverse events get recorded, they are not systematically reported under the programme. As also stated above adverse events under project mode are generally well recorded and maintained. However, under regular programmatic conditions, the adverse events reporting was not found to be systematic

Recommendations

As in previous mission, it is strongly recommended that all elements of aDSM should be implemented at the earliest. To operationalise the elements, following key activities are essential

- Establishing technical working group
- Data collection tools and SOPs for safety data available
- Establishment of national database
- Staff training on aDSM

H. Infection control

Infection control in visited hospital was found sub-optimal. There was overcrowding at all places, mixing of attendants with various patients, little use of masks by the patients and no system to maintain outward airflow. The installed UV lights on the roof faced downwards although they were not functioning at the time of visit.

Recommendations

- The programme should lay greater emphasis on infection control in clinics and wards, specifically during supervisory visits
- Less crowding of patients by adequate spacing of beds. Lesser hospitalization will facilitate this process
- Ceiling fans to be replaced by wall mounted fans and exhaust fans to maintain unidirectional airflow towards open space that is not visited
- All patients and attendants should wear masks and practice cough hygiene. Patients could be educated in groups on cutting the chain of transmission while in hospital as well as when they go back home.
- UV lights (if functional) should face upwards

I. Operational Manual and Guidelines update

NTP, Bangladesh has been updating its SoPs and guidelines for managing MDR-TB in accordance with WHO recommendations. However, some of the current constraints include:

1. The guidelines are available as separate sets of documents and not as consolidated PMDT guidelines. The original document titled PMDT guidelines is still old
2. Some of the sections of guidelines are not standardised for implementation e.g. patient support is not quantified leading to varied implementation

3. The recent move towards universal DST is to be incorporated in form of an appropriate algorithm

To facilitate the process of guidelines update, a consultation workshop was held for 2 ½ days with participation of NTP, NIDCH, all key partners and MDR-TB advisors. The agenda of workshop included discussions on existing guidelines and updates from WHO, group work on key areas needing update and presentation by groups in plenary for a consensus on changes needed. The following were key areas of agreement among members:

- The country needs to move towards universal DST. There could be two algorithms till such time that universal access to GeneXpert testing is ensured
    - Direct examination using GeneXpert with optional X-ray where available in areas where GeneXpert access is easy
    - Where GeneXpert is at distant location, sputum transportation will be done for priority symptomatics from linked sites while other new cases not at risk of drug resistance will be diagnosed using sputum smear. All these areas will transition to first algorithm as and when there is greater availability of GeneXeprt machines in the country.
- STR will be first choice of treatment. In case it is not possible to administer shorter regimen, individualized regimen will be given.
- Criteria for use of new drugs like bdq and dlm will be defined in detail in accordance with WHO recommendations
- Since guidelines for treatment of isoniazid resistant (Hr) TB are now available, Hr-TB diagnosis and treatment to be included
- Standard of patient support and DOT provider support to be included in the guidelines. This will include amount of support to be provided. In case the funding is not available through grant mechanisms, this will be negotiated through domestic sources
- Considering the counselling needs for drug-resistant case at all stages of treatment, ToRs for counsellor need to be better defined
- Continuous training of DOT providers will be included as guidelines to keep them updated with recent recommendations regarding patient support and monitoring needs
- Supervisory activities at all levels to be better defined for proper implementation and execution
- Some of the reporting formats are old. Updated recording and reporting formats will be included in new guidelines
- aDSM recording and reporting section to be updated to focus on needs

Recommendations

- Constitute a writing group inclusive of all in-country partners and with support from WHO. Steps to be followed
    - Collate the first draft of revised guidelines in next 5-6 weeks – The process is to be led by NTP, writing group and support/ mid-term review by WHO/rGLC secretariat
    - Circulate the guidelines amongst all stakeholders. In addition to those attending the discussion – Medical colleges, private sector, sub-national programme mangers
    - Provide 2-3 weeks turnaround time for any comments

    - Writing group meets again to finalise draft by end October
- Develop training modules based on new guidelines

Schedule of the rGLC mission

Date	Activities
Saturday, 07 July 18	Arrival in Dhaka
Sunday 08 July 18	Security briefing. briefing with WR Meeting with NTP team, Briefing by NTP on status of PMDT implementation, progress since last mission (specifically recommendations), progress against GF targets, challenges and plans
Monday, 09 July 18	Visit PMDT sites: (NIDCH Dhaka) Shorter regimen Longer regimen New drug regimen Visit Laboratory: NTRL (Dhaka) And work with focal person of MDR TB, NTP
Tuesday, 10 July 18	Stakeholders meeting **Morning session:** Discuss updated WHO diagnostic and treatment guidelines: presentations by visiting experts. **Afternoon** - chapter wise group work to discuss changes needed to guidelines
Wednesday, 11 July 18	Stakeholders workshop/ Chapter wise group work to discuss changes needed to guidelines
Thursday, 12 July 18	Stakeholders workshop and debriefing with NTP and WR
Friday, 13 July 18	Departure