ANNUAL REPORT 2024

damien foundation

let's act now, it's contagious

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Mymensingh, Netrakona, Tangail and Damien Foundation Coordinating Office

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List of Abbreviations

ACSM	Advocacy, Communication & Social Mobilization
AFB	Acid - Fast Bacilli
AIDS	Acquired Immunodeficiency Syndrome
ALERT	All Africa Leprosy, Tuberculosis and Rehabilitation Training Centre
AO	Accounts Officer
BDQ	Bedaquiline
BLF	Bangladesh Lung Foundation
BRAC	Bangladesh Rural Advancement Committee
CC	Community Clinic
CCM	Country Coordinating Mechanism
CDC	Chest Disease Clinic / Communicable Disease Control
CDH	Chest Disease hospital
CDR	Case Detection Rate
CS	Civil Surgeon / Culture and Sensitivity
CT	Complete Treatment
CTB	Challenge TB
DBLM	Danish Bangladesh Leprosy Mission (The Leprosy Mission Bangladesh)
DEPZ	Dhaka Export Processing Zone
DF	Damien Foundation
DFB	Damien Foundation Belgium
DFBD	Damien Foundation Bangladesh
DFCO	Damien Foundation Coordinating Office
DGDC	Directorate General of Development Cooperation
DGHS	Directorate General of Health Services
DPM	Deputy Program Manager
DOT	Directly Observed Treatment
DOTS	Directly Observed Treatment, Short-course
DST	Drug Susceptibility Testing
EP	Extra-Pulmonary
EQA	External Quality Assurance
FC	Field Coordinator
FDA	Fluorescein Diacetate
FDP	Fixed DOT Provider
FHI	Family Health International
FTLCP	Faridpur TB & Leprosy Control Project
FWA	Family Welfare Assistant
FWC	Family Welfare Center
GF	The Global Fund
GFATM	Global Fund to Fight AIDS, Tuberculosis & Malaria
GLC	Green Light Committee
GNP	Gross National Product
GoB	Government of Bangladesh
GP	General Practitioner
HE	Health Education
HIV	Human Immunodeficiency Virus
HNPSP	Health, Nutrition and Population Sector Program
HR	Human Resource
ICDDR,B	International Center for Diarrheal Diseases Research, Bangladesh
IDU	Injecting Drug User
IEC	Information Education and Communication
ITM	Institute of Tropical Medicine
IUATLD	International Union against Tuberculosis & Lung Diseases
JMM	Joint Monitoring Mission
KNCV	Koninklijke Nederlandse Centrale Vereniging tot bestrijding der Tuberculose (Dutch Tuberculosis Foundation)
LCA	Leprosy Control Assistant
LED-FM	Light Emitting Diode – Florescent Microscope
LEPRA	Leprosy Relief Association (UK)
LFA	Local Fund Agent
LPA	Line Probe Assay
LJ	Lowenstein Jensen
LTCC	Leprosy & TB Coordinating Committee
MB	Multi- Bacillary
MBDC	Mycobacterial Disease Control
MCR	Micro Cellular Rubber
MC	Medical College
MDG	Millennium Development Goal
MDR-TB	Multi-Drug Resistant TB
MDT	Multiple Drug Therapy
M&EO	Monitoring & Evaluation Officer
MO	Medical Officer
MoH&FW	Ministry of Health & Family Welfare
MoU	Memorandum of Understanding
MSH	Management Science for Health
MTB	Mycobacterium Tuberculosis
MTLCP	Mymensingh TB & Leprosy Control Project
NGO	Non-Governmental Organization
NKLab	Netrakona Laboratory
NLP	National Leprosy Program
NTP	National Tuberculosis Control Program
NTLP	National TB Control & Leprosy Program
NTLCP	Netrakona TB & Leprosy Control Project
NTM	Non-Tubercular Mycobacterium
NTRL	National Tuberculosis Reference Laboratory
OPD	OutPatient Department
PAL	Practical Approach to Lung Health / People Affected by Leprosy
PB	Pauci-Bacillary
PBC	Pulmonary Bacteriologically Confirmed
PCD	Pulmonary Clinically Diagnosed
PD	Project Director
PM	Program Manager
POD	Prevention of Disabilities
PPM	Public Private Mix
PR	Principal Recipient
PRSP	Poverty Reduction Strategic Paper
PT	Physio-Technician
PTB	Pulmonary Tuberculosis
QA	Quality Assurance
QMT	Quick Muscle Tests
RTLCP	Rajshahi TB & Leprosy Control Project
RTRL	Regional Tuberculosis Reference Laboratory
SDG	Sustainable Development Goal
SH	Sadar Hospital
SR	Sub-Recipient
SRL	Supranational Reference Laboratory
ST	Sensory Tests
TB	Tuberculosis
TLCA	TB & Leprosy Control Assistant
TLCO	TB & Leprosy Control Officer
TLMIB	The Leprosy Mission International Bangladesh
TTLCP	Tangail TB & Leprosy Control Project
UHC	Upazila Health Complex
UH&FPO	Upazila Health & Family Planning Officer
USAID	United States Agency for International Development
USC	Union Sub-Centre
UT	Under Treatment
VD	Village Doctor
WHO	World Health Organization
XDR	Extensively drug-resistant (TB)
ZN	Ziel-Nielsen

Preface

In 2024, the Damien Foundation Bangladesh continues its unwavering journey toward a TB and Leprosy-free Bangladesh vision rooted in compassion, commitment, and community partnership. This year marks not only another milestone of service but also a testament to adaptability and innovation amidst evolving public health challenges.

The organization's efforts have focused on strengthening early case detection and sustaining quality treatment. With strategic partnerships and government collaboration, Damien Foundation successfully expanded molecular diagnostics, decentralized patient-centred care, and maintained a robust network of community-based surveillance over the years. These approaches helped ensure that TB and Leprosy services reached even the most remote and vulnerable populations, covering a population of 27 million people.

Following the transition phase of area reallocation in 2024, Damien Foundation is implementing TB activities in Mymensingh, Kishoreganj, Netrakona, Tangail and Jamalpur districts. A total of 28,912 TB patients and 148 Drug-Resistant TB patients were diagnosed and registered, continuing its expertise in DR-TB management. The integration of Truenat and GeneXpert technologies led to an achievement of 317,937 TB presumptive, out of which 13,383 were bacteriologically confirmed patients, 8,908 were clinically diagnosed pulmonary TB, and 6,621 were extra-pulmonary patients. Additionally, 20,778 individuals received TB Preventive Therapy in the same year. The transition toward the BPALM/BPAL regimen marked another leap forward in advancing shorter and relatively safer but effective treatment for DR-TB patients. All these people reached after many challenges faced through area relocation.

On the Leprosy front, community-driven initiatives brought renewed hope. Through extended contact surveys, gender-inclusive field approaches, and joint outreach with GoB, 249 patients were detected in 2024, including 140 Pauci-bacillary and 109 multi-bacillary patients. The integration of leprosy care with livelihood support, vocational training, and assistive devices through Learning 360: Learning for Change and Resilience and similar support through SLC-supported activities, continued to transform lives-ensuring that healing extends beyond cure to dignity, self-reliance, and social inclusion.

The year 2024 marked a significant role for Damien Foundation, as we secured the Stop TB Partnership's TB REACH Grant to address Post-TB Lung Diseases. We extend our sincere appreciation to the National Tuberculosis Programme (NTP) and National Leprosy Programme under the Microbacterium Disease Control Directorate, Directorate General of Health Services, for its continued guidance and collaboration in implementing our activities in Bangladesh. This year, under NTP's instruction, the BPALM/BPAL regimen was introduced in the Damien Foundation working area, marking another milestone in the country's journey toward better DR-TB management.

As we move closer to our 2030 goals, the challenges of funding constraints, workforce retention, and equitable access remain real-yet our resilience remains stronger, which has been reflected in the results of the people we reached through our work. Guided by our vision of compassion in action, Damien Foundation Bangladesh stands firm in its belief that collaboration, commitment, and humanity together can achieve what once seemed impossible-a future free from TB and Leprosy.

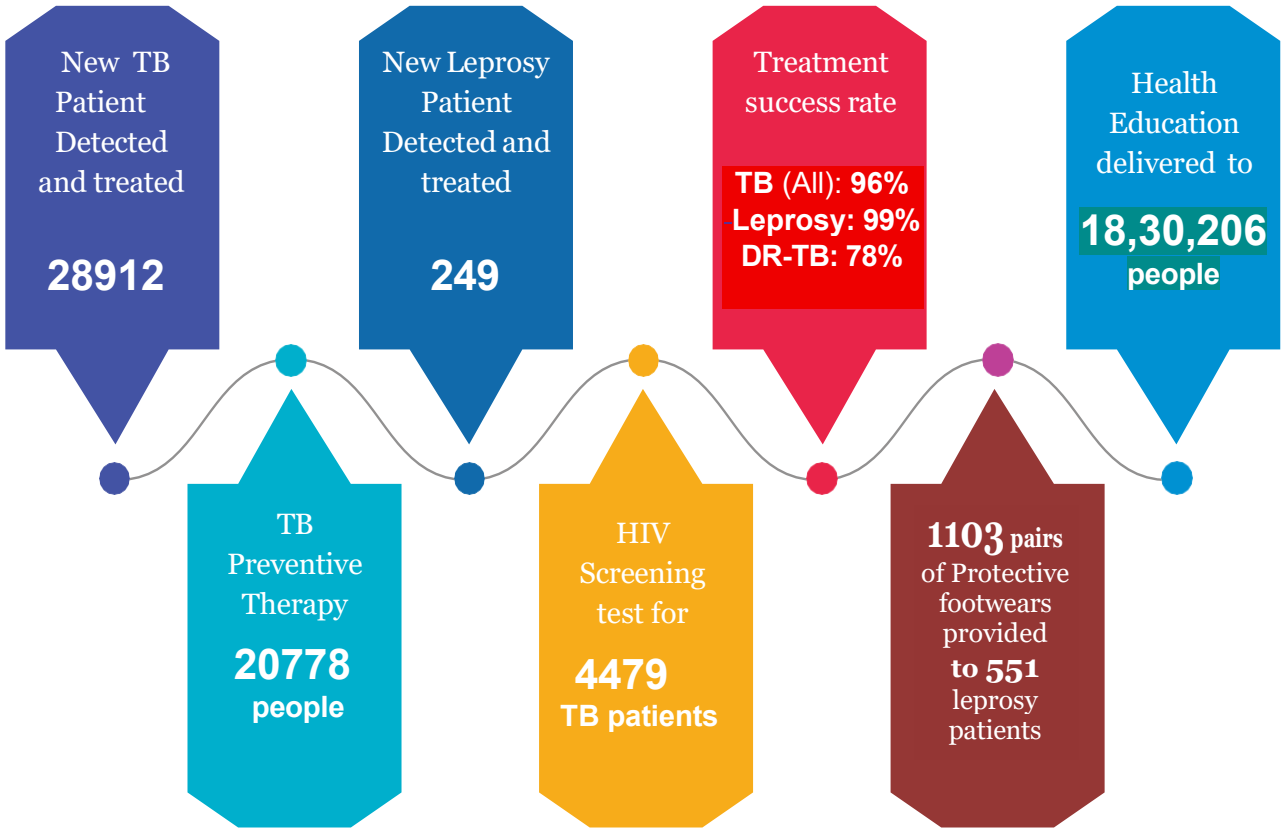
Dr. Mahfuza Rifat
Country Representative
Damien Foundation Bangladesh

1. Damien Foundation TB Services and Facilities

1.1 Coverage and Service Facilities

Damien Foundation (DF), a Belgian International NGO formed in 1964, is dedicated to the fight against Leprosy, Tuberculosis and Leishmaniasis until these are no longer a threat to public health. DF has been implementing Leprosy, Tuberculosis and Leishmaniasis programmes in 14 countries of the world. The organization started work in Bangladesh in 1972 with leprosy and added tuberculosis in 1991. DF started its work in Bangladesh according to the request from the Bangladesh government and has been implementing the programme in close collaboration with the National Tuberculosis Control and National Leprosy Programme (NTP & NLP). In 2024, the organization covered about 18.2 million population in 55 upazilas (sub-districts) of 5 districts by tuberculosis and 85 upazilas of 9 districts of leprosy programme with comprehensive services through 94 combined TB-Leprosy clinics, 30 leprosy clinics and 3 TB-Leprosy hospitals with 255 beds.

1.2 Achievement Highlights in 2024



2. Damien Foundation: Background

Damien Foundation (DF), a Belgian non-denominational and pluralistic NGO founded in 1964, is dedicated to the fight against Leprosy and Tuberculosis until these are no longer a threat to public health. The foundation is active in 14 countries of **Asia** (Bangladesh, India & Nepal), **Africa** (DR of Congo, Burundi, Nigeria, Niger, Guinea, Comoros & Senegal), **America** (Nicaragua, Guatemala & Bolivia) and **Europe** (Belgium).

Damien Foundation takes its name from Father Damien, a Belgian missionary who worked in the Hawaiian archipelago in the second half of the nineteenth century. He sacrificed his life caring for leprosy-affected people abandoned on the island of Molokai.

Damien Foundation is a member of the International Federation of Anti-Leprosy Associations (ILEP) which coordinates the activities of organizations active in the field of leprosy control and care worldwide. Damien Foundation also conducts operational and epidemiological research projects, the scientific publications generated from these research projects contribute in national and international policy recommendations in leprosy and TB.

The Damien Foundation started its journey to serve leprosy patients in 6 districts of Bangladesh in 1972 and thus it has been almost five decades since the start of its journey in reaching the people affected by Leprosy in Bangladesh. In the beginning, Damien Foundation fully concentrated on the elimination of Leprosy, and later on, since 1991 Tuberculosis (TB) Control has been included as the other major component considering the size of TB burden in Bangladesh. The organization is now involved in the control of Tuberculosis and further management of Leprosy in close collaboration with the National TB Control Program (NTP) & National Leprosy Program (NLP), Ministry of Health & Family Welfare (MoH&FW), Government of the People's Republic of Bangladesh. Since 1994, this collaboration has been continuing based on the Memorandum of Understanding (MoU) signed between National TB Control Program on behalf of the Government of Bangladesh (GoB) and LTCC (Leprosy & Tuberculosis Coordinating Committee). LTCC is a consortium of 10 Non-Governmental Organizations or NGOs (Damien Foundation, The Leprosy Mission International, LEPRA Bangladesh, HEED Bangladesh, RDRS, LAMB, Salvation Army, Dhanjuri Leprosy Center, PIME Sister and the Christian Leprosy Centre, Chandraghona).

According to the MoU, each NGO partner is allocated to implement the Program in defined geographical areas to avoid duplication of services and GoB agreed to ensure the supply of essential drugs, equipment (e.g. microscopes), laboratory reagents, other consumables, recording and reporting forms, registers etc.

The organization is currently covering 9 districts out of which 5 districts (55 upazilas) with about 18 million people are covered by both TB and Leprosy Program and 4 districts (30 upazilas) by leprosy program only. So, total coverage is 27 million population in 85 upazilas under 9 districtsThe organization operates through four projects, namely Tangail TB & Leprosy Control Program (TTLCP), Mymensingh TB & Leprosy Control Program (MTLCP), Netrakona TB & Leprosy Control Program (NTLCP) and Rajshahi Leprosy Control Program (RLCP). The Damien Foundation Bangladesh works as a non–political organization duly registered with the NGO Affairs Bureau, Government of Bangladesh, under the Foreign Donations (Voluntary Activities) Regulations Ordinance 1978.
A total of 94 combined TB & Leprosy clinics including 4 in medical college hospitals and 01 in Dhaka Export Processing Zone (DEPZ) and 30 leprosy clinics are functional in 85 upazilas of 9 districts. Among the total 124 clinics cum labs, 39 are 2nd labs located below upazila level to ensure better geographical coverage and to improve access of population in remote or hard to reach areas to modern TB-Leprosy diagnostic and treatment services.

The project has also established a network of patient friendly directly observed treatment TB treatment supporter (DOTs provider) services at the community level through voluntary involvement of village doctors, cured patients, religious leaders, school teachers etc. At present around 7,000 Fixed DOT Providers (FDPs) are involved in providing DOT in the area covered by Damien Foundation

The Damien Foundation program provides specialized hospital care for complicated TB and Leprosy patients including MDR and XDR-TB patients by its own three referral hospitals with a total of 255 beds situated in Tangail Jalchatra hospital-95 beds, Mymensingh hospital-100 beds & Netrakona hospital-60 beds.

The Damien Foundation is the pioneer organization in showing the path of shortening the regimen for MDR-TB patients. The organization developed a 9-month shorter regimen for MDR-TB treatment through programmatic trail which was finally endorsed by the WHO in May 2016 observing the excellent results of this regimen from different countries. Many countries, including Bangladesh, started implementing this shorter regimen. The WHO-recommended Shorter Oral Treatment Regimen (SOTR) for MDR-TB treatment was based on the Damien Foundation-developed shorter regimen where only the injectable drug had been replaced by the new drug, Bedaquiline.

3. Major Donors of Damien Foundation Bangladesh (2024):

The Damien Foundation-Bangladesh is mainly co-financed by the Belgian Government (Directorate General for Development-DGD) through the Damien Foundation-Belgium. Since August 2004, Damien Foundation Bangladesh has also been financially supported by the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM).

In 2024, a total amount of Taka 141,334,021.00 (Euro 1,128,840.00) was received as a grant from Damien Foundation Belgium to cover the expenses of DGD-supported projects. The total fund received from GFATM in local currency was Taka 36,820,709.00 (equivalent to 295,747.79 Euro).

In addition, a considerable contribution was received from the Government of Bangladesh equivalent to Taka 381,620,895 (equivalent to 3,077,813.73 euros), which was realized in kind as TB drugs, MDR TB drugs, lab Equipment, Lab materials, logistic supplies, and so on. Besides, an estimated clinic rent for 124 clinics was Taka 4,166,400.00 (equivalent to 33,602.47 Euro). The total government contribution was Taka 385,787,295 (equivalent to 3,111,416.20 euros) in 2024.

It is noted that for the year 2024, the major Government contributions were mainly for GeneXpert machine (16 modules with laptop-1 laptop), three different types of GeneXpert cartridges (139,990 pieces) and four different types of Truenat cartridges (48,000 Pieces), which were installed within the Government premises for the upgradation of the laboratory network. The total aggregating amount was Taka 203,156,175.00 (equivalent to 1,638,476.50 euros)

4. Tuberculosis (TB)

Tuberculosis (TB) is a major public health problem in Bangladesh where about 314,951 people were diagnosed with TB in 2024 (Global TB Report of WHO, 2025). Bangladesh belongs to the list of top 20 high TB and MDR-TB burden countries in the world. There were 221 new patients (all forms of TB) per 100,000 population in Bangladesh in 2024, according to the WHO Global Report 2025, and the estimated mortality rate was 25 per 100,000 population. MDR/RR TB incidence was 1.4 per 100,000 population, estimated total 2400 in 2024 (WHO Global TB Report, Country Profile 2025).

The overall TB burden in Bangladesh was identified through a national prevalence survey in 2015-16, however geographical variation of prevalence was not addressed. This survey of 98,710 participants following WHO guidelines found that the prevalence of pulmonary bacteriologically confirmed (PBC) TB among adults (aged 15 and above) was 278 per 100,000. The survey utilized advanced diagnostic tools,GeneXpert, LED FM microscopy, digital chest X-rays, and culture. Only 19% of PBC cases were detected through microscopy among symptomatic individuals, while 20% were detected through screening asymptomatic individuals with X-rays and GeneXpert. Additionally, 90% of PBC patients were X-ray positive, with 62% diagnosed among non-symptomatic individuals. The implementing organizations had to follow the national target for all geographical areas. As a result, the achievement of case finding varied in different geographical areas.

The country adopted the WHO-recommended DOTS strategy in 1993. The country achieved expansion of the DOTS strategy throughout the country by 1998. Since August 2004, the NTP and its partner NGOs have expanded and strengthened the overall TB control Program in the country.

NTP continued the expansion of new GeneXpert sites, and a total of 764 GeneXpert machines were installed by the end of the year 2024, out of which there were 57 GeneXpert machines in the Damien Foundation area (in 5 TB districts where there are 94 TB clinics cum laboratories, with an additional 3 in DF 3 hospitals). Moreover, there were 16 Truenat machines in 16 remote sites below upazila level in the Damien Foundation working area. Although about 78% of the total peripheral laboratories had molecular testing machines (Gene Xpert & Truenat) these could not be optimally utilized due to shortage of cartridges & chips for a certain period, as well as due to module problems and delay in repairing and maintenance.

The NTP national strategic plan covering the period 2024-2030 contains strategies and interventions based on the principles outlined in the WHO's "End TB Strategy" that would enable the NTP to achieve the End TB Strategy's Milestones for 2025 (75% reduction in tuberculosis deaths and 50% reduction in tuberculosis incidence rate) and targets for 2035 (95% reduction in tuberculosis deaths and 90% reduction in tuberculosis incidence rate) compared with 2015.

4.1 Progress towards case detection and treatment outcome targets

A total of 28912 TB patients were registered in 5 TB districts during 2024.Out of these total TB patients, 46% were pulmonary bacteriologically confirmed TB patients, 31% were pulmonary clinically diagnosed TB and 23% Extra-Pulmonary TB patients. There has been an overall steady increasing trend in TB patient finding in the last eight years. Table 1 below presents the numbers of the different forms of TB that were diagnosed annually during the period 2001-2024 in all project areas combined. DF covered 13 districts under the TB program from 2001 to 2023 and 5 districts in 2024.

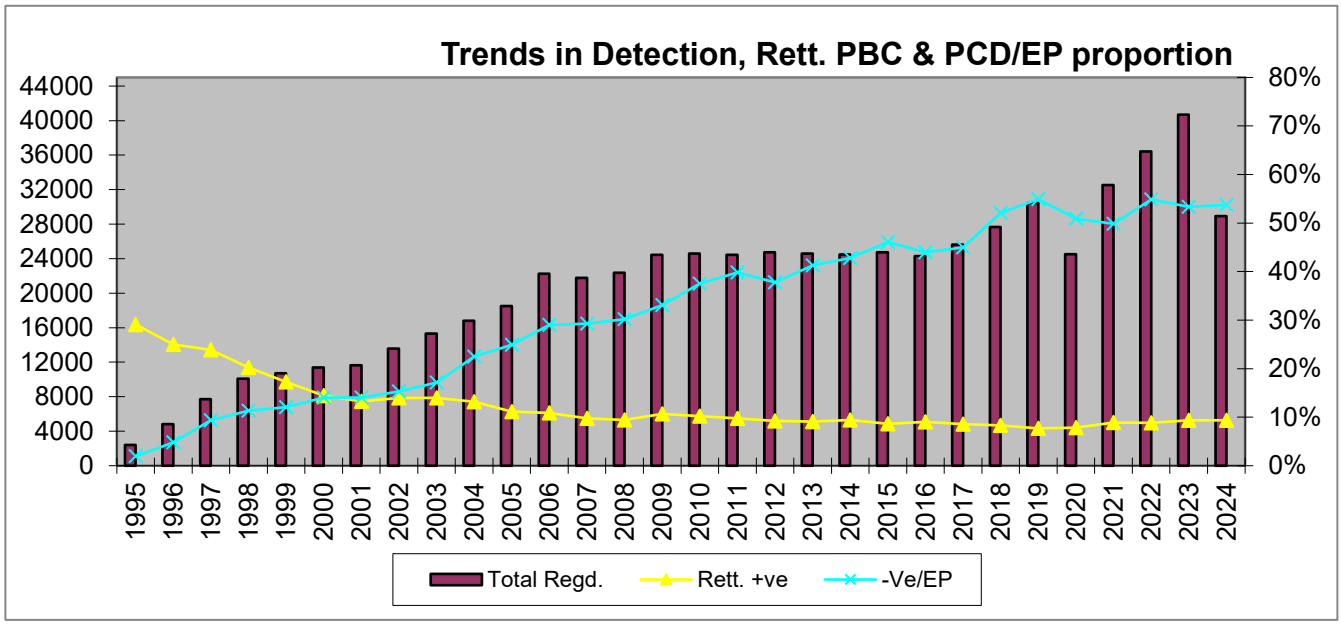
Table 1: Tuberculosis patients (different types) registered since 2001

Year	New PBC	PBC Re-treatment	All PCD & EP all	Total
2001	8677	1327	1637	11641
2002	9895	1607	2078	13580
2003	10912	1744	2619	15275
2004	11298	1714	3772	16784
2005	12350	1552	4616	18518
2006	14084	1717	6455	22256
2007	13899	1501	6366	21791
2008	14150	1475	6752	22377
2009	14611	1746	8096	24453
2010	13805	1566	9233	24604
2011	13268	1435	9722	24425
2012	13966	1418	9348	24732
2013	13115	1314	10145	24574
2014	12683	1321	10476	24480
2015	12194	1148	11396	24738
2016	12328	1185	10787	24300
2017	12900	1204	11529	25633
2018	12149	1102	14424	27675
2019	12665	1055	16715	30435
2020	11094	942	12479	24515
2021	14858	1452	16217	32527
2022	14992	1447	19977	36416
2023	17215	1780	21708	40703
2024	12129	1254	15529	28912*

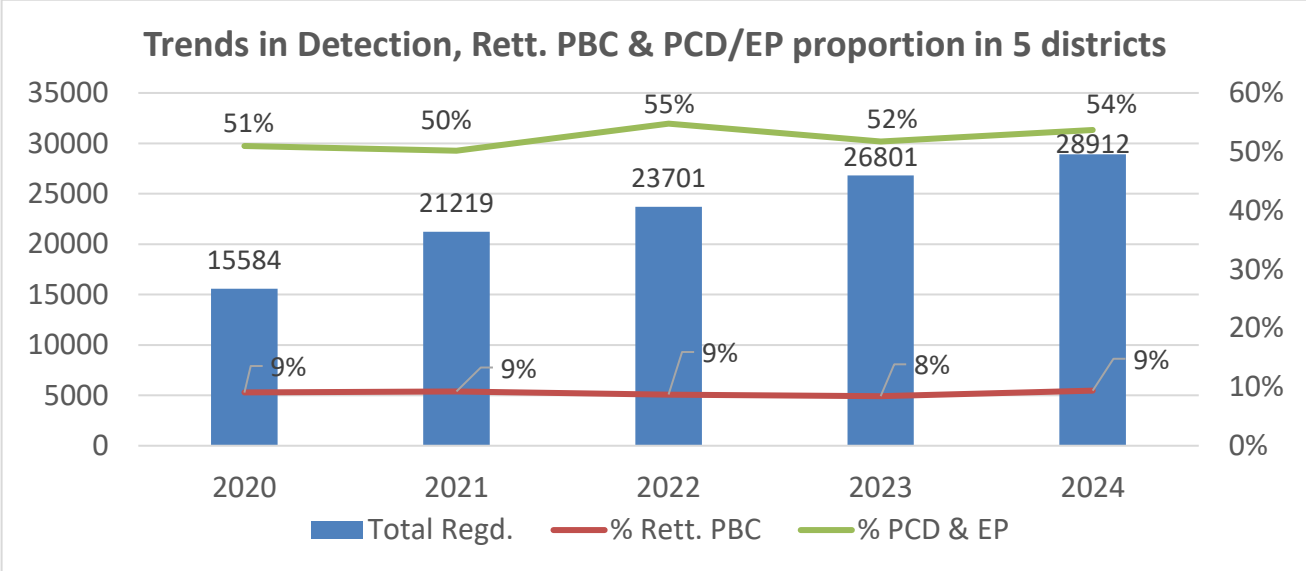
*The report in 2024 was from 5 districts.

There was an overall increasing trend in TB patient notification, both for PBC and PCD. The proportion of PBC and other types (PCD & EP) was also relatively constant throughout the period. The proportion of re-treatment patients remained steady at 9%, as shown in graphs 1 and 2.

Graph 1: Trends in TB patient registration, Retreatment PBC and Smear -ve (PCD/EP) proportion



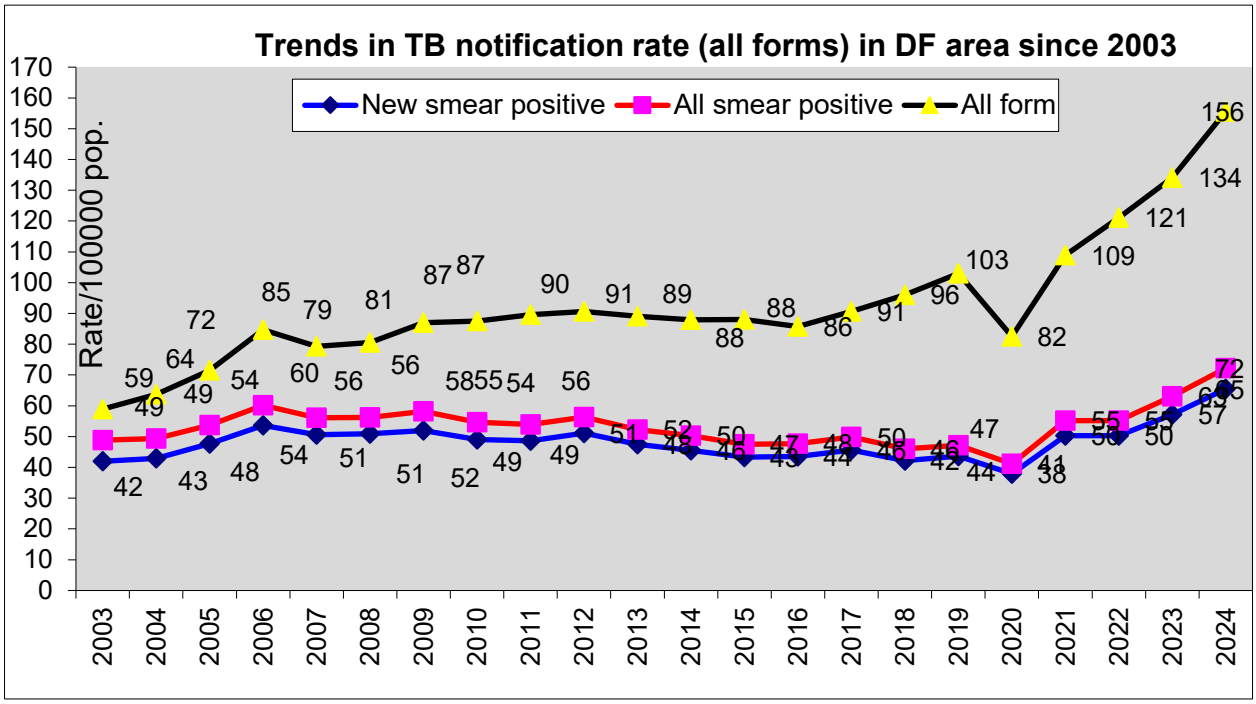
Graph 2: Trends in Detection, Rett. PBC & PCD/EP proportion in the current 5 districts of DF



In 1995, most re-treatment patients registered by the project had previously been treated outside the NTP by private providers, making up 29% of all smear-positive cases. Over the years, this proportion dropped to around 8-9%, reflecting improved referral links with the private sector and better accessibility and acceptability of NTP services. Nearly all re-treatment cases were due to NTP regimen failures, relapses, or patients returning after being lost to follow-up.

There was an increase in the trend of all forms of notification rate from 90 per 100,000 population in 2017 to 165 per 100,000 in 2024. There was almost no change in the CNR of Bacteriologically Confirmed TB Patients from 2020 to 2021, when it started increasing, reaching its highest point in 2024, which could be due to the expansion of GeneXpert facilities, an increased number of sputum samples transferred to Gene Xpert and more emphasis on contact investigation and outreach sputum collection centre.

Graph 3: Trends in PBC & All Form TB CNR per 100,000 population in the DF area

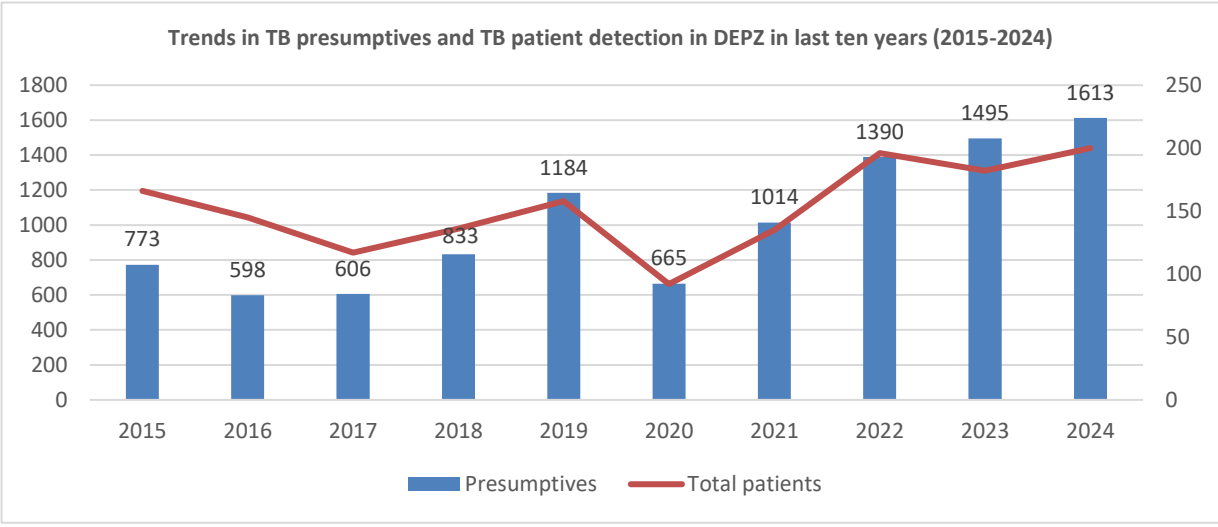


New

4.2 TB control activities in the workplace (Dhaka Export Processing Zone)

There has been a rapid urbanization trend in Bangladesh leading to the development of several factories in urban and peri-urban areas both in organized and non-organized ways. People with low income from rural areas migrate to work in those factories where the working conditions are often unhealthy with overcrowding and poor ventilation. These poor workers are often paid low and several workers also share a small room for their living. Such living and working conditions are the most favorable environment for easy transmission of highly communicable tuberculosis disease. Considering the situation DF started TB control activities in 2004 in Dhaka Export Processing Zone (DEPZ), a government-controlled workplace, located near Dhaka where more than 100,000 workers are engaged in processing export goods and most of them are young female workers. However, DF has access to the garments where there are around 76,000 workers. Since the start of the Program in DEPZ, DF has observed a higher TB incidence among the workers compared to the general population. In 2024, 1613 presumptive cases were collected from the DEPZ zones, out of which 200 TB patients (including 86 PBC patients) were detected. The female ratio among detected TB patients in DEPZ workplace is almost double compared to the general population. The graphs below show the trends in presumptive and TB patient detection during the last ten years:

Graph 4: Trends in presumptive TB patients and TB patient detection in DEPZ

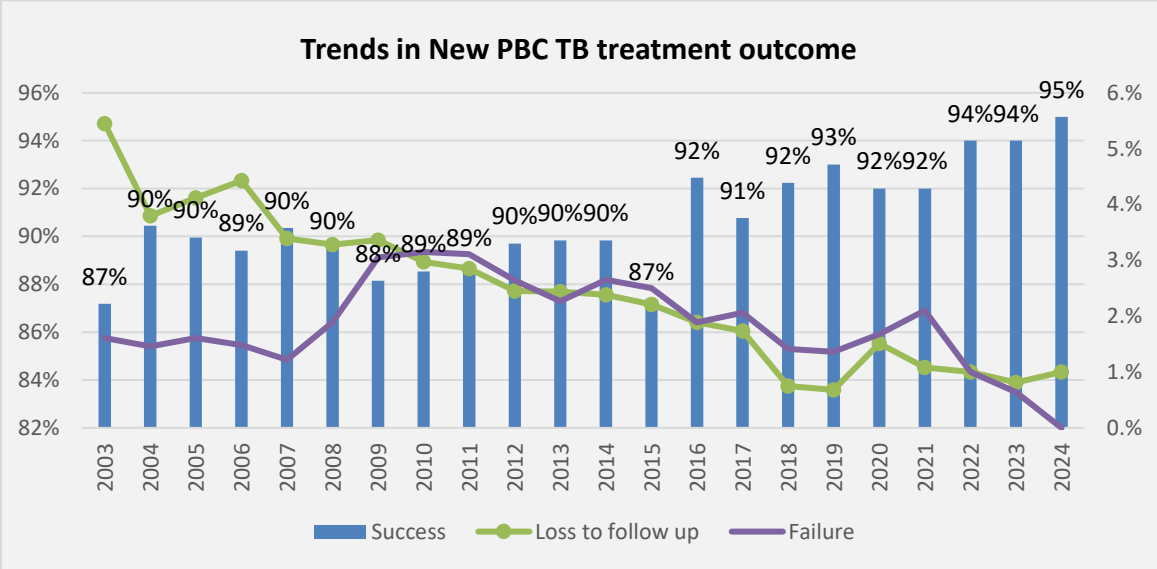


Considering the growing expansion of industrial factories, DF planned to strengthen TB activities in newly industrialized DF border districts involving the private sector. Situation analysis involving the workers who

were admitted to DF hospitals indicated their unawareness of the availability of TB services near their workplaces. As a result, they first seek care from private pharmacies and return home when they do not improve. To increase awareness of TB among factory workers and the factory owners and managers, DF organized orientation and advocacy sessions. Moreover, DF also organized outreach sputum collection centres near the factories and improved the record keeping and reporting at existing TB clinics in industrial areas for the factory workers. As a result, in 2024, a total of 797 TB patients were diagnosed among workers of different factories in the DF area and put on treatment.

The TB treatment success rate has been maintained above 85% since 1995 and 90% or above since 2016, with a low rate of unfavorable outcomes (death at around 3.00%, 1.00% lost to follow-up with failure rate at zero (0.00%). The treatment success rate for PBC patients reported in 2024 (registered in 2023) was 98% and for all patients, it was 94%. The graph 9 below shows the trends in TB treatment success, loss to follow up and failure rates for PBC TB patients since 2003.

Graph 5: Treatment outcome in new PBC patients among factory workers since 2003



4.3 Tuberculosis in children

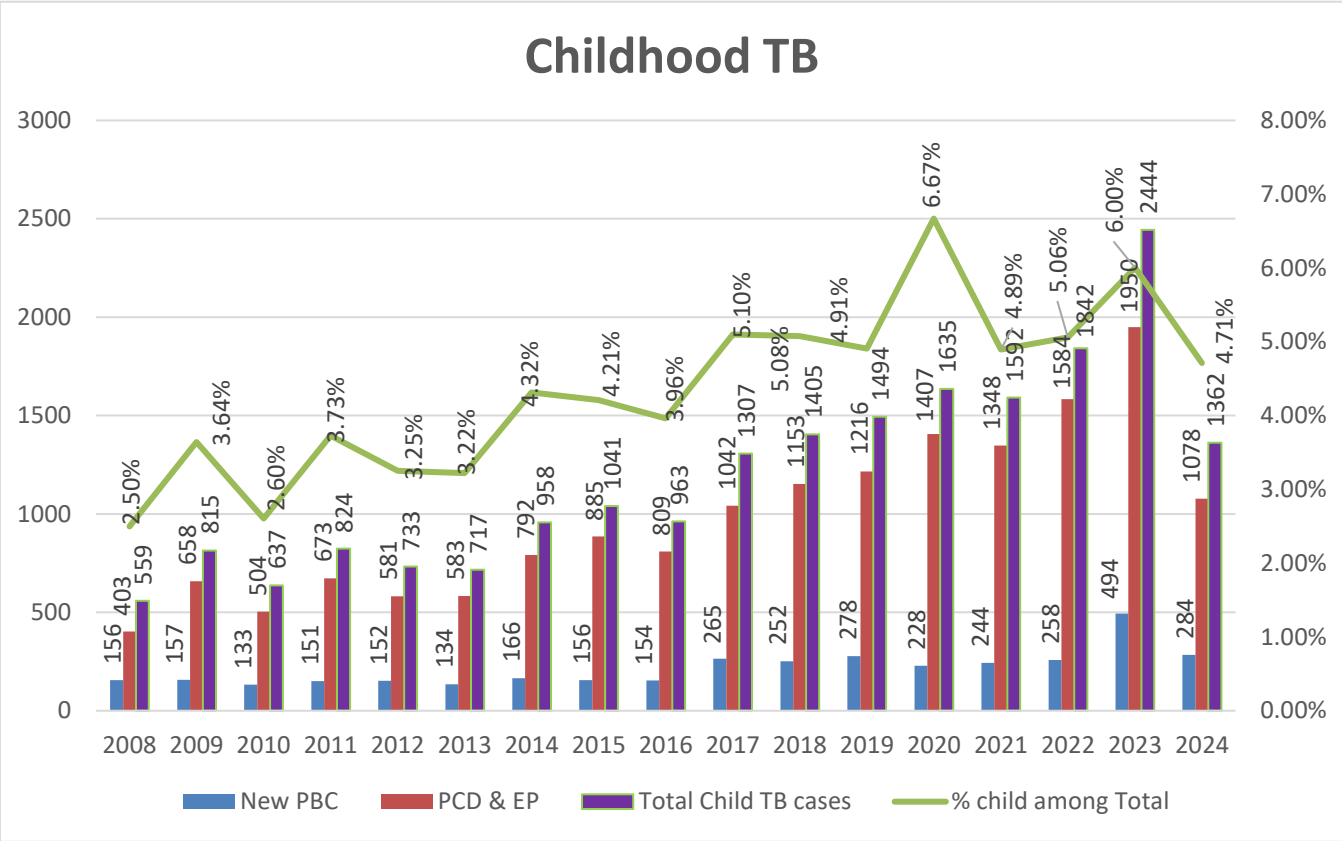
Child TB diagnosis is a global concern due to under-detection, with children being highly vulnerable to contracting TB from adults. In Bangladesh, limited diagnostic facilities and specialists make detection particularly challenging. Symptoms in children differ from adults, and young children struggle to produce quality sputum, making it harder to detect bacilli through microscopy due to lower bacilli load in the sputum.

Estimating the incidence of TB among children is difficult, and the published estimates vary. Experiences in implementing different projects (Challenge TB, ACTB, etc.) for child TB detection in Bangladesh show that there is an increase in child TB detection during the period of implementation not sustained after the project. The rate of increase also varies from project to project and area to area.

Efforts at improving the diagnosis of TB among children were continued in 2024 through coordinating with government doctors on the diagnosis of childhood TB. A total of 297 doctors were oriented through 15 sessions in 2024. The proportion of child TB detection has remained little more or equal to the national average in the DF area for the last few years. In 2024, around 4.7% (1362) of the total TB patients in the DF area were children. Child TB diagnosis through stool testing by Gene Xpert has been started in few areas in 2024. This will increase gradually. Although there was a slight decrease in child TB proportion in 2024 compared to 2023, an overall increasing trend in the absolute number of child TB patients has been observed since 2008. The graph below shows the year-wise child TB patient detection in the DF project area since 2008.

2 Epidemiology and disease burden of tuberculosis in children: a global perspective. Infect Drug Resist, 7:153–65, null 2014.
3 World Health Organization. Global tuberculosis report 2014. World Health Organization, Geneva; 2014. (WHO/HTM/TB/2014.08).
4 Intervention to increase detection of childhood tuberculosis in Bangladesh; INT J TUBERC LUNG DIS 16(1):70–7

Graph 6: Child TB detection from 2008 to 2024 in the DF working areas



TB Preventive Therapy (TPT) was introduced in 2023 for all age groups by the National Tuberculosis Control Programme, stopping IPT (Isoniazid Preventive Therapy) for children only. 3HR (Isoniazid + Rifampicin) combination tablets, daily dose and 3HP (Isoniazid + Rifapentine weekly dose for 3 months) weekly dose are used for three months under TPT activities. In 2024, a total of 38,935 contacts of PBC TB patients were examined, and 32,574 eligible clients for TPT (contacts of PBC TB patients who did not have active TB) were identified through contact tracing; among them, 20,778 (64%) were enrolled under TPT in 2024. Among the total enrolled clients, 12,402 (60%) were female, and 4079 (20%) were children. The outcome /completion rate of TPT enrollment in 2024 will be available by the end of 2025.

4.4 TB in prison

It was found from several surveys that the prevalence of TB is higher in prisons compared to the general population. The reason for this higher prevalence is due to the fast spread of TB in poorly ventilated, densely crowded living conditions in the prisons. Inmates often have limited access to health care services, and the health care service providers also have limited access to the prisons, as the prisons are restricted places. For this reason, very little is known about the severity of TB in the prisons of Bangladesh. The foundation, in collaboration with the NTP Bangladesh, organized a survey in the 4 jails of Rajshahi, Naogaon, Nawabganj and Tangail districts in 2003. The findings were that the TB prevalence in the surveyed jails is 152/100,000 population compared to 79.4/100,000 population among the general population. Since then, DF has established a referral linkage with the local jail authorities and health personnel. DF staff are informed if TB presumptive is identified among the inmates of prison, and sputum samples are collected by prison health staff. There are 5 prisons in the DF working area only, and a total of 23 TB patients were detected in those 5 prisons in 2024. The prison health staff are engaged in providing DOT inside the prison, and the DF staff are informed when an inmate of the prison is released for further arrangements to engage a DOT provider from the resident upazila. However, this arrangement had to face administrative challenges, especially during the COVID-19 and post-COVID period.

4.5 TB HIV co-infection

TB remains the most common opportunistic infection among HIV-infected people in TB high-burden countries like Bangladesh. TB-HIV co-infection leads to rapid progression to TB disease and earlier deaths. HIV prevalence among the Bangladeshi adult population and TB patients is still low (<0.1%), but risk factors exist in the society through which HIV can spread and increase at any time. The prevalence is higher in high-risk groups, such as intravenous drug users located in some hot spots (in 23 districts). Up to 2021, HIV testing services were limited to those district spots only, and DF has been referring TB patients with high-risk behaviour (if any) to the available nearest HIV counselling and testing centres. In 2023, it was decided to test the HIV status of all types of diagnosed TB patients in all areas, and by December 2024, a total of 30,720 HIV screening tests had been done in the DF area through Determine test kits since January 2022.

4.6 Drug-Resistant TB

Since 1997, DF started to treat MDR-TB patients using a succession of standardized regimens under operational research conditions, which led to the identification of a highly effective, safe, short and relatively cheap regimen initially resulting in close to 90% cure with minimal bacteriological failure or relapse, and without amplification of second-line drug resistance. This regimen was known as the "Bangladesh Regimen" worldwide. Treatment success of this regimen has been maintained at above 85% during recent years because of earlier detection of fluoroquinolone resistance through slide DST and enrolling them on appropriate treatment, though the potent fluoroquinolone (gatifloxacin) had to be replaced by a weaker one (levofloxacin) because of its unavailability in the market.

DF has developed locally appropriate, low-cost, simple and safe laboratory screening and drug susceptibility testing methods (FDA vital staining; slide DST), which have led to an increasingly early screening, diagnosis and treatment of such patients. Currently, GeneXpert technology is used in detecting RR TB patients and 2nd line LPA (Line Probe Assay) for 2nd line drug resistance or slide DST for detecting levofloxacin resistance among RR TB patients.

This year, NTP has initiated the introduction and expansion of Gene-Xpert XDR (10-colour machine) in TB diagnostic centres at Upazila Health Complexes and other TB hospitals, significantly improving early detection of second-line drug resistance at all levels.

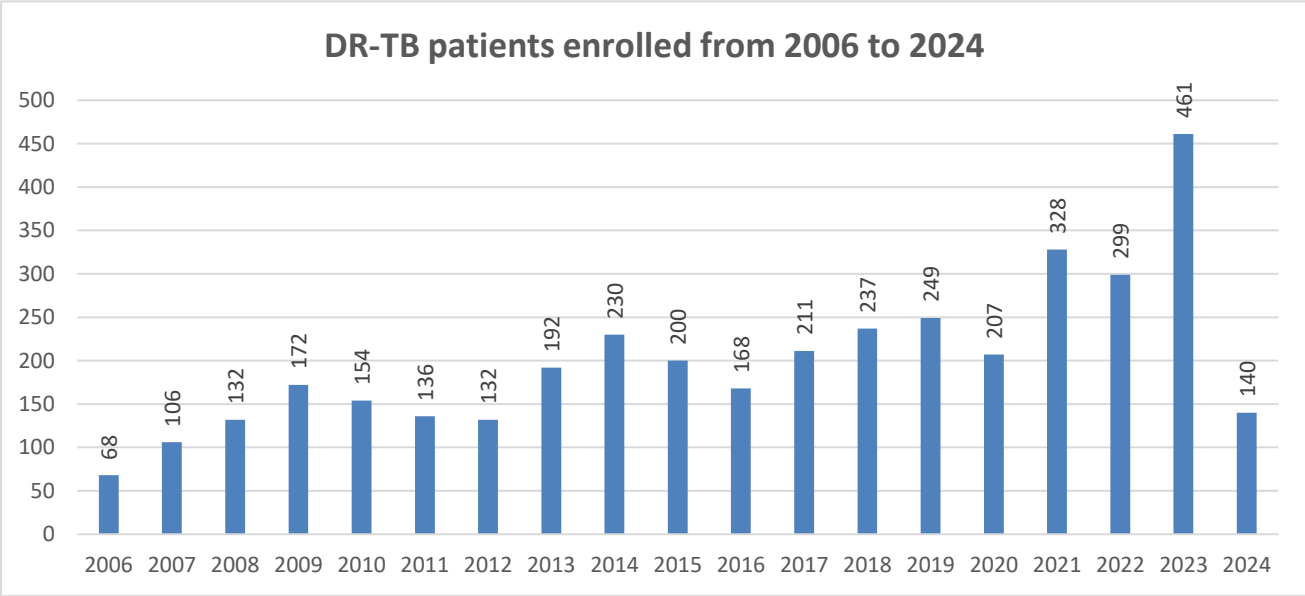
The DF innovated "Bangladesh MDR shorter regimen" was tested by The Union through a clinical trial named STREAM (Standardised Treatment Regimen of anti-Tuberculosis Drugs for patients with MDR TB), a randomised controlled clinical trial, in South Africa, Vietnam, Mongolia and Ethiopia. This regimen was also formally evaluated in two trials, one in 9 francophone African countries. In the Union STREAM stage 2, two new regimens were included with stage 1: one of them is a 40-week regimen with bedaquiline, clofazimine, ethambutol, levofloxacin & pyrazinamide supplemented by isoniazid and prothionamide for the first 16 weeks and the other is 28-week regimen with bedaquiline, clofazimine, levofloxacin & pyrazinamide supplemented by isoniazid & kanamycin for the first 8 weeks. Following an expert review of available observational study findings on shorter regimens, the WHO updated its guidelines in 2019, including the shorter regimen for use under certain programmatic conditions.

Observing the excellent results obtained by DF Bangladesh and following the WHO endorsement in 2016, several countries, including NTP Bangladesh, adopted and expanded this short course regimen. NTP Bangladesh adopted and started the expansion of this regimen throughout the country in 2018, using moxifloxacin as the core drug and continued strengthening the services for MDR TB patients. However, in the meantime, the WHO recommended an oral shorter regimen, which is close to that of the DF innovated 9-month shorter regimen, where injectable has been replaced by the new oral drug "bedaquiline". NTP Bangladesh introduced the Shorter Oral Treatment Regimen (SOTR) in 2021 and expanded throughout the country in subsequent years. Later part of 2023, NTP Bangladesh further decided to introduce BPal/BPalM recommended by WHO for MDR/DR TB, which has gradually been scaling up all over the country. So far, a total of 140 DR-TB patients have been brought under treatment in the DF area in 2024.

Damien Foundation received intensive support from the Mycobacteriology laboratory of the Institute of Tropical Medicine (ITM) in establishing a culture and DST laboratory and including all other technical supports for the development of a standardized regimen for MDR TB in Bangladesh. Besides existing culture laboratory in Netrakona, Damien Foundation upgraded its existing Laboratory under Mymensingh project into a BSL-2+ level laboratory. This laboratory will be used as a Regional TB Reference Laboratory (RTRL) for 6 districts in the Mymensingh region in future.

Enrolment of MDR TB patients on the WHO-recommended Shorter Oral Treatment Regimen (SOTR) was initiated in Bangladesh in 2023. Before that, DF invented a 9-month shorter regimen that had been scaling up since 2018. Since 2006, a total of 3,788 MDR TB patients have been enrolled shorter MDR treatment regimen (DF 9-month shorter and WHO SOTR) up to 2024 in the DF area, and the enrollment during 2024 was 140. The proportion of treatment of Drug-Resistant TB under a shorter regimen in Bangladesh was 92% (1139 out of 1233) enrolled on a shorter regimen. The decrease in DR-TB in 2024 was mainly due to the double-checking of sputum by GeneXperts, which confirmed the diagnosis based on the results of the second test, as per the national programme's decision. The treatment outcome for DR-TB in 2024 (patients enrolled in 2023) was 78%.

Graph 7: Enrollment of DR-TB patients since 2006



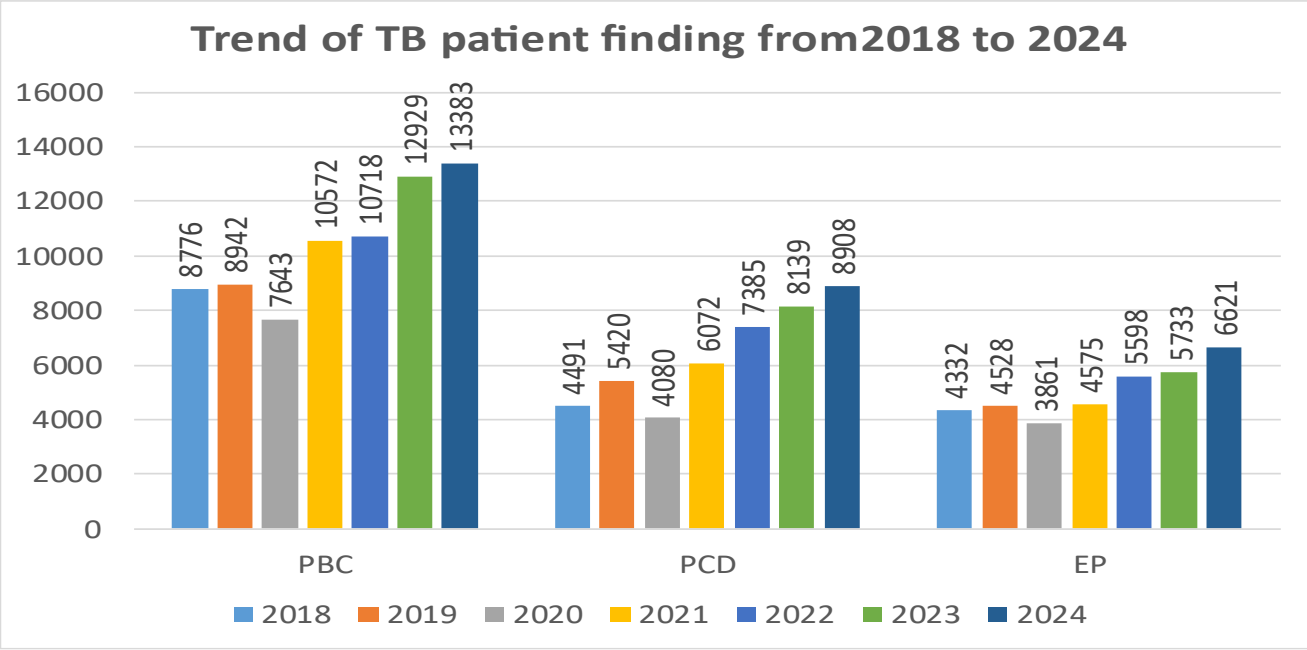
4.7 Infection Control (IC) for tuberculosis

Infection Control (IC), aiming at protecting healthy people from the sick, remains an important step in the TB control Program, especially when M/XDR TB is posing a threat to the achievements. Moreover, strengthening the IC has become more important for preventing other infectious diseases that may emerge as comorbidities like COVID-19. Infection from patient to other people not only protects the healthy people and staff, but also TB patients from other infections like COVID-19. Infection control measures were established in DF hospitals since its inception by ensuring separate rooms for MDR TB patients from non-MDR TB patients, and Pulmonary Bacteriologically Confirmed (PBC) patients from Pulmonary Clinically Diagnosed and Extra-pulmonary TB patients. Adequate ventilation and fresh air circulation in hospital ward rooms (removing the TB droplet-containing air) have been ensured in all the DF hospitals by keeping the doors and windows open and installing adequate fans. Health education among hospitalized patients on safe sputum collection (in 2-5% phenol solution containing buckets), cough hygiene and cough etiquette is being continued routinely. Masks are routinely supplied to all hospitalized patients in the DF hospitals and their regular use has been ensured by the nurses. In the clinics, the infection control measures have been ensured by arranging the different assets (cupboard, tables, chairs etc.) and modifying the sitting arrangements, taking the airflow into account. The infection control measures that have been strengthened due to the COVID-19 pandemic situation have been continuing as per developed guidelines.

4.8 Continuing special efforts for finding missing TB patients:

The latest Global TB Report 2025 (WHO) shows that the TB treatment coverage in 2024 was 82%, meaning that still about 18% of estimated TB patients are not covered in Bangladesh, although there is no clear picture of the volume of missing patients in different geographical areas, as the prevalence survey did not show any local-level prevalence. The prevalence survey indicates that more use of Gene Xpert and digital X-ray technology can be helpful for finding missing TB patients. Accordingly, all projects of DF Bangladesh prepared their plan up to upazila and union level to find out the missing presumptive TB patients and refer them for diagnosis by GeneXpert, X-Ray, microscopy, and other tests. Active case finding was emphasized through more contact tracing and outreach sputum collection centres focused on hard-to-reach, underserved/unserved areas, and older and vulnerable populations. As a result, the detection of TB patients continued to increase each year from 2018 to 2024, except in 2020, when there was a fall due to the COVID-19 pandemic. The following graph shows the comparison of TB patient findings in current 5 districts from 2018 to 2024.

Graph 8: The following graph shows the trend of TB case findings in 5 districts from 2018 to 2023



5. Leprosy

Although Bangladesh declared its achievement of the elimination status in 1998 at the national level, leprosy has been considered a neglected public health problem in Bangladesh. Despite the elimination status, Bangladesh remains one of the countries worldwide detecting >2500 new leprosy patients annually. It has been observed that among the total new patients detected in Bangladesh, more than 70% of patients are detected in the NGO-covered area.

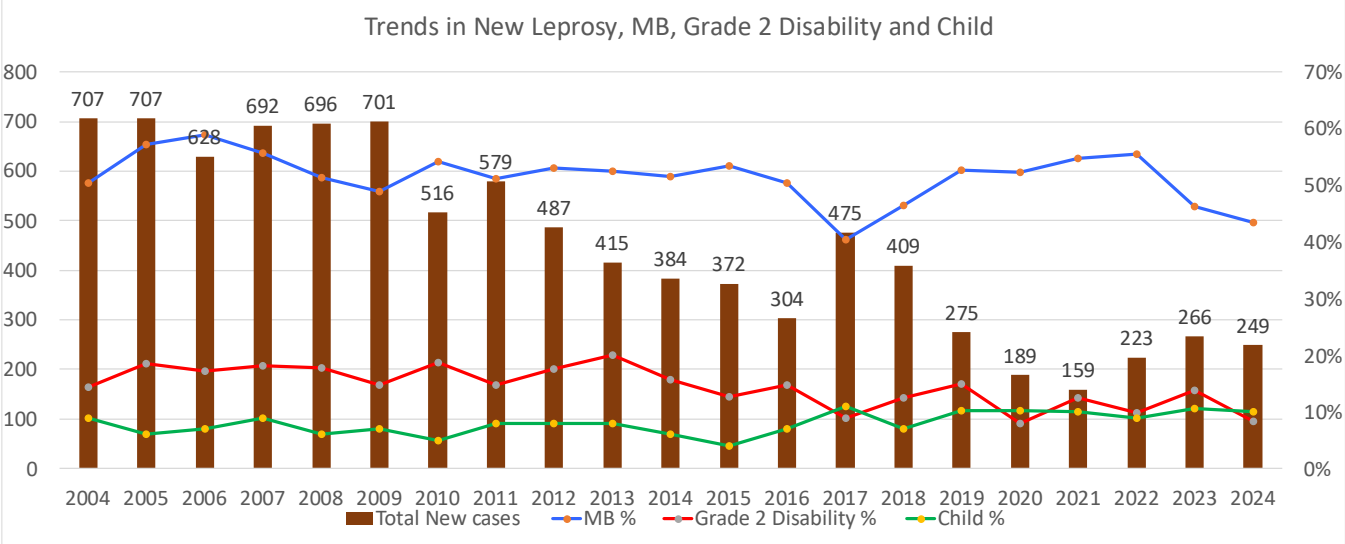
In 2024, a total of 249 new leprosy patients were detected in the DF area, with approximately 44% being MB leprosy, which is about 6% fewer than in 2023. Around 19% of MB (20 out of 108) patients were skin smear positive. Children made up 10% of new cases, and 47% (117 patients) were female. The number of Grade 2 disability (G2D) in 20234 was 21 (8.4% of total patients). Graph 12 illustrates the number of new leprosy patients and the proportion of MB, child cases, and G2D among those diagnosed in 2024.

7 Global TB Report 2023_WHO: TB profile (shinyapps.io)

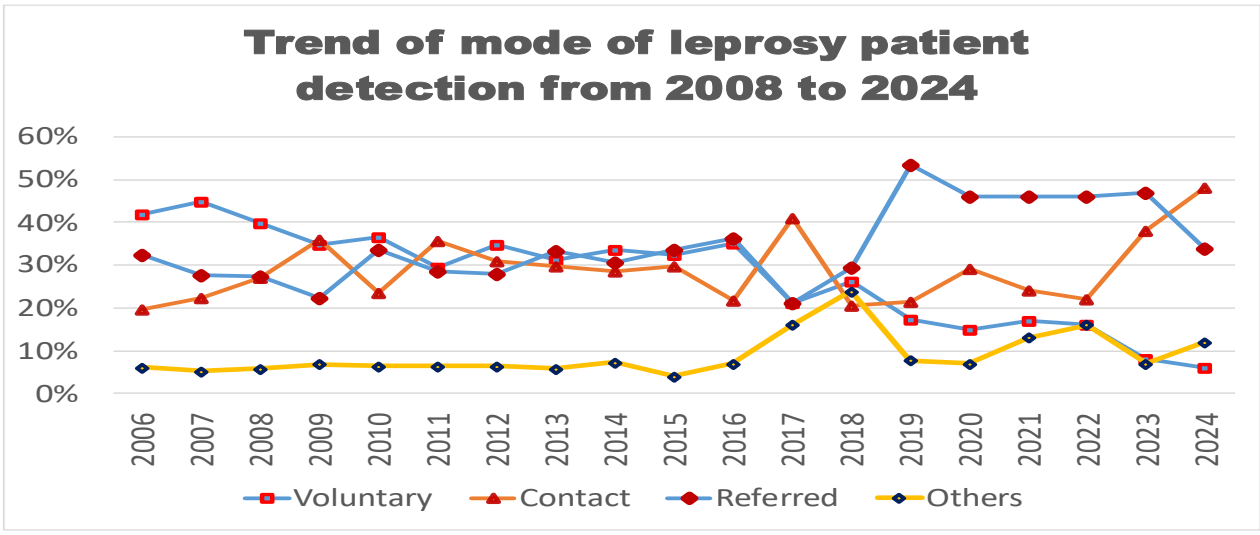
Graph 12: New Leprosy Detection, Proportion of MB & disability grade 2 in DF Bangladesh, 2004 – 2024

Due to the rarity of the disease and low number of patients, contact checking (active case finding) remains an important part of sustaining leprosy case detection in situations where the leprosy endemicity is low. However, in recent years, the proportion of referrals has been increasing which may indicate an increasing role of local health care providers and other community stakeholders. The graph below shows the trends in leprosy case reporting, indicating the sources.

Graph 9: Trends in leprosy mode of case detection in DF Bangladesh projects



Graph 10: Trends in leprosy mode of case detection in DF Bangladesh projects



The DF Bangladesh project has consistently maintained a high treatment completion rate of over 90% for both PB and MB leprosy patients in recent years. In 2024, the overall treatment completion rate for all leprosy patients was 99%, with PB patients achieving 99%, registered in 2023, and MB patients, registered in 2022, also reaching 99%.

Although 57% of newly detected leprosy patients were pauci-bacillary, the presence of 43% multi-bacillary infectious cases, a higher child proportion (10%), and a significant grade-2 disability rate (8.43%) highlight ongoing late diagnoses and the continued spread of the disease. This delay in diagnosis may be driven by stigma. Combined with the need for lifelong care for deformed patients, these factors underscore the critical importance of the DF project's continued and intensified support for leprosy care.

5.1 Care of Leprosy Patients; Prevention of Disabilities (POD)

Leprosy, being a disabling neurological disease, leaves affected persons with permanent disabilities if not detected early and treated properly. Disabilities and deformities require lifelong care to prevent further deformities and disabilities. Hence, prevention and care of deformities and disabilities are the most important aspects of leprosy management. This could be achieved by early diagnosis and judicious treatment of both diseases and of any reaction/neuritis that occurs. Every step is taken to prevent further development of new disabilities through routine follow-up, early diagnosis and prompt management of nerve-function-impairment (NFI), supply of protective footwear, teaching on self-care, and other support.

The main objective of POD activities is to minimize additional disabilities apart from those which was present at diagnosis through teaching patients with disabilities about self-care and through providing protective footwear and ulcer care. Since the beginning (1972), Damien Foundation has been providing passive care to limit further disability and deformity by asking them to report voluntarily or any problem after completion of MDT. Additionally, from the year 2008 to 2017, Damien Foundation took the special initiative for the prevention of disability and deformity by active surveillance of all patients, whether new or completed MDT by means of observing 'POD Day' in every clinic once a year. The main objectives of POD Day were to promote self-care by the patients and to optimize the skills of all field staff to limit the disability due to leprosy. To organize a successful POD Day, all clinic staff were informed about their presence in the clinic, about the pre-POD visit by the physio-technician (PT), and a visit by PT one month prior to the POD Day. For POD visits to a clinic, the clinic staff, including the TB-Leprosy Control Officers (TLCO), are informed so that they can make good planning and arrange effective POD activities, including the listing of patients under care and informing them, checking the stock of POD materials, preparing a list of patients for reconstructive surgery and other supports needed. TB and Leprosy Control Assistants (TLCAs) also gain more confidence and improve their skill in patient management through this POD activity. General counselling on self-care to limit further disability through peer Education by the selective patient is performed on the POD Day. Individuals are taught self-care, ulcer care, and active and passive exercises. Protective footwear is distributed based on the needs of patients.

Since 2017, POD Day has been integrated into the regular field visit program of the physio-technician, where leprosy patients are informed to attend the clinic on the day of the physio-technician's visit to the clinic. The clinic staff and physio-technician jointly provide necessary support services to the patients who attend the clinic. For the care of leprosy patients having anaesthetic feet, a total of 1103 pairs of MCR shoes were supplied in 2024.

During the year 2024, a total of 283 leprosy patients were hospitalized for the management of different types of complications in the three DF hospitals, 76% of them were hospitalized for ulcer management and for special types of shoes. Around 17% of the admitted leprosy patients had reaction/neuritis and 6% had other complications.

6. Damien Foundation Reference laboratory and Quality Control of laboratories

The Damien Foundation culture laboratory located at Netrakona started LJ culture in 2002 under close supervision of the mycobacteriology laboratory of the Institute of Tropical Medicine (ITM), Antwerp, Belgium. As a rapid tool, FDA staining was used as the screening tool for the identification of MDR TB presumptive patients and slide culture DST (which gives results in 2 weeks) for detection of MDR TB. This laboratory procedure (slide DST) requires very minimal equipment and infra-structure which was also established in other project laboratories afterward. Later, since 2012, the game changer revolutionary technology, Gene Xpert machine was made available in all DF hospital-based laboratories. This technology can detect the presence of MTB in sputum specimens and the presence of rifampicin resistance only in about 2 hours. Since then, GeneXpert has been used as a screening tool for the detection of rifampicin resistance and FDA staining was phased out. Slide DST has been used for GeneXpert RR samples to detect SLD resistance. LJ culture DST has been performed if X-pert MTB/RIF test shows RR and for routine monitoring of MDR TB treatment and other extensive DST for diagnosis of pre/XDR TB in the DF area. This Netrakona laboratory has been serving as the central role for laboratory aspects of all research in Damien Foundation in Bangladesh.

Netrakona laboratory provides technical support to the DF project laboratories located at the project offices and the project laboratories provide support to all field laboratories located at the district, sub-district and below levels. Sputum samples from all previously treated (for at least 1 month) patients including non-converters and failure patients and contacts of DR TB patients are first tested using GeneXpert technology to detect rifampicin resistant (RR) patients. RR patients detected through GeneXpert are then referred to DF hospitals for slide DST for 2nd line drugs (mainly levofloxacin) and for enrollment on DR TB regimen. Slide DST (mainly for levofloxacin) is routinely performed besides LJ culture DST for all sputum samples collected from all RR TB patients at the start of treatment and the initial strains are also routinely sent to the Antwerp lab for first- and second-line DST through Netrakona lab. All follow-up sputum samples during treatment of DR TB are also sent to Netrakona laboratory for solid culture and DST if found culture positive.

The Quality Assurance (QA) system for all other laboratories of DF Bangladesh has been developed through a regular monitoring mechanism by this DF- Reference lab at Netrakona, which is working with the full technical support of SRL, Antwerp, Belgium. Netrakona lab is also providing full assistance for DF clinical and lab-related research, e.g. currently supporting the lab aspects of MDR TB management.

Primary culture on LJ medium and conventional phenotypic LJ-DST is done in the Netrakona lab. Strains isolated on LJ culture at the Netrakona culture lab are regularly sent to the Antwerp supra- national reference lab (SRL) for quality control of culture and DST of this lab.

In 2024, the Reference laboratory processed 1839 primary cultures, 78 LJ-DST, 60 slide DST and 6069 Xpert tests. Netrakona lab sends one strain for each MDR patient before the treatment starts for MDR/Pre-XDR and NTM strains that are requested by ITM. LJ- DST in Netrakona is done only for Rifampicin, Kanamycin, Isoniazid and Ethambutol and is rewarding for the DF projects to find out Pre-XDR and XDR TB patients earlier.

DF Netrakona Lab. has been participating in the quality assurance programme for DST of MTB in the network of supra-national laboratories (SRL) for a long time (rounds of proficiency testing) and has successfully demonstrated acceptable performance.

Netrakona lab has also been serving as the external quality assessment site of skin smears from leprosy patients examined at the DF project laboratories. All the DF project laboratories serve as the first control of all DF field laboratories for EQA of sputum smears. The Netrakona lab served as the second control for EQA of sputum smears for several years. Later, the second control was temporarily shifted to the Tangail project lab as part of a decentralization step. Later, the 2nd control was temporarily shifted to the Tangail project lab as part of a decentralization initiative with capacity development.

DF Laboratory at Netrakona

7. Hospital Activities

Besides 124 field clinics situated at Government premises mostly, DF also runs three own hospitals with a bed capacity of 255 to take care of complicated leprosy and TB, including MDR TB patients among 34 million population in DF area in Bangladesh. These hospitals are situated in Jalchatra, Shambhuganj and Anantapur under Tangail, Mymensingh and Netrakona districts, respectively. During the year 2024, a total of 1204 patients: TB 921 (76%) and leprosy 283 (24%) received care from DF hospitals. Complicated patients and patients with very poor general conditions are normally referred to hospitals. Overall bed occupancy in Jalchatra, Mymensingh and Netrakona hospitals was 35%, 25% and 27% respectively during 2024. The average bed occupancy rates per disease category and duration of stay in different DF hospitals are shown in the table below:

Table 2: Bed Occupancy and duration of stay

	TTLCP		MTLCP		NTLCP	
	Leprosy	TB	Leprosy	TB	Leprosy	TB
Subtotal	42%	33%	38%	16%	34%	25%
Total	35%		25%		27%	
Duration of stay in days						
Average	37	16	34	26	33	13

Graph 11: Trends in hospital bed occupation

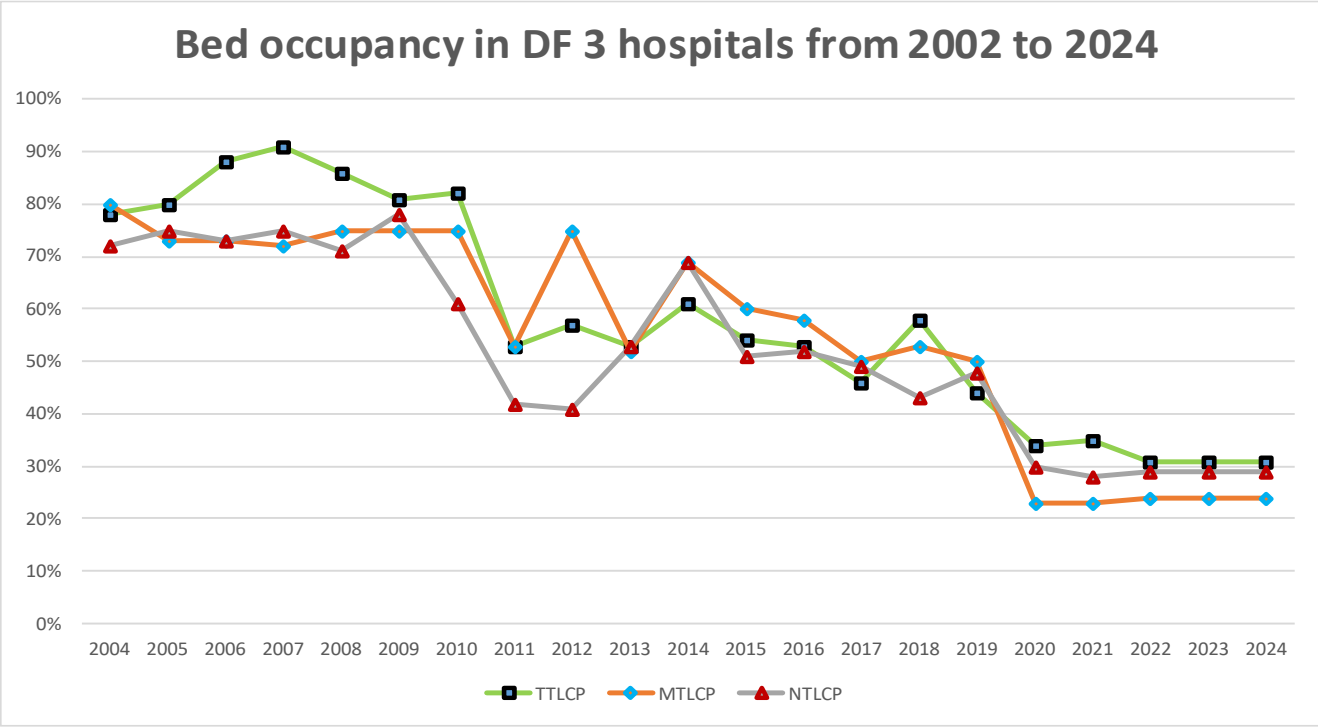


Table 3: Reasons for TB admission in 2024

Hospital	Treatment Complication	Poor general health	Drug reaction	MDR Follow-Up	MDR (To start)	Other	Total
MTLCP	55(35%)	53(34%)	44(28%)	3(1.91%)	1(0.64%)	1(0.64%)	157
NTLCP	107(31%)	185(54%)	32(9%)	0(0%)	19(6%)	0(0%)	343
TTLCP	127(30%)	133(32%)	88(21%)	0(0%)	27(6%)	46(11%)	421
Total	289(31%)	371(40%)	164(18%)	3(0%)	47(5%)	47(5%)	921

Table 4: Reasons for Leprosy Admission in 2024

Hospital	Reaction & neuritis	Ulcer	Eye complication	Reconstructive Surgery	Other	Total patient
MTLCP	33(19%)	132(76%)	0	1(1%)	8(5%)	174
NTLCP	5(10%)	39(80%)	2(4%)	0(0%)	3(6%)	49
TTLCP	9(15%)	43(72%)	1(2%)	1(2%)	6(10%)	60
Total	47(17%)	214(76%)	3(1%)	2(1%)	17(6%)	283

The organization runs an OPD for general patients from Jalchatra Hospital (TTLCP) to serve the local community and ensures twenty-four hours emergency service for the general patients.

8. Community engagement through communication for social change

Communication for social change is an important component of the TB Program to address four key challenges such as improving case detection, treatment adherence, combating stigma/discrimination, and empowering people affected by TB and mobilizing political commitment and resources for TB.

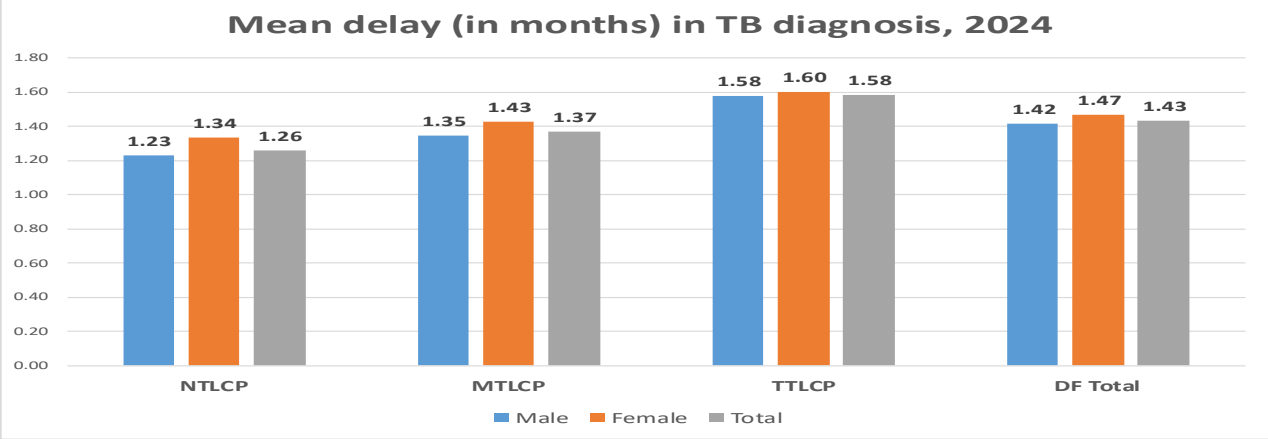
The objectives of ACSM are to increase awareness, bring about behavioral change, influence social norms, reduce social stigma & discrimination and expand community support in the TB control Program. In line with the Global and National strategy, the Damien Foundation Bangladesh (DF) is actively involved in disseminating TB & Leprosy related health messages through a variety of communication channels to improve and sustain TB & Leprosy related safe behaviour among individuals and the community. These are as follows:

- Community health education
- Orientation of village doctors
- Meeting with cured TB patients/elites of the community (TB club meeting)
- Orientation of Medical Officers/Graduate Private Practitioners
- Meeting/orientation with different NGO staff/Government health service providers
- Health Education in out-patient and indoor department of health service providing institutes
- Mobilization through miking at community/marketplaces and mobilization through house-
- to-house visits
- Patient-to-patient education for self-care
- Observance of World TB & Leprosy Days
- Training and refresher course for own staff

9. Role of Communication in early TB diagnosis

Communication for social change activities plays a crucial role in promoting early TB diagnosis. These efforts have helped reduce the overall delay in diagnosis to under 1.5 months across DF projects up to 2024. As shown in Graph 15 below, there has been a noticeable reduction in the time taken for disease diagnosis, highlighting the effectiveness of ACSM initiatives. By raising awareness, engaging communities, and encouraging timely healthcare-seeking behaviour, ACSM has been instrumental in minimizing delays and improving early detection rates, which is key to controlling TB transmission and ensuring better patient outcomes. The details of the ACSM activities have been described in the upcoming sessions.

Graph 12: Diagnosis delay in 2024 - project and gender wise



Community-based health education during leprosy IECS

Hospital care of complicated TB patients

World TB Day and World Leprosy Day of this reporting year were observed on 24 March 2023 and 27 January (last Sunday) 2023, respectively. The days were observed in collaboration with local Government health authorities. Observance of these days was marked by rallies, brief meetings, and the display of banners at the Upazila Health Complexes.

World TB Day Rally at Jamalpur

World Leprosy Day Meeting at Netrakona

World Leprosy Day 2024 Rally at Mymensingh

10. Engaging all care providers and community

10.1 Public-public and public-private mix approaches

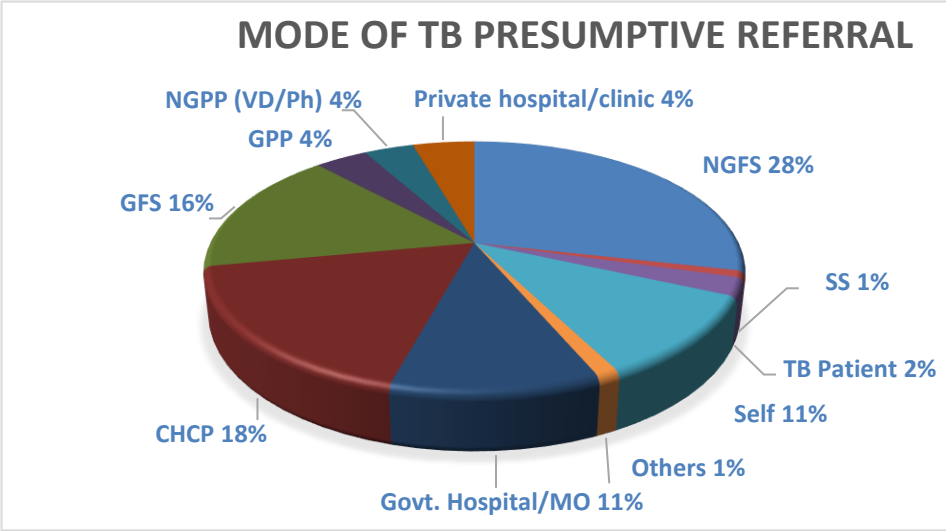
Engaging all care providers through public-private mix (PPM) approaches is an important core component of the TB Program. The engagement of all relevant healthcare providers is essential to meet the TB-related Sustainable Development Goals (SDGs) and reach the targets for the TB Program.

In the project area, Damien Foundation successfully involved all health institutions belonging to public sector health care networks, such as public hospitals, health care providing facilities at rural levels, medical college hospitals, prison health facilities and workplaces.

Orientation of Graduate PPs on under-5 Child TB detection at DF Netrakona

Besides, many informal private health care providers (village doctors/drug sellers), cured TB patients, graduate private medical practitioners, private hospitals and NGO health facilities were involved in the referral of presumptive patients and providing DOT.

Graph 13: Contribution to referral of TB presumptive by different provider groups



Graph 14: TB patient notification by support from different provider groups

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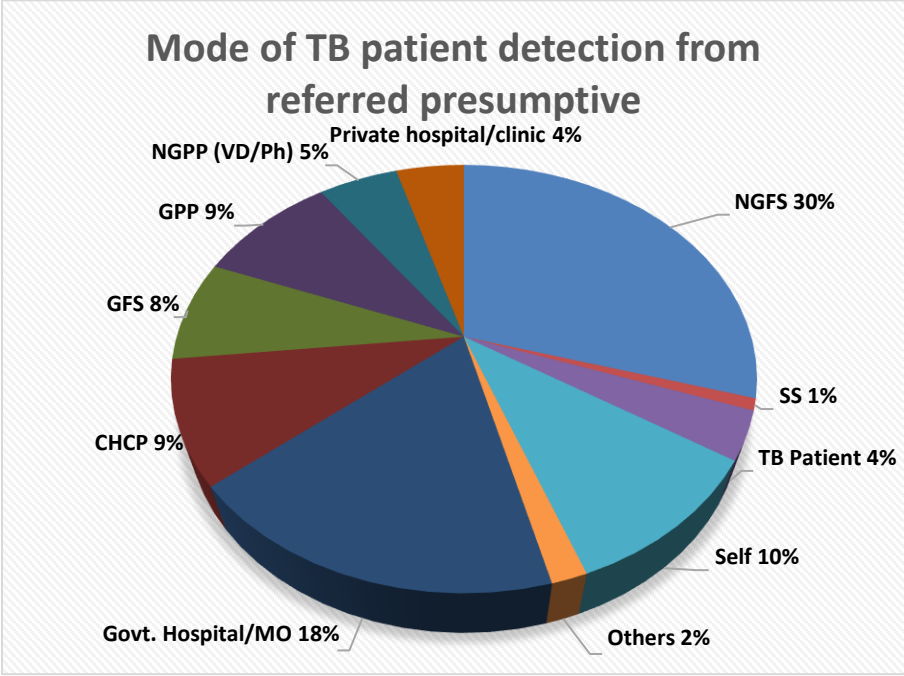
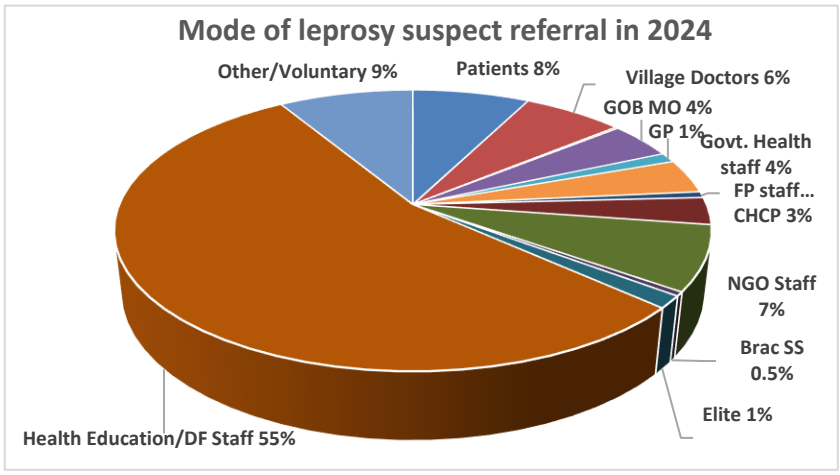


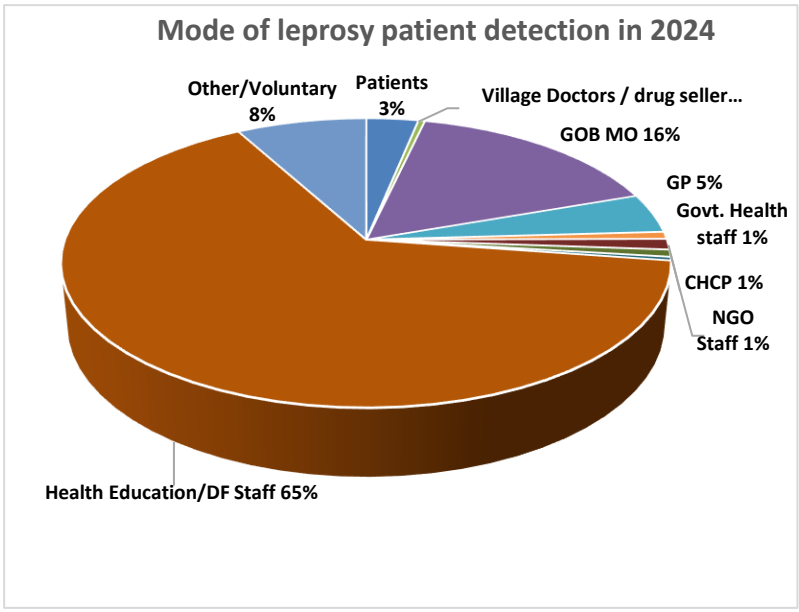
Table 5: TB presumptive identification and PBC case notification by different providers

Mode		TB Presumptive	TB BPC patients	% among the total TB Presumptive	% among total PBC patients
Community	NGO Field Staff (NGFS)	87377	4018	29%	30%
	Sasthya Sebika (SS)	2568	119	1%	1%
	Community Volunteer/Health Worker	0	0	0%	0%
	TB Patient	7121	491	2%	4%
	Self (voluntary)	32910	1397	11%	10%
	Others	3483	227	1%	2%
	Community total	**133459**	**6252**	44%	46%
Public	Govt. Hospital/MO	32631	2445	11%	18%
	Community Health Care Provider (CHCP)	54378	1266	18%	9%
	Govt. Field Staff (GFS)	49372	1039	15%	8%
	Public total	**136381**	**4750**	44%	35%
Private	Graduate Private Practitioner (GPP)	11619	1254	4%	9%
	Non-Graduate Private Practitioner /(Village Doctor /Drug seller)	11024	718	4%	5%
	Private hospital/clinic	13671	615	4%	5%
	Private total	**36314**	**2587**	12%	19%
Total		**306154**	**13589**		

Graph 15: Mode of Leprosy Presumptive Referral in 2024



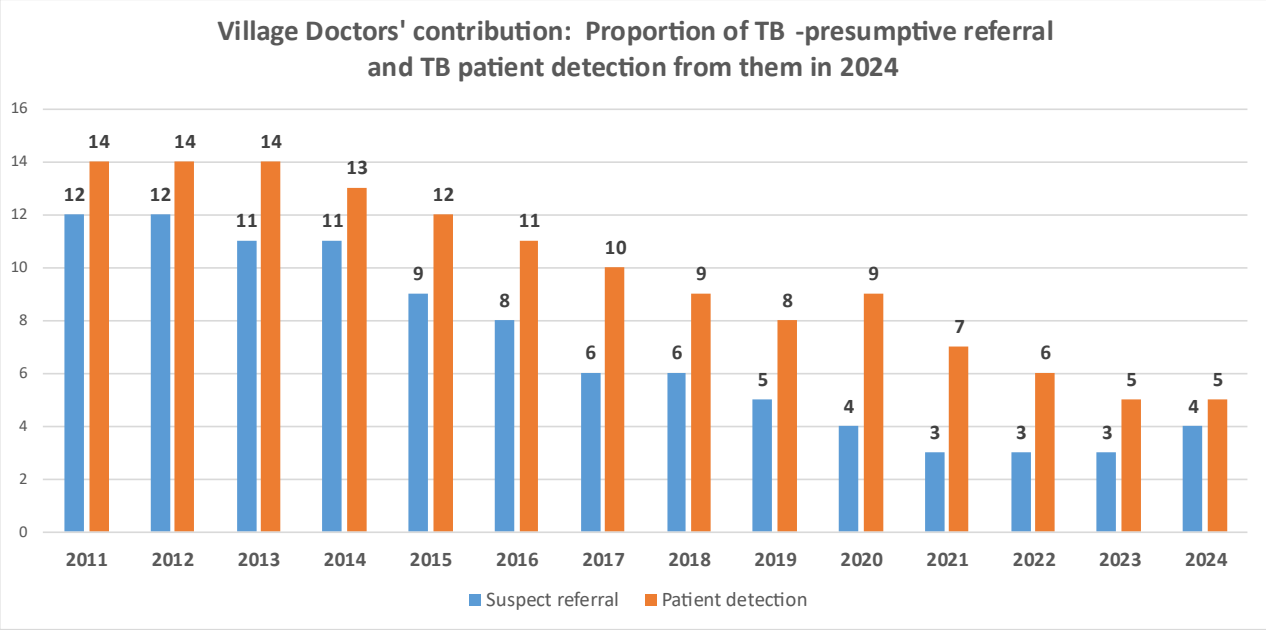
Graph 16: Mode of Leprosy Patient Detection in 2024



10.2 Partnership with the Informal health care providers

Over the period, the Damien Foundation's partnership with the informal health care providers (Village Doctors/drug sellers) has been proven as one of the most effective and sustainable approaches; thus, the partnership with the VD was continued in 2024. The Village Doctors continued their important role in contributing to case detection by referring Presumptive cases and providing TB treatment supporter (DOTs provider) services to the community as in previous years. In 2024, 17 one-day training/orientation sessions were held for 351 Village Doctors. All the linked village doctors contributed to the referral of 11024 presumptive TB patients and 718 PBC (Pulmonary Bacteriologically Confirmed) patients. These referrals represented 4% of total presumptive cases and 5% of total PBC cases. In addition to the referral, the Village Doctors were involved as DOT providers for 8556TB patients, 35% of the total TB patients.

Graph-17: Contributions of village doctors in TB patient detection



10.3 Working with the Government Health & Family Planning staff and General Physicians

DF partnership with the Government Health Personnel is another cost-effective approach for case finding and case holding. This partnership has continued as before. In 2024, 12 one-day orientation sessions were held for 237 medical doctors, resulting in 44250 presumptive TB patients and 3699 confirmed TB patients, which represents 14% of total presumptive cases and 27% of total confirmed TB patients. For leprosy, 504 presumptive cases and 51 confirmed cases were identified, making up 6% of total presumptive and 20% of confirmed leprosy patients. In the project area, government medical doctors continue to provide support in diagnosing and managing complicated patients (both TB and Leprosy) at the early stages, as well as facilitating various courses/orientations for other stakeholders. Moreover, government medical doctors were more involved in diagnosing and treating DR/MDR TB patients in 2024 as NTP decided to start ambulatory treatment from the day of diagnosis, keeping the patient at their home. Doctors of Damien Foundation have been working with them closely to manage and follow up on DR/MDR patients.

Support of the Government Primary Health Care Field Staff in referring presumptive patients to the clinic and monitoring of DOT in the community has been continued as in previous years.

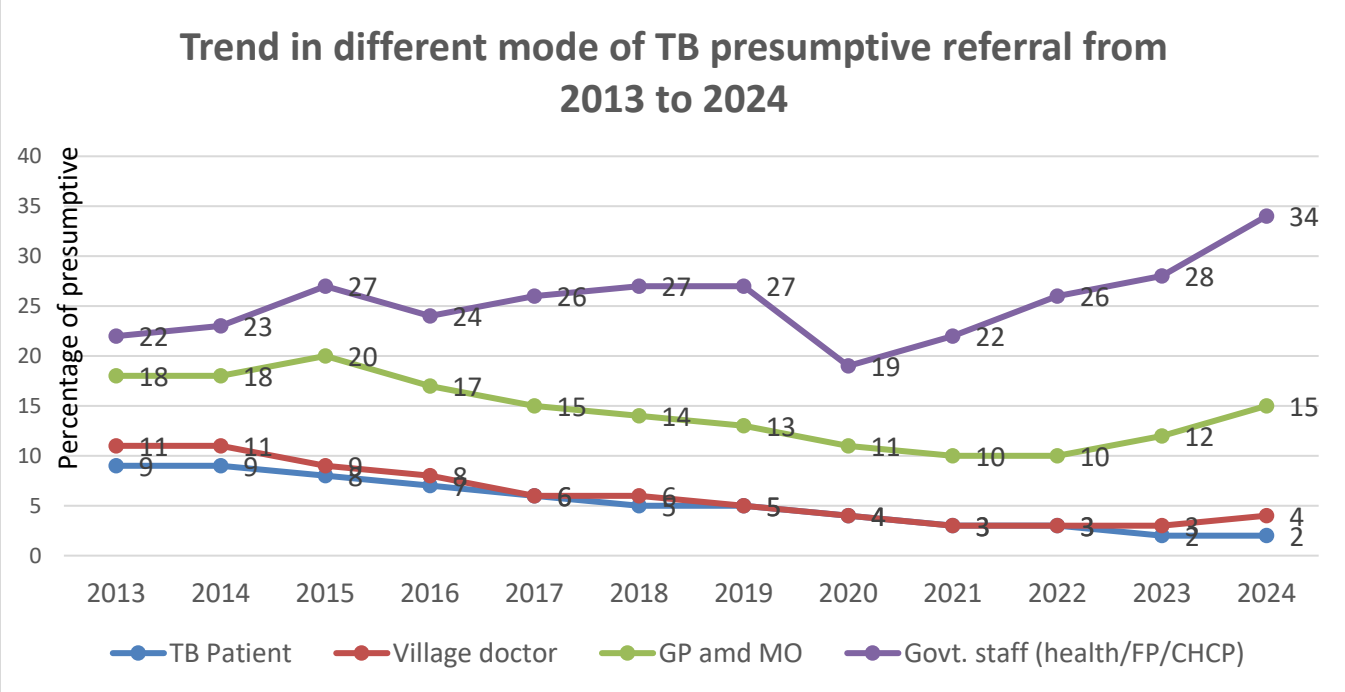
Table 6: Government Health & Family Planning staff in 2024

Damien Foundation Efforts in 2024 with Government Health staff (HI, HA, CHCP)			**Contribution by Government Health staff (HI, HA, CHCP)**		
	Session	Average Participants per session	Disease	Presumptive (number & %)	Patients (number & %)
Review meeting/ Orientation (1 day per month)	660	45	TB	103750	2305
			% among total	34%	17%
			Leprosy	438	2
			% among total	5%	1%
Besides referral, Government Health and Family Planning staff play an important role in providing DOT at the government health centres and at the community levels. A total of 4510 TB patients received DOT under their supervision in 2024, which is an 18% contribution to the total DOT for patients at the community level. Their involvement increased the DOT expansion in the community, which is very important to improve patient-friendly access to the services and enabling community participation in TB control for enhancing sustainability.					

Report of the last ten years shows that the trend in the referral of TB presumptive by Government MO, GP, VD & cured patients remain static since 2022, however, case detection is increasing through MO & GP. There is an increasing trend of referral of presumptive observed for the Government health staff. The trend of TB patient finding has also been slightly increasing with the support of the Government health staff. This increasing trend of involvement of field health staff also seems a positive sign for long-term sustainability.

The following graphs (21 & 22) show the trend of TB presumptive and case detection in the last ten years (2013 to 2024) -

Graph 18: Comparison of the trend of TB presumptive referral from Cured TB Patients, VD, GoB Staff and GP-MO



10.4 Empowering patients and communities

Considering the pivotal role of Community engagement in the field of TB control and Leprosy elimination, the ACSM activities have been continued in collaboration with the Government (NTP & NLEP), with financial support from the Belgian Government through Damien Foundation and GFATM.

The effect of several ACSM activities and a dense network of services has been revealed through sustaining the referral of presumptive patients and increasing trends among certain groups of people as well. The clinic staff was involved with several ACSM activities besides routine activities on diagnosis, treatment and follow-up.

10.4.1 Working with the Former Patients (TB Survivors)

The objective of this initiative is to involve cured patients from the community to increase the case finding and to encourage them to refer presumptive TB patients, and for early detection of new patients and relapse. Since 2000, DF has emphasized involving former patients in the identification of presumptive TB patients from the community and referring them to health centers to reduce stigma. This involvement was extended to organizing "TB clubs" of former patients at the union level (a union is a small administrative unit with a population of about 20,000) by utilizing patient volunteers. The vast majority of the cured TB patients are from the poorest segment of society, but their role in TB and Leprosy control activities has given them an identity as the best advocates to the community in terms of referral of presumptive TB and Leprosy patients. Former TB patients were also involved in providing DOT for 444 patients under treatment.

Table 7: Contribution of cured TB patients

Contribution of cured TB Patients		
	Presumptive	Patients
TB (Number)	7121	491
% among all	2%	4%
Leprosy (Nr.)	714	8
% among all	8%	3%

10.4.2 Health Education Activities in Community and Government Health Facilities

Health education events create greater social commitment and support behavioural change to ensure access to treatment and care for all, particularly the poor, vulnerable and hard-to-reach populations. The activities include disseminating accurate information on the diseases and dispelling myths about TB/Leprosy, educating and encouraging people with their family members to be more actively involved. Several events of health education were conducted in the year 2023.

Table 8: Details of health educational activities:

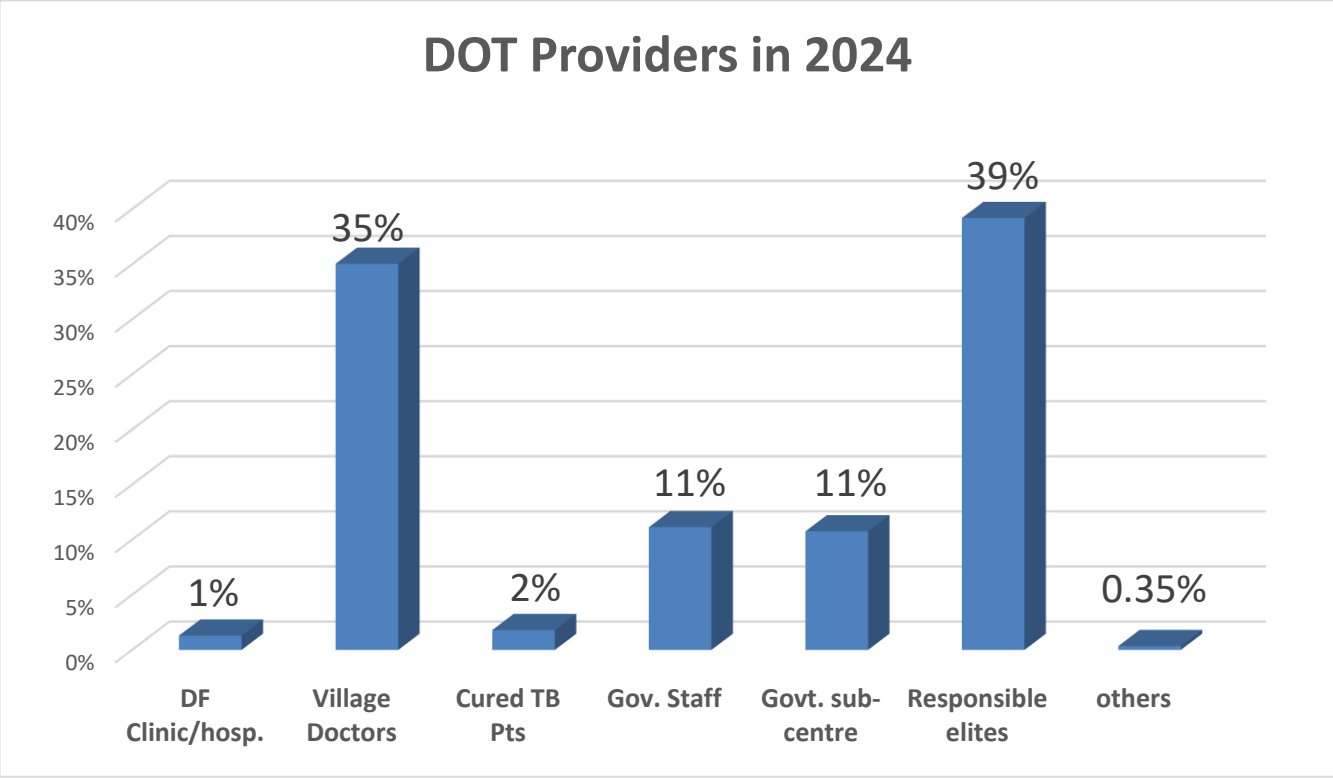
Health Education Activities in 2024			Contribution from all Health Education Activities		
	Session	**Participants**	**Programme**	**Presumptive**	**Patients**
Health education sessions in the community	73904	660451	**Tuberculosis** (Number)	80852	3373
Health Education session in OPD (UHC, SH, MC, FWC, SC, CC)	55391	742993	% among total	18%	26%
Health Education session in INDOOR (UHC, SH, MC)	9309	122094			
Health Education session in the DF clinic	65640	304668	Leprosy (Number)	5164	161
			% among total	55%	65%
Total	204244	1830206			
Health education activities help to enhance community participation, which leads to increased awareness, promotes health-seeking behaviour, inspires dialogue, and heightens community concern and action for TB/Leprosy control.					

Community health education

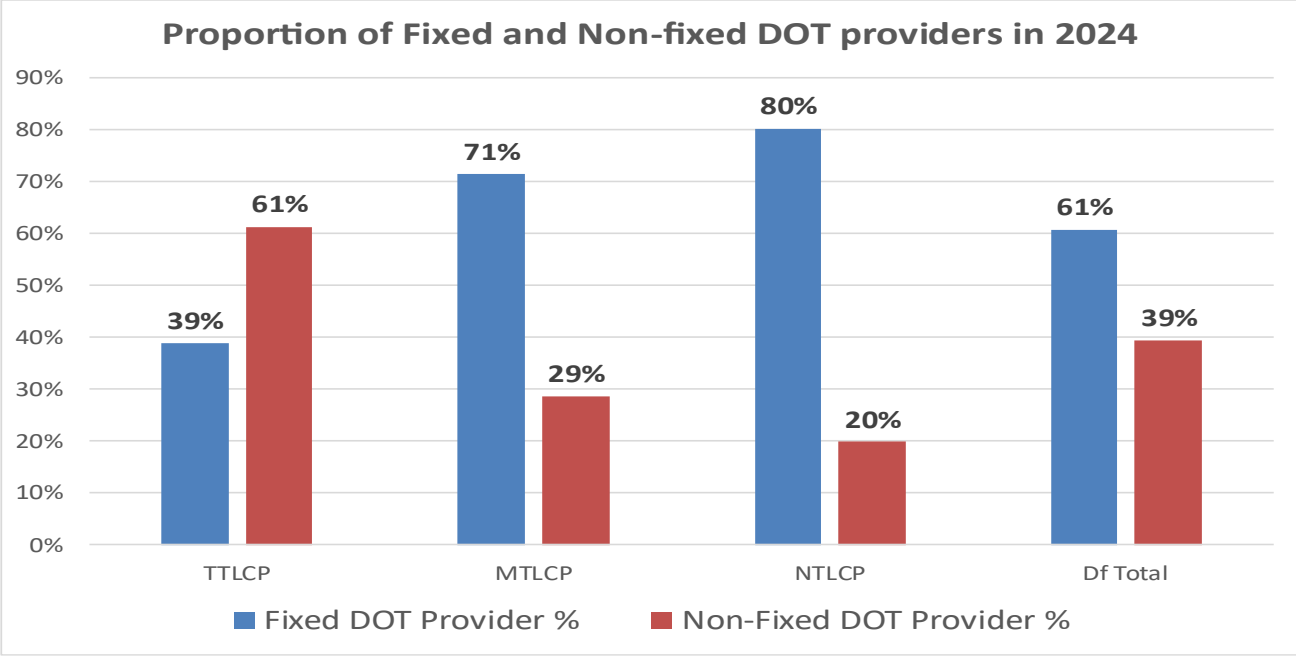
10.4.3 Community participation and treatment support

In line with the global End TB strategy of maintaining high-quality TB treatment supporter (DOTs), Damien Foundation Bangladesh, since initiation of the TB control Program, has decentralized DOT to the community level to make it more patient-friendly by involving VDs, GOB Health and Family planning staffs, other NGO staff, cured patients, school teachers, religious leaders and local elite. In each Union, there are 5 to 6 Fixed DOT Providers (FDP) to provide DOT to the patients, next to other Non-Fixed DOT Providers. The graph below shows the involvement of different categories of DOT providers in the TB Control Program, where about 42% of them are Village Doctors in the DF project areas.

Graph 19: TB treatment supporters (DOT Providers) in 2024



Graph 20: Fixed and Non-Fixed DOT Providers in DF project areas in 2024



11. Operational Research in Damien Foundation Bangladesh

Damien Foundation Bangladesh conducted operational research next to its routine activities, aiming at defining or establishing cost-effective means of diagnosis and treatment, documenting and validating different research findings or publications from other countries and providing input to the national and international Health Agencies to develop or recommend new tools and strategies for different national programs based on study results obtained in DF Bangladesh.

11.1 Assessing the Effectiveness of Intensified Extended Contact Survey (IECS)

Damien Foundation started the implementation of this IECS study project in 2020 with funding support from the Leprosy Research Institute (LRI) and in collaboration with the Institute of Tropical Medicine, Antwerp, Belgium; MSF, Belgium; Erasmus MC, University Medical Centre Rotterdam.

Recognizing evidence from multiple countries that leprosy clusters not only within households but also across nearby neighborhoods, screening should therefore include both household contacts and surrounding community contacts. This operational research project used a new contact-screening approach involving door-to-door screening of a wider circle of neighborhood contacts around new leprosy patients. Areas to be screened was determined based on the geographical coordinates of the affected households, ensuring a targeted area that was wide enough to avoid identification of the index case households. With this 'Intensified Extended Contact Survey' approach, hereafter called the 'IECS Strategy', and through this strategy, it was expected to achieve early case detection, reflected in a reduced prevalence of G2D among new patients.

The main objective of this operational study project was to assess the impact of the IECS strategy in reducing the proportion of patients with G2D at diagnosis. Moreover, reducing the delay in diagnosis were also important aspect of the project to assess the feasibility of this strategy to run in the future in the programmatic condition. This was a cluster randomized intervention trial where, out of a total of 14 DF districts, 7 districts were selected as intervention area and 7 as control areas. A total of 727 patients (347 in intervention and 380 in control arm) were enrolled under this project. GPS trackers were used for collecting coordinates (longitude and latitude) of the patients' house with the help of an Android mobile set.

Data collection was completed by 31 December 2023, then analysis, reporting and processing for publication were done in 2024. A total of 727 leprosy patients have been enrolled – 380 in the control area and 347 in the intervention area since the start of this project's activities in March 2020. The preliminary results obtained were shared at a Dissemination meeting, which showed an increasing trend of leprosy case findings in the intervention area. The study revealed an increasing trend in leprosy detection, with the intervention area experiencing a higher number of new cases attributed to IECS activities.

In the control area, 1565 household contacts were screened against the index cases, which yielded 12 new cases. In the intervention arm, 1482 household contacts and 25,720 neighbourhood contacts were screened, which yielded 7 new cases amongst the household contacts and 18 new cases amongst the neighbourhood contacts. In the control arm, 58% were males as against 57% males in the intervention arm. The number of people enrolled under 15 years was similar, 9.5 % in the control arm and 9.8% in the intervention arm. Multibacillary (MB) proportion was 56% in the intervention arm compared to 48% in the control arm. The proportion of new patients with Grade 2 disability was higher in the intervention arm (15.2%), compared to the control arm (11.1%), indicating persistent undiagnosed cases.

A workshop was held at Netherlands in April 2024, following the LRI Spring meeting, on manuscript preparation of the research. This was followed by manuscript drafting and finalization in 2024. The manuscript was scheduled for publication in The Tropical Medicine and Infectious Disease Journal in 2025.

11.2 Dissemination of results of IECS Study Project

A Dissemination event of Leprosy research titled "Assessing the effectiveness of Intensified Extended Contact Survey (IECS) in Bangladesh" was organized on 28 March 2024 at the Six Seasons hotel, Gulshan-2, Dhaka. Along with this dissemination of leprosy research, there was also presentations and discussions on important DR/MDR-TB issues. Two international Experts of Damien Foundation Belgium, Dr Alberto Piubello, and Dr Nimer Ortuno Guttierrez, were present in the meeting and shared their experience and updates on Leprosy research and DR-TB implementation. Representatives from National Leprosy and Tuberculosis Control Programmes, Leprosy and TB Coordinating Committee, NGOs implementing Leprosy programme, WHO, Leprosy patients and Damien Foundation staff from Dhaka Office and Project offices participated in the event. A keynote presentation on the IECS research findings was presented by Dr Mahfuza Rifat, Country Representative, Damien Foundation Bangladesh. The main result shows that screening door-to-door neighbour contacts, besides household contacts, in a buffer of 75 meters of an index case was feasible and found additional new cases in neighbour contacts. However, the number of new cases among neighbour contacts was less than expected.

12. Drug resistance monitoring

The Damien Foundation monitored TB drug resistance in Damien Foundation Bangladesh projects since the end of 1995, mainly through systematic referral of sputum from patients returning after loss to follow-up, relapse and failure patients, besides the random surveys done in 1995 and 2001. From May 2002 onwards, most primary cultures were handed over by Antwerp to the reference lab in Bangladesh (Netrakona). Netrakona lab started LJ DST in 2008 and since 2010 this lab has been performing LJ DST independently under the direct supervision and control of Antwerp lab (coordinating laboratory for supra-national TB reference laboratories). Selective strains are sent for quality control to Antwerp lab, besides the routine participation in proficiency testing.

The total number of inoculated cultures has risen considerably over the years. Annually 1839 sputum samples were processed in the Netrakona lab, most of which belong to follow-up samples of MDR TB patients.

Netrakona Central Lab Solid Culture Performance (2024)

Total Test	Total Positive	Total Contaminated	Total MDR 0 Month test	Total MDR 0 Month Positive	Total MDR 0 Month Contaminated	Total MDR 1-9 Month Follow-up test	Total MDR 1-9 Month Follow-up positive	Total MDR 1-9 Month Follow-up Contaminated
1839	58	59	130	51	10	1709	7	48
	3.15%	3.20%		39.23%	7.69%		0.38%	2.80%

13. Ongoing projects

13.1 Learning 360: Learning for Change and Resilience project

The Learning 360: Learning for Change and Resilience project was started in June 2022 in the DF area with funding and technical support from The Leprosy Mission International Bangladesh (TLMI-B). The main objective of the project is to empower leprosy people and their organization (including federation) and people affected by NTDsand create an environment where disability and marginalization have increased accessibility to all levels of education, technical and vocational training for employment, decent jobs and entrepreneurship.

The project is implemented in 8 upazilas/ sub-districts of 4 districts, namely Rajshahi, Chapai Nawabganj, Naogaon and Mymensingh since 2023. A total of 63 self-help groups and 8 federations are formed currently, consisting of mainly Leprosy affected people, leprosy disabled people, and their family members.
In 2024 following results have been achieved –

- Around 909 contact surveys and 306 random surveys have been conducted in the year, in remote areas including sub-districts and hard-to- reach areas, and people within the community were educated about leprosy and its symptoms and cure. A total of 91 leprosy patients were detected through

the contact and random surveys.

- About 47% of total leprosy patients were detected through the project. Grade-2 disability was found in 4 patients (3%), Grade-1 disability in 15 patients (12%), and 105 patients (85%) had no disability.
- Leadership trainings, financial management trainings and volunteer trainings were conducted by the project as routine activities, through which the self-help group members and federation members were oriented.
- Complicated leprosy patients (147) were referred to tertiary hospitals
- Assistive devices are provided to leprosy affected disabled people. In 2024, besides providing 180 routine MCR shoes, the project provided 4 wheelchairs, 10 crutches, 2 medi-chairs and 1 sunglassto 12 leprosy patients..
- Vocational trainings on beauty parlor work, driving, tailoring, plumbing, electric mechanical work, graphic designing, etc. have been provided to 63 people from the self-help group, which included leprosy patients and family members of the leprosy affected people. Similarly, ICT training also was provided to 11 people from the self-help group.
- Ten leprosy disabled patients were provided social support for startup business, which included fish shop, vegetable shop, poultry, goat and sheep rearing, etc.
- Educational support was provided to 88 students and 11 disabled students from the self-help group. Three general students and three disabled students were also provided coaching center support from the self-help group.

Education Support to children of leprosy-affected families

14. Human Resource Management & Development

To provide high-quality healthcare service to the community and to ensure the smooth functioning of 124 DF field clinics and 3 hospitals, a total of 474 local staff is involved. Out of this, 328 staff (Medical Technologists/TLCA and Field Level Staff) are directly involved in carrying out the field activities under the supervision of 19 Supervisors (TLCOs/Sr. TLCO, LCO, Community Coordinator and Monitoring & Evaluation Officers) and 9 project-level Medical Doctors. Among the total staff, 95 TLCA & 143 Field Level Staff are directly involved in community-level active case-finding activities. These Field Level Workers have been trained in identifying TB & Leprosy presumptive and in preparing smears. The male-female staff ratio of Damien Foundation Bangladesh is 1.8: 1 in 2024

14.1 Workshop/Training/Orientation organised by Damien Foundation in 2024

To develop skills among key staff, the DF Bangladesh organised Basic Training courses on TB & Leprosy (5-day Short Course) for TLCA in 2024. Details are as follows –

Table 9: Internal Training of Damien Foundation

Name of training course	Number of participants	Staff Category	Organized by
Basic Training on TB & Leprosy (Short Course) for TLCA	91	Sr. TLCA-7 TLCA/ATLCA-35 FLS-49	Damien Foundation

14.2 Participation of DF staff in different in-country training courses in 2024

To develop skills in different fields, DF staff members attended different in-country training courses in 2023, organized by NTP/BRAC/ICDDR,B. A detailed schedule of the training courses and participants is given below:

Table 10: Participation of Damien Foundation staff in different training courses

Name of training course	Number of participants	Staff Category	Organized by
Basic Training on TB, TPT, TB-HIV and Covid-19	79	FLS	BRAC
Training on Gene X-pert Testing	6	MT Lab	NTP
Training on Truenat Testing	5	MT Lab	NTP
Refreshers Training on LED Fluorescence Microscopy	1	MT Lab	NTP
Basic/Refreshers Training on Medical Technologist (Laboratory) on Microscopy and Rapid Molecular Diagnostic Tools(Gene X-pert/Truenat) for Tuberculosis	23	MT labs	NTP
Orientation Training on Conducting mWRD EQA PT round in 2024	1	Lab Coordinator	NTP
Orientation On Updated Guidelines for Management of DR-TB Patients	5	MO/TLCO/Supervisor	NTP
Orientation on Sputum collection and Transportation from Peripheral laboratory to Gene X-pert Centres (NTRL/RTRL)	13	FLS	NTP
Basic Training on TB & DR TB	1	MO	NTP
Refresher Training on mWRD GeneXpert & Microscopy	2	MT Lab	BRAC
Training on the eTB manager	13	M&EO/Sr.TLCA/TLCA	NTP
TPT Training	18	Sr.TLCA/TLCA/FLS	NTP
Training of Trainers on Post-TB Lung Disease (PTLD)			DF & BLF

14.3 Participation in International training courses/meetings/conferences, including webinar:

With a view to updating knowledge and to share experience, DF Bangladesh staff members participate in different international training courses, meetings, conferences, workshops, seminars and also provide technical support by Damien Foundation staff around the world.

14.3.1 Project Forum of Damien Foundation: the Biennial forum of Damien Foundation was held from 2 to 8 June 2024 at Damien Foundation Headquarters in Brussels, where representatives from all countries of Damien Foundation participated. Three team members from Damien Foundation Bangladesh participated in the forum. They were Dr. Mahfuza Rifat, Country Representative; Mr. Mutakabber Hossain, Finance Director and Ms Sumona Sharmeen, Human Resource Manager. . Representatives from different country offices of Damien Foundation participated in the meeting. The focus of the discussion was organizational sustainability for providing long-term support to the target population. Resource mobilization and income generation issues were discussed for sustainability. The Damien Foundation Bangladesh team actively participated in all the forum events.

Forum 2024 participants from DF Countries

14.3.2 TB REACH Meeting: An initiation meeting of TB REACH wave-11 was held in Nairobi from 7 to 10 October 2024, where Dr Mahfuza Rifat, Country representative and Mr Faisal, Data Management Specialist, participated from Damien Foundation Bangladesh. The programme consisted of a series of meeting, orientation & training sessions on the project and tools for project implementation.

14.3.3 UNION Conference: Dr Mahfuza Rifat, Country representative and Dr Kazi Mariam Naher, Programme Specialist attended the UNION conference that was held in Bali, Indonesia, from 12 to 16 November 2024. Around 4000 participants all over the world participated in the Conference.

Damien Foundation Bangladesh Participation in the UNION Conference

15. Program Management and Coordination

At the project level, program management is handled by the Management Team (MT), led by the Project Director. The other team members are Field Director, Medical Officer, M&E Officers, and Accounts Officer. They also involve other members in the meeting according to the need. The MT meets weekly to address day-to-day issues and quarterly for major decisions, including those from TLCO meetings, with additional meetings for urgent matters as needed. Regular monthly TLCO meetings, attended by TLCOs, M&E Officers, Medical Officers, and Directors, play a key role in program coordination. TLCOs serve as the primary link between the project office and field clinics.

Monthly meetings involve in-depth analysis of progress reports, with active participation leading to decisions, recommendations, and action plans for improvement. Dissemination of information and instruction from the national level, exchange of information between the field clinic and project/DFCO, monthly clinic-wise planning, settlement of bills and collection of monthly running / different costs of the clinics take place in these monthly meetings.

A manual geographic information system is used in each Upazila to assess TB and leprosy case detection, helping identify low-case areas and address barriers accordingly. Information and instructions are regularly exchanged between the national office and project offices via email, with mobile phones used for urgent matters, ensuring the national office stays updated on field activities.

To facilitate better coordination, representative/s from the Damien Foundation Coordinating Office (DFCO) in Dhaka organize meetings with Management Teams and guide them.

16. Mid-Term Evaluation of Bangladesh Project of the Damien Foundation

Mid-term Evaluation of DGD-funded Damien Foundation Bangladesh Project was held from October 14, 2024 to November 26, 2024. A team of four consultants, two international experts and two local (Bangladeshi) TB & Leprosy experts, conducted the mid-term evaluation. The international experts were Prof. Giovanni Battista Migliori for Tuberculosis (Team Leader) and Dr. Thomas Kenneth Hambridge for Leprosy, and the local experts were Dr Md. Mujibur Rahman for Tuberculosis and Dr David Pahan for Leprosy. They completed the whole evaluation work within about 40 days, where 27 days were required for preparatory work, including meetings and tools development; 10 days for field work and data collection, including meeting with stakeholders at different levels; one day for dissemination of preliminary findings to important stakeholders through a meeting on November 03, 2024 and for preparation of final mid-term evaluation report about 20 days were required. According to the evaluation report, there has been good progress in the progress and achievements in the TB control programme, along with new initiatives like the PTLD project, which is an excellent example of NGO-NTP collaboration. The team recommended further emphasis on adding two portable (Computer-Aided detection/CAD) digital X-rays for boosting outreach activities, ensuring HIV testing of TB patients as recommended, intensifying training on child TB diagnosis techniques, and boosting active case finding in industrial areas using molecular technology. For the leprosy programme, recommended to continue the intensified case finding activities with field-based electronic data capture and GIS mapping, expansion of leprosy research and assessment with WHO leprosy elimination framework classification.

Mid-term Evaluation Team with the Officials of the govt. UHC, NTP and Damien Foundation at DF Netrakona Clinic

The evaluation team visited clinics and hospitals of the Damien Foundation

16.1 Introducing the TB-PTLD project to the stakeholders during the Mid-Term Evaluation Dissemination Programme

On November 3, 2024, after the session on disseminating the results of the midterm evaluation, Prof. G. B. Migliori discussed Post-Tuberculosis Lung Disease (PTLD) and provided an overview of the PTLD project of the Damien Foundation. This was followed by a ceremony of MoU signing between the Damien Foundation and the Bangladesh Lung Foundation.

The Bangladesh government has been implementing the Tuberculosis Control Programme for a long time through a unique public-private partnership where Damien Foundation is an important partner. However, till 2023, there was no initiative to manage the post-tuberculosis lung-related problems systematically; consequently, the programme faces a significant challenge in maintaining the long-term health and well-being of tuberculosis (TB) survivors. Damien Foundation, with the support of the TB REACH fund, in partnership with Bangladesh Lung Foundation (BLF) as technical partner, has initiated a project since September 2024, to address Tuberculosis Associated Disabilities and Post-TB Lung diseases in primary health care facilities of Bangladesh through an integrated approach. This project will be implemented in 10 upazilas of two districts, namely Mymensingh (Bhaluka, Dhobaura, Haluaghat, Nandail, Phulpur) and Tangail (Tangail Sadar, Madhupur, Dhanbari, Ghatail, Mirzapur). The discussion emphasized the importance of identifying PTLD symptoms amongst TB survivors, and the need for relevant activities to identify the burden in Bangladesh. As a technical partner, the Bangladesh Lung Foundation (BLF) will support the integration through capacity building on PTLD, PR, technical monitoring and developing linkage with the medical professionals.

The main target population of this project would be the former TB/DR-TB patients, who were cured or completed treatment within the last two years. The field staff will screen this population and refer the probable PTLD cases to the PTLD centre for confirmation of diagnosis by a clinician/expert. Mild and moderate PTLD cases will be treated/managed at the PTLD centres, and severe cases will be referred to a tertiary hospital for better management. The basic Pulmonary Rehabilitation for mild and moderate PTLD patients will also be provided at the community level.

17. Monitoring, Supervision & Evaluation

17.1 Internal monitoring, supervision & Evaluation

Damien Foundation is maintaining its monitoring, supervision, and evaluation according to its Monitoring and Evaluation Plan. Monitoring of case detection, sputum conversion, results of treatment and quality control of smear microscopy are routinely done and evaluated quarterly. In addition, drug resistance surveillance is continued through routine sputum culture and DST of failure and relapse patients. Monitoring Drug-resistant TB treatment through regular updating of DR-TB files. The quarterly collected data from the projects are being used to monitor the performance. Cross-checking between different datasets allows assessing the quality of the data and feedback is given to the projects in order to improve the performance. Reports are cross-checked with registers and cards by supervisors during their supervision visits, and feedback is given on the spot to the field staff.

Monitoring of activities and supportive supervision of staff are done through field visits by different levels of staff. At the field level, TB and leprosy Control Officers (TLCOs) are the first-line staff for monitoring of the project activities in 3-5 upazilas (Sub-districts) each. They supervise the first-line field staff, Medical Technologists (MT), laboratory, TB & Leprosy Control Assistants (TLCAs) / Paramedics, Field Level Staff (FLS) and other community-based workers. TLCOs monitor all the activities implemented at the field level, provide need-based support and strengthen the capacity of the field staff for better implementation or improvement.

A TLCO regularly visits each TB clinic/lab/UHC under his/her mandate to monitor and supervise once aweek and check/cross-check the clinic documents including registers, reports, treatment cards and other records. S/he monitors case detection, sputum conversion, treatment results, quality control of sputum microscopy, and drug resistance and failure and relapse patients. S/he also pays need-based visits to the community and discusses with patients, DOT providers and other stakeholders to cross-check status of DOT implementation, patient follow-up, social mobilization and presumptive referral activities. Monitoring and follow-up of project performances are carried out by analyzing the achievements realized, compared to the planned activities and results. Quarterly and annual reports are used to monitor the project's performance.

M&E Officer (M&EO) and Medical Officer (MO) pay monitoring visits to a TB clinic/laboratory/UHC once in 3 months (quarterly) as well as additional visits based on the needs of the program/project. During the monitoring visits they supervise the activities of TLCO and other field staff, guide them, provide technical supports and build or strengthen their capacities through on-the-job training.

The Project Director, who is the overall responsible person of a project, and the Field Director are the management staff at the project level of DF, and they also monitor field activities on a sample basis as well as according to the needs.

DFCO staff, including the Medical Coordinator, Data Management Specialist, and Programme Specialist, make field visits as needed for program monitoring and technical support. The Finance Director and Manager also visit for financial monitoring, while the Country Representative visits to address strategic issues and overall management.

17.2 Supervision & Monitoring from Damien Foundation Headquarters, Belgium:

Dr. Alberto Piubello, Medical Adviser and Dr. Nimer Ortuno Guttierrez, Medical Adviser & research Coordinator, Damien Foundation Belgium, visited DF Bangladesh project from March 21, 2024 to March 29, 2024. During this visit programme, they had meetings with the DFCO and project teams (TTLCP & MTLCP); visited Ghatail & Haluaghat UHC clinics, Fulpur weekly leprosy clinic, DF hospitals at Jalchatra (Tangail) & Shambhuganj (Mymensingh), and BSL2+ laboratory at DF hospital Mymensingh. They also met with government officials and representatives of BRAC, the NGO-PR of the Global Fund in Bangladesh. They also participated in the dissemination meeting of the leprosy research results of the LRI-supported IECS project and shared their global experiences. Finally, they debriefed us on their overall findings and recommendations, and later, sent us a formal visit report.

Dr. Alberto & Dr. Nimer's visit to Jalchatra Hospital with DFCO team

17.3 Supervision and Monitoring from Government Authorities: Line Director and Program Manager of NTP, BCCM Coordinator with other NTP officials visited BSL2+ laboratory at Mymensingh hospital of Damien Foundation ***Senior TB and Global Fund Grant Advisor***

18. New initiatives of Damien Foundation in 2024

18.1 Addressing Tuberculosis-Associated Disabilities and Post-Tuberculosis Lung Diseases in primary health care facilities of Bangladesh through an integrated approach

The Government of Bangladesh has long implemented the Tuberculosis Control Programme through a strong public–private partnership, with Damien Foundation as a key collaborator. However, until 2023, there was no structured approach to managing post-TB lung complications, creating a major gap in long-term care for TB survivors. Post-Tuberculosis Lung Disease (PTLD) poses a significant challenge in managing the long-term health and well-being of tuberculosis (TB) survivors. To address this, Damien Foundation—with TB REACH funding and Bangladesh Lung Foundation (BLF) as the technical partner—launched a project in September 2024 to integrate the management of tuberculosis-associated disabilities and post-TB lung disease into primary healthcare services through an integrated approach. This project will be implemented in 10 upazilas of two districts, namely Mymensingh (Bhaluka, Dhobaura, Haluaghat, Nandail, Phulpur) and Tangail (Tangail Sadar, Madhupur, Dhanbari, Ghatail, Mirzapur). Bangladesh Lung Foundation will support the integration through capacity building on PTLD, Pulmonary Rehabilitation (PR), technical monitoring and developing linkage with the medical professionals. The project will include assessment and management of PTLD including Pulmonary Rehabilitation. At the end of 6 weeks, the patient will be followed up with Spirometry and 6-minute walk test.

The project was introduced to stakeholders on November 3, 2024, during the dissemination session of the results of the midterm evaluation, by Prof. G. B. Migliori. He provided an overview of the PTLD project of the Damien Foundation. This was followed by a ceremony of MoU signing between the Damien Foundation and the Bangladesh Lung Foundation. The discussion emphasized the importance of identifying PTLD symptoms amongst TB survivors, and the need for relevant activities to identify the burden in Bangladesh.

The main target population of this project would be the former TB/DR-TB patients, who were cured or completed treatment within the last two years. The field staff will screen this population and refer

the probable PTLD cases to the PTLD centre for confirmation of diagnosis by a physician. Mild and moderate PTLD cases will be treated/managed at the PTLD centres, and severe cases will be referred to a tertiary hospital for better management. The basic Pulmonary Rehabilitation for moderate PTLD patients will also be provided at the community level.

Following the agreement with TB REACH, recruitment process was completed and Training of Trainers was also held in December 2024, by Bangladesh Lung Foundation for capacity building of the project.

Training of Trainers (ToT) on PTLD conducted by Bangladesh Lung Foundation

18.2 Improvement of OPD services at Jalchatra Hospital, including introduction of Bulk SMS for OPD appointments

A SMS system had been initiated at the Jalchatra hospital to streamline the appointment process for outdoor patients to manage long queues and provide efficient service to patients. The system is being managed by an outdoor appointment provider who oversees both online and offline appointments and have full access to the portal details.

All patients visiting the outpatient department (OPD) are provided with a hotline number to schedule their appointments. The hospital aims to improve the efficiency and management of patient appointments, ensuring a smoother and more organized process for both patients and healthcare providers through this system. Moreover, an additional doctor has been appointed for the OPD in 2024. As a result, the number of OPD patients has been gradually increasing.

19. Way Forward

The Damien Foundation (DF) has been contributing towards the progress in the fight against TB and Leprosy, by managing the patients in scale and quality. This success is largely attributed to the expansion of molecular diagnostics services, dedicated staff, capacity development of staff and strategic operational planning. Moreover, the increase in outreach centres in remote areas, enhanced contact investigations, and equal emphasis on diagnosing pulmonary and
extra-pulmonary TB patients, supported by progress review and close supervision & monitoring, contributed to a 96% treatment success rate for drug-susceptible TB. Support from the national TB Control Programme was continued to achieve the milestones. However, to sustain and build upon these achievements, several key actions need to be prioritized.

Continued expansion of molecular diagnostics services is crucial. This includes maintaining the momentum in TB detection through advanced technologies and ensuring these services reach remote and hard-to-reach areas.
The Damien Foundation, as a renowned pioneer in drug-resistant TB care, has been supporting the National TB Control Programme (NTP). The NTP has adopted a modified, shorter WHO-recommended regimen nationwide, which is primarily based on the DF-innovated, shorter 9-month DR treatment regimen. In 2024, a total of 140DR TB patients were diagnosed and received treatment under the WHO-recommended shorter regimen in the DF-covered area. DF also supported NTP in developing and implementing strategies for the DR-TB guideline preparation, hospitals support the national end TB effort through care and patient-centred support for patients.

DF has been practicing contact survey among the contacts of all diagnosed leprosy patients since 1972. Leprosy case finding has been continuing with 249 new patients in 2024. The use of mobile apps and extended contact surveys will be expanded to further enhance detection rates and reduce the incidence of Grade 2 disabilities. This approach is expected to limit new visible and permanent disabilities and curb disease transmission, which was 8.43% in 2024. Additionally, addressing ongoing leprosy transmission requires preventive therapy for household members, continued early detection and treatment, and improved social support for patients. Expanding these efforts will increase access to health services and further reduce leprosy incidence.

To enhance recent advancements in diagnostics and treatment, and to enhance household contact tracing and preventive care, it is paramount to deploy adequately trained staff and retain technical personnel. Strengthening ongoing training and capacity development for Damien Foundation staff is essential. This includes providing refresher courses on new diagnostics and treatment protocols to maintain the highest standards of care. To address the ongoing transmission of TB and leprosy, preventive therapies for household members, early detection, and improved social support for patients are crucial. These measures will help limit new patients and reduce transmission rates.

Engaging community stakeholders such as village doctors, private practitioners, opinion leaders, and community members through health education sessions can enhance the reach and impact of DF's initiatives. A people-centred approach ensures better patient outcomes and cost-effectiveness.

Continued partnership with the National TB Control Programme (NTP) and other governmental bodies is necessary. This collaboration ensures resource allocation for medicines and diagnostics, enhancing the overall effectiveness of TB and leprosy control efforts. Long-term support for disease control contributed to the national level impact, i.e. mortality due to TB reduced nationally from 75 in 2000 to 26 per 100,000 population in 2023. (WHO Global TB Report 2024). However, TB reduction in incidence rate in Bangladesh requires sustained intensive TB case finding and treatment, along with tuberculosis preventive therapy (TPT). Damien Foundation adopted sustainable approach of working in collaboration with Government and supporting the national programme at all level.

Although a geographical rearrangement was done under the Global Fund (GFATM) supported TB area, TB performance was well maintained and enhanced in the current DF-supported areas in Bangladesh in 2024, mainly through the support from Belgium. It is expected that this rearrangement initially affected leprosy case finding in the Rajshahi region. Later on, this was covered up by the placement of leprosy staff in the Rajshahi region. Regular monitoring and analysis of data will be essential to adapt strategies and improve outcomes.

To address the ongoing transmission of TB and leprosy, preventive therapies for household members, early detection, and improved social support for patients are crucial. These measures will help limit new patients and reduce transmission rates.
New and innovative areas, such as introducing Post TB Lung diseases will support the people affected by TB related morbidity and disabilities even after being cured from TB. The burden and management approach through programmatic implementation has not been tried in Bangladesh. The project will generate evidence and also support the integration of the work to address the post-TB disabilities.

Securing sustained funding and adequate resources is essential to support the comprehensive TB and leprosy control initiatives. Efforts should focus on leveraging grants and optimizing existing resources to maximize impact.

By focusing on these strategic areas, the Damien Foundation can continue to make significant strides in the fight against TB and leprosy in Bangladesh, ensuring sustained improvements in public health outcomes and contributing to the global effort to end these diseases by 2030.

Employment-generating support to the Leprosy-affected family

Government Health Infrastructure in DF-areas in 2024

Annex Table-1

District / project	Square KM	Population	Hospitals	Upazila Health Complexes	Health Centres	TB Clinics	TB beds	Leprosy beds
Tangail Project	**6,810**	**8,130,345**	**4**	**24**	**1,124**	**2**	**0**	**0**
Tangail	3,414	4,091,358	2	12	569	1	0	0
Jamalpur	2,032	2,520,735	1	7	346	1	0	0
Sherpur	1,364	1,518,252	1	5	209	0	0	0
Mymensingh Project.	**7,198**	**9,292,425**	**7**	**26**	**1,151**	**2**	**48**	**0**
Mymensingh	4,509	5,979,374	3	13	698	1	48	0
Kishoreganj	2,689	3,313,051	4	13	453	1	0	0
Netrakona Project.	**2,810**	**2,326,574**	**1**	**10**	**337**	**0**	**0**	**0**
Netrakona	2,810	2,326,574	1	10	337	0	0	0
Rajshahi Project	**7,546**	**7,601,250**	**14**	**25**	**796**	**2**	**150**	**0**
Rajshahi	2,407	2,939,041	9	9	436	1	150	0
Naogaon	3,436	2,799,656	4	11	230	0	0	0
Nawabganj	1,703	1,862,553	1	5	130	1	0	0
Total DF	**24,364**	**27,350,594**	**26**	**85**	**3,408**	**6**	**198**	**0**

Supportive activities over 2024
Hospitals, physiotherapy, shoemaking, and health education

Supportive activities over 2024

Hospitals, physiotherapy, shoemaking, and health education

Project	no. of beds on		Hospitalizations: no. of bed-days for			Average bed occupation	no. of Leprosy patients admitted		TB admissions for		OPD
	1/1/2024	12/31/2024	Leprosy	TB	General		surgery / ulcer	Reaction / other	Complication / drug reaction	Others	
TTLCP	95	95	3090	8226	1	**33%**	44	16	215	206	24605
MTLCP	100	100	5617	3515	0	**25%**	133	41	99	58	0
NTLCP	60	60	1373	4452	0	**27%**	64	11	139	204	0
Total / all projects	**255**	**255**	**10080**	**16193**	**1**	**28%**	**241**	**68**	**453**	**468**	**24605**

Project	Shoes made (pairs)		Plastic / Spring shoes supplied	HE activities: no. of sessions			Training / Orientation / ref. / seminar: no. of sessions for						Skin smears		Physiotherapy sessions
	MCR	Plastazote		Miking	Folk song	Community *1	Schools	GP / MO	GoB H & FP staff	VD / FDP *2	TB/ leprosy club	Seminar / workshops *3	Opinion leader/ scout / NGO *4	Total done	Positive	
TTLCP	423	3	0	0	0	57,492	0	5	0	3	3	27	0	48	7	488
MTLCP *5	880	1	54	0	0	58,168	242	6	0	5	0	0	0	323	36	257
NTLCP	0	0	0	0	0	8264	129	4	0	1	0	0	0	41	6	102
RLCP	0	0	0	0	0	82,079	3510	0	0	0	2	0	0	152	14	0
Total projects	1303	4	54	0	0	206003	3881	15	0	9	5	27	0	564	63	847

*1 Community HE : in the villages, OPD HE, UHC indoor HE and organization (microcredit or other groups), informal group HE during field visit, HE with the patient's attendants etc.
*2 Village Doctors, Fixed DOT provider and Pharmacy holders training.
*3 Seminar/workshop in Medical college, Sadar hospital and orientation of factory worker
*4 Opinion leader, scout and girls guide, NGO workers, review workshop at Upazila level and DOT committee meeting.
*5 MTLCP made shoe for NTLCP and RLCP.

Personnel and infrastructure over 2024:
Numbers of personnel, transport, equipment

Annex Table - 3

Department:	Administrative + Hospital												
Project	Personnel						Transport			Operation	X-Ray	Microscopes in	Shoe
	Doctors	Paramedical	Administrative	Support/Techn.	MT Lab	Others	Cars	Motorcycles	Bicycles	Theatre (OT)	Units	use	workshops
TTLCP	2	17	4	18	2	0	1	1	2	1 sterile	1	2	1
MTLCP	1	14	3	15	2	0	1	2	0	1 septic	1	1	1
NTLCP	0	6	1	17	2	0	1	0	0	1 septic	0	2	0
RLCP	0	0	3	0	0	0	0	0	1	not applicable, no hospital		0	0
DFCO	1	0	5	7	0	1	2	0	0	not applicable, no hospital		0	0
Total projects	7	36	24	55	6	1	5	3	3		2	5	2

Department:	Field												
Project	Personnel							Transport			Microscope	Clinics	
	Doctors	M&EO / Sr. TLCO/ Supervisor	TLCO	TLCA/ATLCA/ PTLDO/LCA/CF	MT Lab	Field Workers	Clinic Assis.	Cars	Motorcycles	Bicycles	In use	Combined TB/Leprosy clinic	Leprosy clinic
TTLCP	1	1	6	37	19	44	0	2	9	69	34	34	5
MTLCP	1	1	7	63	15	77	0	2	8	1	43	48	0
NTLCP	1	1	2	18	6	15	0	1	4	12	11	12	0
RLCP	0	2	0	12	0	0	0	0	2	0	33	0	26
DFCO	3	0	0	0	0	0	0	0	0	0	0	0	0
Total projects	3	5	15	130	40	136	0	6	23	82	152	11	31

CONSOLIDATED REPORT, LEPROSY 2024

Evolution of case-finding and caseload

Year	Project	Districts &	New patients			New	Disabled G2	On treatment	New Lepr./	Lep. preval. /	Proportion	Prop. new	Prop. new
		population	PB	MB	Total	children	new patients	at end (Year)	100.0000 pop.	10.000 pop.	MB new Lep.	children L.	disabled L.
2017	TTLCP	TG+JM+SP	31	36	67	3	6	51	0.88	0.07	54%	4%	9%
		7,649,200											
	MTLCP	MM + KS	34	29	63	4	8	51	0.73	0.06	46%	6%	13%
		8,645,801											
	NTLCP	Netrakona	13	13	26	1	9	25	1.09	0.10	50%	4%	35%
		2,386,663											
	RTLCP	RA + NG + NW	202	101	303	46	16	220	4.17	0.30	33%	15%	5%
		7,270,597											
	FTLCP	FP+GP+MP+RJ+SR	3	13	16		3	8	0.24	0.01	81%	0%	19%
		6,691,233											
	TOTAL	32,643,494	283	192	475	54	42	355	1.46	0.11	40%	11%	9%
2018	TTLCP	TG+JM+SP	36	44	80	8	8	65	1.04	0.08	55%	10%	10%
		7,711,985											
	MTLCP	MM + KS	35	31	66	1	5	57	0.75	0.07	47%	2%	8%
		8,752,099											
	NTLCP	Netrakona	11	22	33	1	7	28	1.37	0.12	67%	3%	21%
		2,413,632											
	RTLCP	RA + NG + NW	130	84	214	18	27	165	2.91	0.22	39%	8%	13%
		7,353,411											
	FTLCP	FP+GP+MP+RJ+SR	7	9	16	2	4	12	0.24	0.02	56%	13%	25%
		6,729,346											
	TOTAL	32,960,473	219	190	409	30	51	327	1.24	0.10	46%	7%	12%
2019	TTLCP	TG+JM+SP	19	25	44	7	5	40	0.57	0.05	57%	16%	11%
		7,775,296											
	MTLCP	MM + KS	30	33	63	3	9	44	0.71	0.05	52%	5%	14%
		8,859,707											
	NTLCP	Netrakona	5	11	16	0	6	10	0.66	0.04	69%	0%	38%
		2,440,906											
	RTLCP	RA + NG + NW	71	67	138	18	18	92	1.86	0.12	49%	13%	13%
		7,437,214											
	FTLCP	FP+GP+MP+RJ+SR	5	9	14	0	3	10	0.21	0.01	64%	0%	21%
		6,767,759											
	TOTAL	33,280,882	130	145	275	28	41	196	0.83	0.06	53%	10%	15%
2020	TTLCP	TG+JM+SP	4	19	23	3	3	21	0.29	0.03	83%	13%	13%
		7,839,136											
	MTLCP	MM + KS	22	25	47	7	5	34	0.52	0.04	53%	15%	11%
		8,968,642											
	NTLCP	Netrakona	8	9	17	1	1	13	0.69	0.05	53%	6%	6%
		2,468,488											
	RTLCP	RA + NG + NW	48	41	89	7	4	74	1.18	0.10	46%	8%	4%
		7,522,018											
	FTLCP	FP+GP+MP+RJ+SR	8	5	13	1	1	10	0.19	0.01	38%	8%	8%
		6,806,474											
	TOTAL	33,604,759	90	99	189	19	14	152	0.56	0.05	52%	10%	7%
2021	TTLCP	TG+JM+SP	12	20	32	2	7	27	0.40	0.03	63%	6%	22%
		7,903,511											
	MTLCP	MM + KS	23	21	44	1	5	39	0.48	0.04	48%	2%	11%
		9,078,921											
	NTLCP	Netrakona	5	8	13	0	5	12	0.52	0.05	62%	0%	38%
		2,496,382											
	RTLCP	RA + NG + NW	25	34	59	12	2	55	0.78	0.07	58%	20%	3%
		7,607,836											
	FTLCP	FP+GP+MP+RJ+SR	7	4	11	1	1	8	0.16	0.01	36%	9%	9%
		6,845,495											
	TOTAL	33,932,145	72	87	159	16	20	141	0.47	0.04	55%	10%	13%
2022	TTLCP	TG+JM+SP	11	25	36	2	8	32	0.45	0.05	69%	6%	22%
		7,968,424											
	MTLCP	MM + KS	28	26	54	5	4	42	0.59	0.06	48%	9%	7%
		9,190,560											
	NTLCP	Netrakona	11	11	22	2	3	13	0.87	0.09	50%	9%	14%
		2,524,591											
	RTLCP	RA + NG + NW	47	59	106	11	4	100	1.38	0.14	56%	10%	4%
		7,694,680											
	FTLCP	FP+GP+MP+RJ+SR	2	3	5	0	1	4	0.07	0.01	60%	0%	20%
		6,876,758											
	TOTAL	34,255,013	99	124	223	20	20	191	0.65	0.07	56%	9%	9%
2023	TTLCP	TG+JM+SP	12	25	37	0	10	31	0.53	0.05	68%	0%	27%
		8,033,185											
	MTLCP	MM + KS	36	14	50	4	4	38	0.54	0.05	28%	8%	8%
		9,303,576											
	NTLCP	Netrakona	9	10	19	0	4	18	0.74	0.07	53%	0%	21%
		2,553,119											
	RTLCP	RA + NG + NW	84	72	156	24	19	143	2.01	0.20	46%	15%	12%
		7,746,085											
	FTLCP	FP+GP+MP+RJ+SR	2	2	5	0	0	3	0.07	0.01	40%	0%	0%
		6,924,036											
	TOTAL	34,555,999	143	123	266	28	37	233	0.79	0.08	46%	11%	14%
2024	TTLCP	TG+JM+SP	12	7	18	0	5	16	0.22	0.02	38.89%	0.00%	27.78%
		8,130,345											
	MTLCP	MM + KS	19	19	38	0	4	29	0.41	0.03	50.00%	0.00%	10.53%
		9,292,425											
	NTLCP	Netrakona	1	4	5	1	1	4	0.22	0.02	80.00%	20.00%	20.00%
		2,236,574											
	RLCP	RA + NG + NW	113	74	187	24	11	158	2.46	0.21	39.57%	12.83%	5.88%
		7,601,250											
	TOTAL	27,350,594	140	109	249	25	21	207	0.91	0.08	43.78%	10.04%	8.43%

CONSOLIDATED REPORT, LEPROSY

Case loading and results of treatment, workload

Annex Table - 5

Project	District	PB/MB	On treatment on 31-12-2024	Completed MDT	For care on 31/12/2024	MDT Relapse over 2024	Outcome of treatment (cohort: PB 2023 & MB 2022 in %)	
							Completed	defaulted/ failure/died
TTLCP	Tangail, Jamalpur & Sherpur	PB	7	11	14	0	100%	0%
		MB	12	21	127	0	100%	0%
		TOTAL	19	32	141	0	100%	0%
MTLCP	Mymensingh & Kishoreganj	PB	19	35	58	0	98%	2%
		MB	19	13	261	0	100%	0%
		TOTAL	38	48	319	0	98%	2%
NTLCP	Netrakona	PB	1	5	13	0	100%	0%
		MB	4	10	117	0	100%	0%
		TOTAL	5	15	130	0	100%	0%
RLCP	Rajshahi, Naogaon & Chapai Nawabganj	PB	114	96	53	0	100%	0%
		MB	73	68	237	0	98%	2%
		TOTAL	187	164	290	0	99%	1%
ALL PROJECTS	6 districts	PB	141	147	138	0	99%	1%
		MB	108	112	742	0	99%	1%
		TOTAL	249	259	880	0	99%	1%

CONSOLIDATED REPORT, LEPROSY

Evolution of case-finding and caseload

Annex Table-6

Project	Districts & population	NUMBERS								RATES						
		New patients					New Gr. 2	SSS+ve	UT	New per	Preval. per	New	Women	(%) SSS+ve	New	New Gr. 2
		PB	MB	Total	child	Women	Disab.	MB	at end	100,000 pop.	10,000 pop.	(%) MB	%	among MB	(%) Child.	(%) Disab.
TTLCP	Tangail	1	0	1	0	0	0	0	1	0.02	0.00	0.00%	0.00%	0.00%	0.00%	0.00%
	4,091,359															
	Jamalpur	2	6	8	0	5	2	0	8	0.32	0.03	75.00%	62.50%	0.00%	0.00%	25.00%
	2,520,735															
	Sherpur	4	6	10	0	2	3	1	6	0.66	0.04	60.00%	20.00%	16.67%	0.00%	30.00%
	1,518,252															
	Total project	7	**12**	**19**	**0**	**7**	**5**	**1**	**15**	0.23	0.02	63.16%	36.84%	8.33%	0.00%	26.32%
	8,130,345															
MTLCP	Mymensingh	16	17	33	0	10	4	2	26	0.55	0.04	51.52%	30.30%	11.76%	0.00%	12.12%
	5,979,374															
	Kishoreganj	3	2	5	0	2	0	0	3	0.15	0.01	40.00%	40.00%	0.00%	0.00%	0.00%
	3,313,051															
	Total project	**19**	**19**	**38**	**0**	**12**	**4**	**2**	**29**	0.41	0.03	50.00%	31.58%	10.53%	0.00%	10.53%
	9,292,425															
NTLCP	**Netrakona/Project**	**1**	**4**	**5**	**1**	**1**	**1**	**0**	**4**	0.21	0.02	80.00%	20.00%	0.00%	20.00%	20.00%
	2,326,574															
RTLCP	Naogaon	60	30	90	12	44	2	1	74	3.21	0.26	33.33%	48.89%	3.33%	13.33%	2.22%
	2,799,656															
	Nawabganj	19	14	33	1	18	1	0	28	1.77	0.15	42.42%	54.55%	0.00%	3.03%	3.03%
	1,862,553															
	Rajshahi	34	30	64	11	35	8	3	56	2.18	0.19	46.88%	54.69%	10.00%	17.19%	12.50%
	2,939,041															
	Total project	**113**	**74**	**187**	**24**	**97**	**11**	**4**	**158**	2.46	0.21	39.57%	51.87%	5.41%	12.83%	5.88%
	7,601,250															
All project	**Total population**	**140**	**109**	**249**	**25**	**117**	**21**	**7**	**207**	0.91	0.08	43.78%	46.99%	6.42%	10.04%	8.43%
	27,350,594															

ANEX TABLE- 6

Annex Table-7

TUBERCULOSIS:
Evolution of case findings and caseload 2024

Year	Project	District and Population	Total TB patients	PBC TB patients	No smear done PTB	PCD & EP	Proportion of PBC among total
2018	TTLCP	TG+JM+DEPZ 6,294,251	6,531	3,114	0	3,417	48%
	MTLCP	MM + KS 6,329,761	7,974	4,073	0	3,901	51%
	NTLCP	Netrakona 2,413,632	3,094	1,589	0	1,505	51%
	RTLCP	RA + NG + NW 6,857,942	5,302	2,463	0	2,839	46%
	FTLCP	FP+GP+MP+RJ+SR 6,729,346	4,774	2,012	0	2,762	42%
	TOTAL	28,624,932	27,675	13,251	0	14,424	48%
2019	TTLCP	TG+JM+DEPZ 6,419,197	7,221	3,353	0	3,868	46%
	MTLCP	MM + KS 6,406,364	8,361	4,115	0	4,246	49%
	NTLCP	Netrakona 2,440,906	3,308	1,474	0	1,834	45%
	RTLCP	RA + NG + NW 6,985,551	6,060	2,756	0	3,304	45%
	FTLCP	FP+GP+MP+RJ+SR 6,767,759	5,485	2,022	0	3,463	37%
	TOTAL	29,019,777	30,435	13,720	0	16,715	45%
2020	TTLCP	TG+JM+DEPZ 6,474,624	5,703	2,635	0	3,068	46%
	MTLCP	MM + KS 6,483,896	7,365	3,825	0	3,540	52%
	NTLCP	Netrakona 2,468,488	2,516	1,183	0	1,333	47%
	RTLCP	RA + NG + NW 7,064,085	5,048	2,657	0	2,391	53%
	FTLCP	FP+GP+MP+RJ+SR 6,806,474	3,883	1,736	0	2,147	45%
	TOTAL	29,297,567	24,515	12,036	0	12,479	49%
2021	TTLCP	TG+JM+DEPZ 6,530,534	8,723	3,987	0	4,736	46%
	MTLCP	MM + KS 6,562,370	9,411	5,037	0	4,374	54%
	NTLCP	Netrakona 2,496,382	3,085	1,548	0	1,537	50%
	RTLCP	RA + NG + NW 7,143,553	6,247	3,605	0	2,642	58%
	FTLCP	FP+GP+MP+RJ+SR 6,845,495	5,061	2,135	0	2,926	42%
	TOTAL	29,578,335	32,527	16,312	0	16,215	50%
2022	TTLCP	TG+JM+DEPZ 6,530,534	9,684	4,120	0	5,564	43%
	MTLCP	MM + KS 6,562,370	10,713	5,145	0	5,568	48%
	NTLCP	Netrakona 2,496,382	3,304	1,453	0	1,851	44%
	RTLCP	RA + NG + NW 7,143,553	7,286	3,568	0	3,718	49%
	FTLCP	FP+GP+MP+RJ+SR 6,845,495	5,429	2,153	0	3,276	40%
	TOTAL	29,578,335	36,416	16,439	0	19,977	45%
2023	TTLCP	TG+JM+DEPZ 6,650,722	10,295	4,550	0	5,745	44%
	MTLCP	MM + KS 6,722,188	12,833	6,810	0	6,023	53%
	NTLCP	Netrakona 2,553,120	3,674	1,570	0	1,851	43%
	RTLCP	RA + NG + NW 7,275,838	7,951	3,824	0	4,127	48%
	FTLCP	FP+GP+MP+RJ+SR 6,924,036	5,951	2,242	0	3,709	38%
	TOTAL	30,125,904	40,704	18,996	0	21,455	47%
2024	TTLCP	TG+JM+DEPZ 6,689,685	10,670	4,960	0	5,710	46%
	MTLCP	MM + KS 9,292,425	14,034	6,463	0	7,571	46%
	NTLCP	Netrakona 2,326,574	4,208	1,960	0	2,248	47%
	TOTAL	18,308,684	28,912	13,383	0	15,529	46%

TB patient notification, 2024

Annex Table-8

District	Population covered	Pulmonary Bacteriologically Confirmed (PBC) TB Patients					Pulmonary Clinically Diagnosed (PCD) New	Extra-pulmonary (EP) New	PCD & EP not New	Total registration	% of new PBC patients	Notification rate/ 100,000 pop. new PBC	Case Notification rate/100,000 population, all forms of TB
		New patients	Relapses	Failures	RALTFU	Other							
Tangail	4,091,359	2659	291	14	5	0	2112	1347	396	6824	39%	63	166
Jamalpur	2,520,735	1701	180	21	3	0	886	704	151	3646	47%	60	144
DEPZ	77,591	81	5	0	0	0	19	85	10	200	41%	103	258
TTLCP	6,689,684	4441	476	35	8	0	3017	2136	557	10,670	42%	62	159
NTLCP	2,326,574	1781	174	35	8	0	1390	709	149	4208	42%	54	181
Mymensingh	5,979,374	2335	194	5	1	0	1708	2088	753	8477	28%	75	141
Kishoreganj	3,313,051	3572	333	17	6	0	1415	1326	281	5557	64%	111	168
MTLCP	9,292,425	5907	527	22	7	0	3123	3414	1034	14034	42%	93	151
DF Bangladesh	**18,308,684**	**12,129**	**1,177**	**61**	**16**	**0**	**7530**	**6259**	**1740**	**28,912**	**42%**	**57**	**157**

Note: RL = Relapses, FL = Failures, RALTU = Return after loss to

Table - 9 Treatment outcomes for new bacteriologically confirmed patients, 2023 cohort

Annex Table -9

Treatment outcomes (%)								
Districts	Registered	Cured + Completed	Died (%)	Failed (%)	Lost to follow up (%)	Transferred out (%)	Not evaluated (%)	Treatment success (%)
DEPZ	83	78	3.61%	1.20%	0%	1.20%	0%	93.98%
Jamalpur	1687	1564	4.62%	1.42%	1.01%	0%	0.24%	92.71%
Kishoreganj	3928	3824	2.11%	0.28%	0.10%	0.15%	0%	97.35%
Mymensingh	4654	4435	3.63%	0.54%	0.24%	0.21%	0.09%	95.29%
Netrakona	1570	1515	2.87%	0.45%	0.19%	0%	0%	96.50%
Tangail	2777	2636	3.28%	0.86%	0.76%	0.04%	0.14%	94.92%
TOTAL DF	**14699**	**14052**	**3.19%**	**0.63%**	**0.38%**	**0.12%**	**0.08%**	**95.60%**

Table - 10 Treatment outcomes for re-treatment PBC, 2023 cohort

Annex Table -10

Treatment outcomes (%)								
Districts	Registered	Cured + Completed	Died (%)	Failed (%)	Lost to follow up (%)	Transferred out (%)	Not evaluated (%)	Treatment success (%)
DEPZ	3	3	0%	0%	0%	0%	0%	100%
Jamalpur	166	153	5.42%	1.81%	0.60%	0%	0%	92.17%
Kishoreganj	229	218	4.37%	0%	0%	0.44%	0%	95.20%
Mymensingh	556	526	4.50%	0.18%	0.36%	0.18%	0.18%	94.60%
Netrakona	195	184	4.62%	0.51%	0.51%	0%	0%	94.36%
Tangail	241	225	3.32%	0.83%	2.49%	0%	0%	93.36%
TOTAL DF	**1390**	**1309**	**4.39%**	**0.50%**	**0.72%**	**0.14%**	**0.07%**	**94.17%**

Table-11: Summary results of External Quality Assurance (EQA) by project 2024

Annex Table 11

		Routine smears examined (nos.)			Smears rechecked by EQA (nos.)			EQA rechecking results					
PROJECTS	Nr. Of Microscopy centres	Total	% positive	% scanty	Pos.	Scanty	Neg.	Nr. HFP slides	Nr. HFN slides	Nr. LFP slides	Nr. LFN slides	HFP%	HFN%
MTLCP	48	216894	2455	969	133	30	2548	2	1	2	16	2.70%	0.08%
NTLCP	12	55249	637	226	36	13	669	0	1	2	9	0.00%	0.15%
TTLCP	34	93033	1434	771	50	14	1910	0	2	0	6	0.00%	0.19%
Total	**94**	**365176**	**4526**	**1966**	**219**	**57**	**5127**	**2**	**4**	**4**	**31**	0.91%	0.08%

Quality Control of Skin Smear- 2024

Annex Table 12

Project	Total smears checked in QC			Rates of false results						Proportions registered results			Neg.(among all smears)	Rates of false results					
	Pos.		Neg.	False positives		False negatives		Quantification		Among all positives				False positives		False negatives		Quantification	
	+1	+2 to +6		+1	+2 to +6	+1	+2 to +6	1 log	>1 log	+1/+2	+3/+4	+5/+6		+1	+2 to +6	+1	+2 to +6	1 log	>1 log
TTLCP	2	4	21	0%	0%	0%	0%	17%	0%	83%	17%	0%	78%	0	0	0	0	1	0
MTLCP	0	8	42	0%	0%	0%	0%	13%	0%	25%	25%	50%	72%	0	0	0	0	1	0
NTLCP	0	3	12	0%	0%	0%	0%	0%	0%	67%	33%	0%	80%	0	0	0	0	0	0
RTLCP	0	0	30	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0	0	0	0	0	0
DF TOTAL	**2**	**15**	**105**	**0%**	**0%**	**0%**	**0%**	**7%**	**0%**	**44%**	**19%**	**13%**	**82%**	**0**	**0**	**0**	**0**	**2**	**0**

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