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ENDLINE EVALUATION OF CHALLENGE TB BURMA

Endline Evaluation Report

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Authors/Evaluation Team

Dr. Beulah Jayakumar, Team Leader
Soe Myat Naing
Tushar Kanti Ray

ABSTRACT

In 2014, the United States Agency for International Development (USAID) funded FHI 360 to implement the five-year Challenge TB (CTB) Myanmar to support Myanmar's National Tuberculosis Program (NTP) in its efforts to actively find and effectively treat missing tuberculosis (TB) cases. USAID/Burma contracted Social Impact, Inc. to conduct an evaluation to examine activity effectiveness and intervention challenges and provide recommendations to guide decisions on future investments. The evaluation team used mixed methods including document review, key informant interviews, focus group discussions, observations and secondary data to identify findings that addressed USAID's evaluation questions. The evaluation found that CTB Myanmar successfully contributed to case finding by addressing key issues and gaps in case finding and provided robust technical assistance (TA) for a range of TB thematic areas. At the same time, activity implementation was constrained by systemic issues like human resource deficiencies and poor buy-in from other relevant departments of the Ministry of Health and Sports (MOHS). Models designed by CTB Myanmar have been taken up by other grant projects to varying extents. Following the close-out of CTB Myanmar, weaknesses in current programming in the country include the scale back of active case finding (ACF), poor understanding of stigma, and lack of plans for provision of TA for NTP. Serious challenges in human resources and inter-departmental coordination limit the utilization of TA in implementation. Opportunities for investment include reaching migrants and ethnic organizations. The report makes nine recommendations directed to USAID/Burma on priorities for future design and implementation.

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The Evaluation Team

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ACRONYMS

A2H	Access to Health
ACF	Active Case Finding
ACSM	Advocacy Communication and Social Mobilization
aDSM	Active Drug Safety Monitoring
ART	Antiretroviral Therapy
BHS	Basic Health Services
BSL	Biosafety level
CBTBC	Community-based Tuberculosis Care
CI	Contact Investigation
CMBL	Central Mandalay Branch Laboratory
CNR	Case Notification Rate
CSO	Civil Society Organization
CTB	Challenge Tuberculosis
CXR	Chest Xray
CYC	Cover Your Cough (Campaign)
DOMS	Department of Medical Services
DOPH	Department of Public Health
DOT	Directly Observed Treatment
DR	Drug-resistant
DR-TB	Drug-resistant Tuberculosis
DS	Drug Sensitive
DSM	Drug Supply and Management
DST	Drug Sensitivity Testing
DS-TB	Drug-sensitive Tuberculosis
ECG	Electrocardiogram
EHO	Ethnic Health Organization
EQ	Evaluation Question
EQA	External Quality Assurance
ET	Evaluation Team
FAST	Finding actively, separating safely and treating effectively
FDA	Food and Drug Administration
FGD	Focus Group Discussion
GF	The Global Fund (to fight AIDS, TB and Malaria)
GLI	Global Laboratory Initiative
GP	General Practitioner
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HQ	Headquarters
IEC	Information, Education, and Communication

IRB	Institutional Review Board
ISO	International Standards Organization
JMM	Joint Monitoring Mission
KII	Key Informant Interview
KP	Key Population
LPA	Line Probe Assay
LQMS	Laboratory Quality Management System
LTBI	Latent Tuberculosis Infection
LTFU	Lost to Follow-up
M&E	Monitoring and Evaluation
MDR	Multidrug-Resistant
MHAA	Myanmar Health Assistants Association
MMA	Myanmar Medical Association
MOHS	Ministry of Health and Sports
MSF	Médecins sans Frontières
MTB/RIF	Mycobacterium Tuberculosis/Resistant to Rifampicin
NGO	Non-governmental Organization
NNS	Number Needed to Screen
NRL	National Reference Laboratories
NSP	National Strategic Plan
NTP	National Tuberculosis Program
NTRL	National TB Reference Laboratory
OPD	Outpatient Department
OR	Operations Research
ORW	Outreach Workers
PCF	Passive case finding
PGK	Pyi Gyi Khin
PLHIV	People Living with HIV
PMDT	Programmatic Management of Drug-resistant Tuberculosis
PPM	Public Private Mix
PSI	Population Services International
RHC	Rural Health Center
RR TB	Rifampicin-resistant tuberculosis
SCC	Sputum collection center
SI	Social Impact, Inc.
SL	Second Line
SL-LPA	Second-line Line Probe Assay
SLIPTA	Stepwise Lab Improvement Process towards Accreditation
SOP	Standard Operating Procedures
SOW	Scope of Work

STR	Shorter Term Regimen
STTA	Short-term Technical Assistance
TA	Technical Assistance
TB	Tuberculosis
TBIC	Tuberculosis Infection Control
TBTSG	TB Technical Strategy Group
TPT	TB Preventive Treatment
USAID	United States Agency for International Development
WHO	World Health Organization
WVM	World Vision Myanmar
XDR-TB	Extensively drug resistant Tuberculosis

EXECUTIVE SUMMARY

ACTIVITY BACKGROUND

Myanmar continues to be among the world's 30 high-burden countries for tuberculosis (TB), TB HIV, and multidrug resistant (MDR) TB. With nearly 25 percent of TB cases being missed, the National Strategic Plan for 2016-'20 (NSP) calls for robust case-finding strategies and comprehensive patient-centered TB care with the engagement of community health providers and the private sector.

Challenge TB (CTB) Myanmar aimed to support the national TB program (NTP) in its efforts to actively find and effectively treat missing TB cases by enrolling male and female patients into a comprehensive and inclusive TB prevention and care package. CTB Myanmar had four key objectives: 1) Reaching the hard-to-reach through public private mix (PPM) engagement and through ACF in remote and ethnic areas, 2) Strengthening access to high quality TB diagnostics, 3) Strengthening the national MDR-TB response in Yangon region and 4) Building the capacity of NTP through targeted technical assistance (TA) for policy/tool development around key technical priorities.

CTB Myanmar was implemented by FHI360, with support from KNCV Tuberculosis Foundation in The Hague, Netherlands. Subgrants were provided to six organizations for selected activities. Implementation concluded in June 2019, with full close-out in September 2019.

EVALUATION PURPOSE, DESIGN AND LIMITATIONS

The purpose of this evaluation was to assess and document the most significant achievements of CTB Myanmar and its contribution to the national response to TB, as well as challenges, lessons learned and promising practices. Findings from this evaluation are intended to inform future TB programming and highlight technical priorities and key issues for USAID's TB investments in Myanmar.

The evaluation used a mixed-methods design, involving document review, primary data collection through key informant interviews (KIIs), focus group discussions (FGDs), observation, community interviews, and analysis of secondary program and project data. Multi-stage purposive sampling was used to determine sites for primary data collection.

The evaluation team reviewed a range of documents on CTB Myanmar design, implementation, and evidence; NTP policy, strategy, guidelines and training material, and global resources. The evaluation team conducted 42 KIIs involving 66 individuals (41 men and 25 women) from USAID/Burma and partners, CTB, and government stakeholders at national, region/state, township and community levels, 16 patient interviews, 2 FGDs with subgrantee staff and volunteers and 3 observations in labs. As the primary data was collected from a purposive sample, findings may not apply to sites not visited by the evaluation team. Limited availability of program data was mitigated by an extensive review of documents and literature related to TB control in Myanmar.

KEY FINDINGS AND CONCLUSIONS

EVALUATION QUESTION 1: WHAT WERE CTB'S KEY CONTRIBUTIONS TO TB CONTROL IN MYANMAR AND TO WHAT EXTENT HAS CTB/BURMA ADDRESSED KEY TB ISSUES AND GAPS?

CTB Myanmar addressed issues and gaps in TB control through **five key interventions** implemented in specific geographies and technical areas: ACF in hard-to-reach areas, engaging drug sellers in Bago region, contact investigation (CI) for MDR-TB patients in Yangon, strengthening of the diagnostic network for MDR-TB and setting up the active drug safety monitoring (aDSM) mechanism.

Reaching hard-to-reach areas through ACF using the community-based TB care model was a principal strategy in CTB Myanmar's approach to increasing case notification. CTB Myanmar implemented ACF in 22 hard-to-reach townships across Sagaing region and Kayah and Chin states, through subgrants to four organizations, reaching a total population of just over 2.29 million. Key activities included conducting TB-related discussions in communities, accompanying symptomatic persons to the facility for testing and setting up sputum collection centers (SCC) through a cadre of community-level volunteers. Through CTB Myanmar's ACF intervention, 46,091 presumptive persons were tested. A total of 2,678 cases, which constitute a third of all cases notified from the 22 townships between June 2017 and March 2019 were from this intervention. Many of the individuals notified would have faced formidable challenges in accessing care themselves. In particular, ACF volunteers helped symptomatic persons with the language barrier that existed between them and staff at the facilities. The overall trend of case finding over the ACF implementation period was on the decline when the intervention ended, but in some sites, the number of cases remained high until the last quarter of implementation. The ACF intervention faced significant challenges related to terrain, poor transportation and coordinating the collection and transportation of sputum samples.

Case finding among close contacts of drug resistant (DR) TB patients was carried out in Yangon through a revamped CI process and improved utilization of the Xpert™ Mycobacterium Tuberculosis/Resistance to Rifampicin assay. Key activities included training and deploying outreach workers and field staff to work with township-level TB officers and basic health service (BHS) staff to visit houses of DR TB patients soon after their diagnosis, to encourage household members to be tested. The intervention faced numerous limitations and challenges, chiefly a limited implementation period of nine months. It resulted in the screening of 3,811 household contacts of a total of 355 DR-TB patients and identified 445 presumptives to be tested. Of these, 53 had confirmed TB. However, only 7 of these were DR TB patients and the remaining 46 had drug sensitive (DS) TB. CTB Myanmar conducted a range of other activities for strengthening the MDR-TB response, including the hiring of an MDR-TB Advisor, who was instrumental in supporting key initiatives of CTB Myanmar in MDR-TB management. CTB Myanmar also trained and **supported drug sellers in Bago region** to improve case finding. This intervention resulted in the diagnosis of a total of 1,796 cases from March 2017 to February 2019 which contributed to 11 percent of all cases notified during its implementation period from the 15 townships where it was implemented.

CTB Myanmar successfully addressed several constraints in care seeking for TB in its target locations. Language and cost were the key barriers for both men and women patients that CTB Myanmar helped through its case finding interventions. Interviews done with volunteers and patients in the sites visited indicate higher awareness and willingness to seek care among women. Patients from prior to the implementation of CTB Myanmar's interventions reported delays in diagnosis as a result of inappropriate care seeking. Delays due to diagnostic errors at facilities, related to chest X-ray (CXR) continued to take place during the intervention period. Misconceptions regarding the nature of TB and its spread were encountered in all the sites visited and included beliefs that TB ran in families (reinforced by high levels of transmission within families); that cough was a physiological process and is therefore "normal";

and that weight gain during treatment was pathological. The most prevalent misconception was that having an “infectious” disease was cause for fear and shame. CTB Myanmar reports that it addressed these misconceptions for patients and their families through project activities, but the stigma resulting from them does not appear to have reduced. The evaluation team encountered several aspects of stigmatization of TB in communities: patients being shunned by neighbors or classmates, friends and family encouraging patients to stop treatment, and contacts hiding symptoms including hemoptysis. CTB Myanmar’s investments in the diagnostic network focused on improving services in the three labs providing culture and drug sensitivity testing (DST) and line probe assay (LPA) for first and second line (SL) anti-TB drugs. CTB Myanmar provided technical and financial assistance for critical **improvements in the two national reference laboratories (NRLs)**, in coordination with other partners. The project was able to introduce the Lab Quality Management System (LQMS) and secure buy-in from NRL staff to pursue ISO 15189 accreditation for the two NRLs. CTB Myanmar provided follow up TA in collaboration with WHO and the Global Laboratory Initiative to ensure alignment with WHO updates related to the use of SL LPA, the expansion of Xpert sites, the sputum transportation system and the introduction of the shorter-term regimen (STR) for MDR-TB. As a result of the TA, NTP began to see CTB Myanmar as a credible technical partner. CTB Myanmar also conducted a range of lab-related procurements for the NRLs in coordination with other partners, in the area of biosafety. By the end of the project, the NRLs in Yangon and Mandalay had achieved 45 and 66 percent respectively of the LQMS standards required for ISO accreditation, falling short of the end-of-project targets of 55-64 and 75-84 respectively for the two labs. Efforts to improve services in these labs were fraught with intractable challenges arising from multiple sources. The focus on accreditation may have diverted efforts from providing quality services.

CTB Myanmar was **instrumental in establishing the mechanism for aDSM**, leading and engaging all TB technical partners in this effort. The mechanism has been functioning effectively and has been recognized internationally, but challenges in continued implementation of aDSM threaten its sustainability without continued partner support. CTB Myanmar also provided high-quality TA for improving the use of CXR for TB diagnosis in the context of possible overdiagnosis of TB among children, but it remains underutilized. Its intervention in the Xpert network and the sputum transportation system was minimal.

In conclusion, CTB Myanmar contributed to addressing key gaps and issues in TB control in the country. It successfully designed and implemented ACF, reaching nearly half of all people living across hard-to-reach areas and contributing to a third of cases notified during that period from these locations, who may not have sought care at appropriate facilities without facilitation from the intervention. However, as the intervention stopped when the case finding trend was still high in some locations, pools of undiagnosed cases are likely persisting in those locations, leading to high transmission levels. The intervention among DR-TB patients did not contribute meaningfully to addressing the MDR-TB crisis in Yangon, due to severe time limitations as well as formidable challenges in implementation. The low yield of DR-TB cases from this intervention, along with a relatively high yield of DS-TB cases warrant support for further investigation. The intervention has helped draw national attention to the role of CI in addressing the MDR-TB situation. The drug seller intervention of CTB Myanmar contributed to 11 percent of cases reported from intervention locations by engaging community-level resources. All of these interventions contributed to CTB Myanmar’s achievement of 4,520 additional cases, against its goal of 5,300 additional cases, and also provided considerable learning for future use.

CTB Myanmar helped overcome language and cost barriers for both men and women in hard-to-reach areas. Erroneous diagnosis contributed to delay in diagnosis during ACF implementation. Stigma and discrimination are widely prevalent, fueled by multiple misconceptions and these impact care seeking as well as treatment adherence among women, men and children. There were no gender-specific constraints for women in seeking care for TB.

Investments in NRLs is among the largest from CTB Myanmar. The goal of obtaining accreditation for NRLs helped CTB Myanmar provide focused attention to improvements in NTRL, but the approach has not enabled the NTRL to focus additional resources on the more pressing goal of expanding PMDT services. aDSM is clearly one of CTB Myanmar's success stories and testifies to the investment made in collaboration and coordination. CTB Myanmar's technical and financial support has been critical to the improvements in the use of CXR as a diagnostic tool.

EVALUATION QUESTION 2: TO WHAT EXTENT HAS CTB'S TECHNICAL ASSISTANCE TO NTP AT DIFFERENT LEVELS ADVANCED TB PREVENTION AND CONTROL IN BURMA IN LINE WITH CTB GLOBAL-LEVEL OBJECTIVES AND CTB/BURMA'S PROJECT OBJECTIVES, AND PROMOTED SUSTAINABILITY?

CTB Myanmar provided effective and relevant TA and capacity building support to the NTP, in addition to that related to aDSM mentioned under EQ 1. It provided technical and financial support for the development of NSP 2016-'20 and the Global Fund (GF) Concept Note, and TA for a range of TB-related themes including the management of childhood TB, TB preventive treatment (TPT) for eligible children and interpretation of CXR. However, the use of these TA products by national stakeholders continues to be variable. CTB Myanmar also designed and conducted a comprehensive cost effectiveness evaluation of ACF activities. This evaluation has been effective in guiding investments in ACF beyond CTB Myanmar.

Other TA provided by CTB Myanmar met with limited success due to their introduction late in the course of the project or due to challenges in securing buy-in from other departments of the Ministry of Health and Sports (MOHS). Key among these are the guidelines for mandatory notification of TB by private general practitioners (GPs), TB infection control (TBIC) and CI. Some TA and capacity building initiatives planned by CTB Myanmar could not be carried out due to delays in approval or shifting of NTP's priorities.

Models developed and/or implemented by CTB Myanmar to improve case finding continue under grants from GF and Access to Health (A2H); CTB Myanmar's ACF evaluation provided the evidence on cost effectiveness of these models. But the level of effort under GF/A2H grants is much lower than that under CTB Myanmar, such as in the number of volunteers, inclusion of hard-to-reach areas and training and supervisory support. The CI intervention for MDR-TB patients and the drug seller engagement also continue under new grants but with lower levels of effort.

The models implemented by CTB Myanmar had several elements that were designed to sustain care seeking and foster regular coordination with township and BHS levels. They also had elements that were heavily project-dependent, such as staff accompanying every symptomatic person to the facility for testing and conveying the results back to the patient/volunteer. These were possibly included due to CTB Myanmar's emphasis on reaching case finding targets, to ensure the targets are met, but they have not been included in the GF/A2H grants. Key informants from other partners engaged in TB care

emphasized that learning implementation models was a key strength of USAID grants, and hence, the overall emphasis of CTB Myanmar should have been on learning what works rather than on finding a certain number of cases.

Health staff and community volunteers were highly appreciative of the contribution of CTB Myanmar's models in case finding and expected the same level of support to continue in the new grants. Partners engaged in TB control also pointed out these initiatives, as with other donor-funded initiatives in TB and other programs in the country, are fully dependent on external funding, and that sustainability of initiatives in the country tends to be viewed in terms of continuing implementation with other donors.

In conclusion, CTB Myanmar's support for NSP 2016-'20 and the GF Concept Note development ensured that TB prevention and control in Burma had a strategic reference point and guidance. CTB Myanmar provided high-quality TA for the development of guidelines, standard operational procedures (SOPs) and training manuals that are informed of the country's context and reflect current international guidance. The ACF cost effectiveness evaluation provided the NTP and partners with the evidence base for continuing support for the intervention. These are in line with CTB's Global objectives as well as with country level objectives of CTB Myanmar, which seek to meet the gaps outlined in the NSP. This task also demonstrated the agility of CTB Myanmar's funding mechanism and of the team. These strategic investments have built NTP capacity and some of them continue to impact interventions beyond CTB Myanmar's lifetime, being the foundation for ongoing support by other partners. However, the uptake of CTB Myanmar's TA has been limited by systemic challenges, especially continued involvement of hospitals, which fall outside the purview of NTP, in the areas of childhood TB management, CI, TBIC and CXR interpretation. These challenges were outside the scope of CTB Myanmar to address.

Continued implementation of the case finding models are fully dependent on donor funding, to the extent that sustainability of interventions is viewed in their ability to be taken up by subsequent funding cycles. Certain elements in these models as implemented by CTB Myanmar make them inherently unsustainable, and this is likely due to the emphasis of CTB Myanmar on meeting case finding targets alongside the emphasis on learning what works.

EVALUATION QUESTION 3: WHAT GAPS AND OPPORTUNITIES EXIST FOR FURTHER USAID INVESTMENT IN THE PRIVATE SECTOR AND COMMUNITY PROGRAMMING?

Gaps in current programming identified during the evaluation following the close-out of CTB Myanmar include: a) scaling back of the level of effort for ACF in previously CTB-supported communities now continuing under GF and A2H grants, which runs the risk of losing the momentum built by CTB Myanmar as well as the opportunity to confirm a decline in the pool of undiagnosed cases; b) poor understanding and addressing of stigma, which continues to hamper care seeking and treatment adherence; c) the need for support in understanding the low yield of DR-TB cases among contacts of DR-TB patients and exploration of the effectiveness of implementation models; d) the need of NTP for robust TA, and USAID mechanisms being in the best position to provide it; and e) serious challenges in human resources and inter-departmental coordination that limit the utilization of TA in implementation, as up to half of the sanctioned posts in the labs and health offices visited were vacant at the time of the evaluation.

Opportunities for future investment, in addition to addressing the gaps mentioned above, include engagement of migrant populations working in mines in hard-to-reach townships, included in the new NSP; and NTP’s prioritization of mandatory notification by GPs.

Scaling ACF interventions back up to the level of effort supported by CTB Myanmar in the 22 townships where it was implemented would lead to the detection of an estimated 712 additional cases over one year and supporting notification by the GPs trained by CTB Myanmar would result in the detection of an estimated 1,923 cases over a year and an additional case notification rate (CNR) of 27.8 per 100,000 population.

In conclusion, the evaluation identified the scale back of ACF without follow-on programming by USAID or other partners at this juncture as a clear programmatic gap. The evaluation also identified a need for significant attention to understanding of stigma and its role in driving delays in care seeking and interruptions in treatment, which was not a major focus of the CTB Myanmar or other partner programming in the country at present. There is evidence that stigma continues to be a formidable barrier to care seeking for cough and adhering to treatment. There is a critical need to understand the epidemiology of MDR-TB in Yangon as well as other locations, including the size and nature of the problem, transmission mechanisms and assess the effectiveness of innovative models of care.

The need for high-quality TA to NTP and the role of USAID in facilitating its provision is well recognized and documented, but systemic issues related to human resources in NTP and the wider health system constrain the utilization of TA in improving service delivery, and possibly contribute to missing a considerable number of cases in public hospitals. There is need to explore the extent of rollout of the SOPs and guidelines developed by CTB Myanmar, within these constraints, but also continue providing TA at the central level to enable the uptake of new guidance on the full range of thematic areas.

Reaching migrant populations, as envisioned in the new NSP, presents an opportunity, as does facilitating the establishment of diagnostic and treatment facilities including training and supervision through coordination between ethnic health organizations (EHOs) and NTP to reach very hard-to-reach areas with possible high transmission.

Preliminary estimations show that scaling ACF interventions back up to the level of effort supported by CTB Myanmar in the 22 townships where ACF was implemented would lead to the detection of an estimated 712 additional cases over one year. Although this number is low, the vulnerable nature of the population justifies this effort. Supporting notification by the GPs trained by CTB Myanmar would result in the detection of an estimated 1,923 cases over a year and an additional CNR of 27.8 per 100,000 population.

RECOMMENDATIONS

The evaluation recommends the following priority investments for USAID and design and implementation considerations:

- 1) Explore ways to expand GF and A2H investments in ACF (preferably as part of the next GF grant writing cycle) to resume and maintain the pace of ACF developed under the CTB Myanmar model. Work with these two grants to understand the rationale behind the scaling back of effort and with TB teams at region/state and township levels to develop a nuanced

approach that is able to identify pockets of high transmission and responds with a combination of ACF, sputum transportation and mobile team activities, until well after a decline in case finding is documented from these areas. As CTB Myanmar reached about half of the estimated population living in all hard-to-reach areas of the country, consider expanding the ACF intervention to the remaining areas, especially those with ethnic minority groups and conflict-affected areas.

- 2) Consider support to the expansion of services to migrants working in mining areas, in line with what is envisioned in the new NSP. Develop interventions and broker relationships between mining companies and the local township health offices, to help operationalize strategies outlined in the new NSP.
- 3) Continue support for the rollout of mandatory notification of GPs, by supporting the establishment of a user-friendly reporting mechanism through robust TA and supporting training and supervision of GPs beginning with those that CTB Myanmar trained in Yangon. Simplified reporting mechanisms would be critical to secure and maintain the involvement of GPs.
- 4) Lead a joint effort to bring about greater collaboration with other departments under MOHS to help reach public and private hospitals with implementing the guidelines and SOPs developed with the support of CTB Myanmar, particularly in the areas of TBIC, CI, CXR use and interpretation and TPT for children.
- 5) Provide TA to further assess and characterize the MDR-TB problem in Yangon including its transmission pathways to inform current and future interventions. Examine reasons for the low yield in the CI intervention among DR-TB patients in Yangon under CTB Myanmar.
 - Consider including retrospective CI for all DR-TB patients in Yangon under the new program cycle, especially for those contacts that did not receive Xpert testing during the early part of the CI intervention of CTB Myanmar.
- 6) Fund/build capacity for research that investigates stigma and discrimination related to TB, adapting existing tools for and social behavior change interventions for addressing this in a way that empowers local communities. One option is to support national NGOs to apply for (and subsequently implement) the Stop TB Partnership call for proposals for “Challenge Facility for Civil Society 2019” released in December 2019. This call includes activities for conducting stigma assessments.
- 7) Review/re-design the key messages of the Cover Your Cough (CYC) in the light of findings from the stigma assessment.
- 8) Collaborate with MOHS and partners to advocate with the central, region/state governments to mount a high-level, multisectoral response engaging education, labor, transport, women’s development and other departments to address misconceptions related to the disease and their sources, through high-profile counter-messaging.
- 9) Continue support to expanding aDSM and ensuring continued functioning of the core committee: ensure allocation of funds by the Food and Drugs Administration (FDA) for its

membership at the WHO monitoring center, and for recruiting full time staff for aDSM, who will ensure the continued functioning of equipment and provision of supplies for clinical monitoring and management.

10) Ensure that future program cycles focus on developing and testing models, documenting processes, and evaluating the effectiveness, rather than focusing on gap-filling.

- An important starting point would be to define objectives and performance metrics related to model development.
- Include operations research, specifically to test the models that are developed and implemented.
- Ensure that the models have inbuilt linkages to the existing primary healthcare system.
- Learning from the CTB Myanmar experience, build in sufficient time for approvals at all stages in model development and implementation.

EVALUATION BACKGROUND

ACTIVITY BACKGROUND

CONTEXT

Challenge TB (CTB) served as the flagship global mechanism for implementing the strategy of the USAID to meet the global post-2015 goal of a world free of TB. The project supported the introduction, scale-up, and sustainability of high impact TB interventions, primarily in 26 high-burden TB, MDR TB, and TB HIV countries, including Myanmar.

According to the 2019 Global TB Report of the World Health Organization (WHO) approximately 10.0 million people developed TB in 2018 and an estimated 1.2 million deaths among HIV-negative people and 251,000 deaths from TB among people living with HIV (PLHIV).

WHO lists Myanmar as one of the 30 high burden countries for TB, TB HIV, and MDR-TB. The TB prevalence in Myanmar has seen a dramatic decline in bacteriologically confirmed TB, but it is three times higher than the global average and is one of the highest in Asia. An estimated 181,000 people had TB in 2018 (incidence of 338 cases per 100,000 people), and approximately 21,000 died from the disease (not including HIV patients)¹. MDR-TB patients constitute 4.9 percent among new cases and 20 percent among retreatment cases².

The NTP, with support from USAID and other partners, developed a NSP for 2016- '20. The Plan's goal is to end the TB epidemic in Myanmar, indicated by fewer than 10 cases per 100,000/population, by 2035. The NSP embraces four key principles: (1) government stewardship and accountability along with monitoring and evaluation; (2) strong coalition with civil society organizations and communities; (3) protection and promotion of human rights, ethics and equity; and (4) adaptation of the strategy and targets at decentralized levels, with NTP coordination. The NSP prioritizes ten groups for ACF as a strategy to find "missing" cases: health care workers, prisoners, migrants, miners, urban and rural poor, the elderly, people living with HIV or diabetes, and ethnic minorities.

Under the broad framework of the NSP, and with support from local and international non-governmental organizations (NGOs), including CTB Myanmar, PPM interventions helped identify 50 out of the 260 cases notified per 100,000 population in 2018³. Programmatic management of drug-resistant TB (PMDT) was initiated in 2011.

Over the past decade, the NTP has made major progress in the fight against TB countrywide. Prevalence surveys carried out in 2018 and 2009 showed major epidemiological impact. The prevalence of pulmonary culture positive tuberculosis by one morning sample declined from 520 (415-624) per 100,000 in 2009 to 256 (173-339) per 100,000 in 2018, a decline of 51% over that period. According to WHO this indicates an estimated 4.9% annual decline in incidence over that time period. This puts

¹ WHO Global TB Report, 2019.

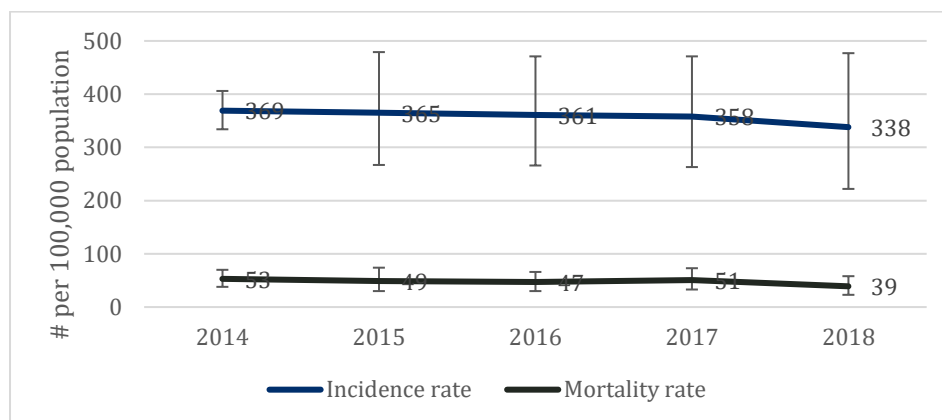
² Ibid.

³ Final report of the 6th Joint Monitoring Mission, 2019.

Myanmar well on track to reach the target of an incidence reduction of 20% by 2020 as compared to 2015.

Since 2017, the MOHS has been procuring all of the first-line TB drugs used in the country and 40 percent of its second-line TB drugs and instituted an effective procurement and distribution system for these drugs.

Figure 1: Trends in TB incidence and TB mortality during CTB Myanmar



Source: WHO Global TB reports

Despite epidemiological impact, Myanmar faces a persistent high TB burden countrywide. The situation is particularly of concern in Yangon, with a prevalence of 607 (468-747) per 100,000 adults and MDR-TB notification rate of more than 20/100,000 population, by far the highest and most complex in the country⁴. Additionally, as stated in the Prevalence Survey report, TB response remains largely limited to the health sector and it is severely constrained by the intractable human resource challenge faced by the health sector as a whole. Almost two-thirds of TB patients and their families face catastrophic costs for TB care⁵, while a quarter of TB patients go undetected or are unreported.

ACTIVITY OVERVIEW

CTB in Myanmar was implemented by FHI360, with support from KNCV in The Hague, Netherlands, with a primary emphasis on medium to long term technical assistance (TA) to NTP. Subgrants were provided to six organizations for selected activities. Implementation concluded in June 2019, with full close-out in September 2019.

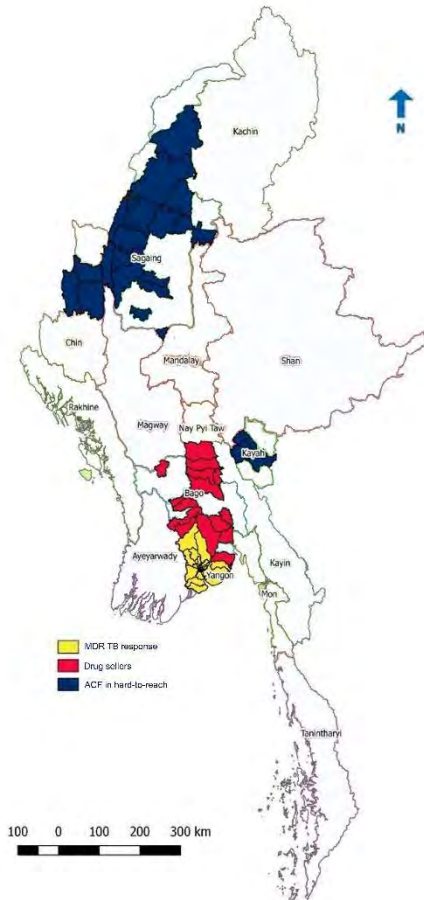
The overarching focus of CTB Myanmar was to “support national efforts to actively find and effectively treat missing TB cases by enrolling male and female patients into a comprehensive and inclusive TB prevention and care package”. The overall objectives and sub-objectives directly aligned with the United States Government (USG) Global TB Strategy 2015-2019, and with the specific priorities outlined in the NSP: The Activity’s **goal** was to find and notify 5,300 more TB patients (all forms) in 2019 compared to

⁴ MOHS, Govt of Myanmar and WHO. 4th National Tuberculosis Prevalence Survey, 2017-'18. Short report, version 1.3, August 2019.

⁵ Exceeding 20 percent of annual household income, as defined by WHO.

2014 through project interventions⁶. By the end of Year 2, the intervention approach began to coalesce around **four key objectives**, with guidance from the Mission.

Figure 2: Geographic focus areas of subgrantees



Key objective 1. Reaching the hard-to-reach through PPM engagement and through ACF in remote and ethnic areas.

CTB Myanmar supported the demonstration of community-level case-finding approaches to increase access to inclusive services in Kayah, Chin, and Sagaing to cover around 2.3 million people in 22 townships, implemented by four subgrantees: Pyi Gyi Khin (PGK), World Vision Myanmar (WVM), the Myanmar Health Assistants’ Association (MHAA), and the International Union Against Tuberculosis and Lung Diseases (The Union). Figure 2 gives the geographic focus areas of these subgrantees. CTB Myanmar also supported a fifth subgrantee, Population Services International (PSI) to accelerate TB case finding by engaging drug sellers in 15 townships in Bago Region.

Key objective 2. Strengthening access to high quality TB diagnostics

CTB Myanmar provided capacity-building and technical assistance to the two NRL – the National TB Reference Laboratory (NTRL) at Yangon and the Central Mandalay Branch Laboratory (CMBL) to improve laboratory quality and work towards the International Standards Organization (ISO) 15189

accreditation. CTB Myanmar also supported quality improvement in all three of the country’s biosafety level 3 (BSL 3) laboratories, the two NRLs and the laboratory in Taunggyi.

Key objective 3. Strengthening the national MDR-TB response in Yangon region.

CTB Myanmar supported a sixth subgrantee, the Myanmar Medical Association (MMA), a local organization, to find DR-TB and DS-TB patients among contacts of index patients with Rifampicin resistance (RR) by implementing systematic CI and increased utilization of Xpert™ Mycobacterium Tuberculosis/Resistance to Rifampicin (MTB/RIF) assay⁷. CTB Myanmar also provided support for Xpert expansion across all 44 townships in Yangon and contributed to an increased number of TB diagnoses.

⁶ The original goal was 10,000 cases; it was revised in Year 4 based on project approach and geographic focus.

⁷ From Cepheid, Sunnyvale CA., USA, an automated, cartridge-based nucleic acid amplification test that uses the multi-disease GeneXpert™ (Cepheid, Sunnyvale CA., USA) platform.

Key objective 4. Building the capacity of NTP through targeted TA for policy/tool development around key technical priorities.

CTB Myanmar provided NTP with technical support to strengthen its coordination and management system, including the roll out of nationally approved SOPs, guidelines and manuals on TB infection control (TBIC), childhood TB, CI, active drug safety monitoring and management (aDSM) and shorter treatment regimens for MDR-TB and advocacy, communication and social mobilization (ACSM) for TB. Furthermore, CTB Myanmar supported NTP to ensure approximately 1,000 registered GP in Yangon not registered with PPM schemes of NTP were trained in mandatory notification of TB. CTB Myanmar also provided TA to pilot a CXR external quality assurance (EQA) system in seven sites in Mandalay and Yangon. And finally, the project supported the NTP to develop the NSP for 2016- '20.

The CTB Myanmar background document states that the de facto theory of change was that if TB case finding is increased, diagnostic capacity is improved, the NTP is strengthened and a National MDR-TB response is supported, then the TB burden in Myanmar will be decreased. The development hypothesis was that technical assistance, and subgrants for implementation can make a meaningful contribution to decreasing this burden by introducing new tools and approaches for TB control that can be continued and scaled by other partners, including the Government of Myanmar.

EVALUATION PURPOSE

The purpose of this evaluation was to assess and document the most significant achievements of CTB Myanmar and its contribution to the national response to TB, as well as challenges, lessons learned and promising practices.

Findings from this evaluation are intended to inform future TB programming and highlight technical priorities and key issues for USAID's TB investments in Myanmar.

EVALUATION QUESTIONS

This evaluation addressed the following Evaluation Questions (EQ), drafted by USAID Burma/Office of Public Health in the initial Scope of Work (SOW) and finalized by the evaluation team (ET) in collaboration with them:

- I. What were CTB Myanmar's key contributions to TB control in Myanmar and to what extent has CTB Myanmar addressed key TB issues and gaps?
 - To what extent did CTB Myanmar contribute to the overall national results in reducing the TB burden in Myanmar?
 - What are the most important TB gaps and issues that CTB Myanmar focused on in its geographical areas, and how well did the selection of interventions and geographical areas align with need?
 - What gender constraints/gaps were faced by women with TB and MDR-TB, especially in hard to reach remote areas and how were they addressed by CTB Myanmar?
 - What were the key contributions of CTB Myanmar in the following technical areas?
 - Increasing case notification and ACF

- Addressing the MDR-TB crisis in Yangon
 - Strengthening TB and MDR-TB diagnostic network
 - Assisting NTP in introducing aDSM for MDR-TB cases
 - Engagement with private sector providers, drug sellers, and other non-public organizations in TB case finding
2. To what extent has CTB Myanmar’s technical assistance to the national TB program at different levels advanced TB prevention and control in Burma in line with CTB global-level objectives, and CTB Myanmar’s project objectives, and promoted sustainability?
 - What technical assistance and capacity-building support provided by CTB Myanmar was most effective, and what activities were less effective?
 - To what extent were interventions (especially those related to hard to reach areas and the MDR-TB response in Yangon), models and tools introduced by CTB Myanmar adopted and continued or scaled up with other resources (domestic or other donor)? What are examples of tools or approaches that were continued or scaled up?
 - What efforts did CTB Myanmar undertake to ensure broader uptake of its approaches? What evidence exists of uptake?
 3. What gaps and opportunities exist for further USAID investment in the private sector and community programming?
 - Considering current programmatic coverage and findings from the TB Prevalence Survey of 2018-19, how might a scaled-up approach to engaging the private sector and community-based activities affect case finding efforts (namely in areas of high prevalence, high loss to follow up, or poor reporting)?
 - What lessons and best practices from CTB Myanmar’s private sector interventions can be applied to future efforts to control TB and efforts to build country capacity?

EVALUATION DESIGN, METHODS, AND LIMITATIONS

The evaluation used a mixed-methods design that included document review; **primary data** collected through KIIs, observations, FGDs and interviews in communities with past and current TB patients; and analysis of **secondary data**. KIIs were used to collect in-depth information from those with the richest knowledge of the relevant topics. Observations provided evidence on service delivery, quality, and adherence to standards in laboratories. Community interviews provided evidence on issues related to access and patient perceptions. Secondary analysis investigated CTB Myanmar’s monitoring and performance data and TB program data and helped assess trends and progress toward key performance indicators and complemented the primary descriptive information. An evaluation design matrix linking each of these approaches with the EQs is included as Annex III.

METHODS

DOCUMENT REVIEW

Several documents were reviewed to establish evidence on activity design, implementation, progress toward goals, and lessons learned. Below is a list of categories of documents that were reviewed. A complete list of documents reviewed is provided in Annex II.

Activity design: CTB Cooperative Agreement, technical proposal, monitoring, evaluation and reporting plan

Baseline/prior assessments: Reports of assessments, situational analyses and evaluations

Activity implementation: Annual work plans and reports; reports of short-term technical assistance, routine performance monitoring and visit reports, and manuals and SOPs developed with assistance from CTB Myanmar

National policy, strategies, and resources: NSP 2016 – '20, National guidelines for TB, MDR-TB and TB HIV, NTP annual reports of 2015 and 2016, published reports and studies regarding TB control in Myanmar, Reports of Joint Monitoring Missions (JMM), TB prevalence survey reports and reports of other partners

Global strategies and guidelines and literature: USAID Global TB strategy, WHO End TB strategy, WHO Global TB Reports and published studies

PRIMARY DATA: KEY INFORMANT INTERVIEWS

KIIs gathered primary descriptive data related to the following topics:

- CTB Myanmar design considerations, rationale behind selection of issues and geographies to intervene, implementation approaches and the underlying assumptions; adaptations made to implementation
- Key achievements and challenges; contribution to overall national results
- Quality, relevance and adequacy of TA and its impact on NTP capacity to reach its objectives
- Coordination and collaboration with NTP and other stakeholders
- Stakeholder perceptions on achievements and challenges, sustainability and scale up

KII participants were selected based on their engagement and familiarity with CTB Myanmar and with TB control efforts in the country. They included selected individuals from CTB Myanmar staff, subgrantee staff and volunteers, NTP staff at all levels, USAID/Burma, partners engaged in TB care and control and community representatives.

Table I below lists the key informants who were interviewed. The KIIs are listed as individual activities rather than as composite ones for entire facilities, as each individual KII forms a separate unit. This method also enabled the evaluation team to keep track of and report on those that it completed.

Informed consent was obtained from every participant and the interviews were conducted using KII guides developed for each participant category. The instruments were reviewed and approved by the Institutional Review Board (IRB) of Social Impact, Inc (SI).

The evaluation team conducted 42 KIIs involving 66 individuals – 41 men and 25 women, drawn from USAID and partners, CTB, and government stakeholders at national, region/state, township and community levels.

Table 1: Categories of Key Informants interviewed

MOHS
<ul style="list-style-type: none"> • NTP manager, Director - Disease Control • Deputy Director General - Disease Control
Partners at national level
<ul style="list-style-type: none"> • USAID/Burma, including the USAID-funded MDR-TB Advisor seconded to NTP (contracted under STAR) • WHO Myanmar • Other stakeholders in TB control <ul style="list-style-type: none"> ○ PSM Project, Chemonics International ○ JICA ○ JATA ○ GF Principal Recipients: UNOPS and Save the Children ○ FDA
CTB Myanmar Staff and its sub-partners
<ul style="list-style-type: none"> • Ex-Chief of Party and Ex-Dy Chief of Party • Leads of subgrantees: <ul style="list-style-type: none"> ○ PGK ○ WV Myanmar ○ MHAA ○ The Union ○ PSI ○ MMA
Region and State TB Units: Yangon, Sagaing and Kayah
<ul style="list-style-type: none"> • Region/State TB Officer/ TB Team • TB Team Leader
NRLs, Yangon and Mandalay
<ul style="list-style-type: none"> • Lab in charge/chief microbiologist
District TB Unit (in sampled townships), Sagaing and Kayah
<ul style="list-style-type: none"> • Unit in charge / TB clinic in charge
Township TB/Health Unit (in sampled townships), Yangon, Sagaing and Kayah
<ul style="list-style-type: none"> • Unit in charge/team
District and Township hospitals, Sagaing and Kayah
<ul style="list-style-type: none"> • Head of the facility • TB Lab technician
MMA Project site, Yangon
<ul style="list-style-type: none"> • Outreach workers
TB HIV Hospital, Yangon
<ul style="list-style-type: none"> • Head of facility
Rural Health Center
<ul style="list-style-type: none"> • Basic Health Service (BHS) staff
Community
<ul style="list-style-type: none"> • Staff at Sputum Collection Centers (SCC) • Drug sellers (<i>Bago region</i>)

PRIMARY DATA: FOCUS GROUP DISCUSSIONS

Two FGDs were conducted with subgrantee staff and volunteers totaling 17 participants (15 women and two men) to obtain in depth information on their perceptions and experiences working to promote awareness of TB in communities, as well as changes in perceptions regarding the disease in target communities over time. The following topics were covered:

- Community-level activities for ACF, awareness building, referral and follow up
- Changes in public perceptions related to TB, its diagnosis and treatment
- Enablers and barriers to timely and appropriate care seeking; specific challenges for women; specific challenges in hard-to-reach areas
- Contribution of CTB Myanmar in all these areas

Each FGD was a facilitated discussion on a range of pre-determined topics. Informed consent was obtained from participants and an FGD protocol, both approved by the IRB of Social Impact, Inc. was used to guide the discussion.

PRIMARY DATA: COMMUNITY INTERVIEWS

Interviews were conducted in communities with current TB and MDR-TB patients as well as those who have completed treatment, who reside in hard to reach areas reached by CTB Myanmar. These interviews assessed their perceptions and experiences related to their care seeking practices, diagnosis, treatment initiation and follow up. They included questions that helped map the care seeking process for each patient, reflecting the patient's pathway through the course of diagnosis and treatment. Interviews also assessed enablers, barriers and constraints in the patients' families and communities for obtaining appropriate care, and the patients' perspectives on further improving community perceptions and quality of service delivery. Specifically, the interviews focused on the similarities and differences in the experiences of men and women patients and between past and current patients. Patients were selected with assistance from subgrantee volunteers and BHS staff, based on criteria explained to them by the ET of having past and present TB patients, men and women and TB and MDR-TB patients, where feasible. The ET conducted individual interviews with 16 patients, 10 of whom were women, and 2 were children.

Informed consent was obtained from all interviewees and FGD participants, and procedures for maintaining confidentiality and privacy were used. Detailed protocols used to guide the patient interviews were approved by the Social Impact IRB and field tested. The gender and age of patients were recorded, but other identifiers such as name, address and the name and location of the facility or community were not.

PRIMARY DATA: OBSERVATION

The evaluation team observed laboratories supported by CTB Myanmar for: adherence to standards for TBIC, equipment functionality, handling, and maintenance; confirming expansion of new diagnostics; EQA and sample referral services and recording and reporting. The observations were carried out in the two NRLs and the two Xpert labs in the two districts that the ET visited.

The ET used field-tested observation checklists and combined the observations with KIIs with the staff in the labs. The checklists combined quantitative and descriptive elements related to the themes noted above. No patient-related data was collected during the observations.

Informed consent forms and data collection protocols for all the above methods are included in Annex IV.

SAMPLING FOR PRIMARY DATA COLLECTION

The evaluation team applied multistage purposive sampling to select regions/states, followed by townships within the selected regions/states and facilities within the selected townships. These served as sites for primary data collection in the form of KIIs, FGDs, community interviews and observations.

The key criteria used for the selection of regions/states within CTB Myanmar’s geographic reach were a) the feasibility of conducting the site visit within the available time, b) the security situation and c) the presence of a special intervention. Kayah and Chin states have had comparable interventions for hard-to-reach areas, and therefore one of them, Kayah was selected, based on accessibility. Criteria for the selection of townships reached by CTB Myanmar within selected regions/states was the performance of the region/state as indicated by the case notification rate (CNR) per 100,000 population in the NTP Annual Report of 2016. These parameters reflect a trade-off between what is feasible within the available time and ensuring that the entire range of CTB Myanmar’s interventions are included for primary data collection. While the parameters ensured that the task was feasible while also including areas with high and low performance, there is the risk that all possible perspectives are not obtained. This was mitigated by an exhaustive review of CTB Myanmar documents as well as those related to other efforts for TB control in the country. The details of criteria fulfilled in each selected site are provided in Annex II.

The total number of activities and their distribution across Regions/States and at the national level are outlined in Table 2 below. Sagaing Region and Kayah State were the only locations where the full complement of data collection activities was carried out. Data collection in Yangon focused on CTB Myanmar’s support for MDR-TB related activities and for strengthening the NRL. In Mandalay, data collection was done only in the NRL and in Bago, it was limited to drug sellers.

Table 2: Number and distribution of primary data collection activities

Level	KIIs	KII Facility/Lab	Observations	Community Interviews	FGD
Region/State					
Yangon					
Region/State TB Unit	1				
Thaketa Township					
Outreach workers	2				
NTRL		1	1		
Mingalardon TB HIV hospital		1	1		
Mandalay					

CMBL					
Sagaing					
Regional TB Unit					
District TB Unit					
District hospital					
Mawlaik Township TB Unit					
Township Hospital					
RHC + SCC				4	
Community				4	
Kayah					
Regional TB Unit					
District TB Unit					
District hospital					
Demosoe Township TB Unit					
Township Hospital					
RHC + SCC				4	
Community				4	
Bago					
Bago Regional TB Unit					
Drug sellers	4				
Subtotals	13	7	3	16	2
National					
NTP + Other departments	2				
Other Partners	9				
USAID/Burma	2				
CTB Myanmar Staff	1				
Subgrantee Staff	8				
Subtotals	22	0	0	0	0
Totals	35	7	3	16	2

SECONDARY DATA ANALYSIS

The ET analyzed secondary quantitative data from CTB Myanmar's performance monitoring database, annual work plans and reports and NTP annual reports of 2015 and 2016. The purpose of the secondary data analysis of service statistics was to establish the extent of service delivery and utilization and CTB Myanmar's performance against targets and attribution of changes to case finding to CTB Myanmar activities and assess gaps to be evaluated through in-depth inquiry into possible reasons. The analysis was exploratory and examined changes in the utilization of services supported under CTB Myanmar. The evaluation did not obtain patient-related data or utilization of services by individual patients.

The ET triangulated data from all primary and secondary sources to assess CTB's possible contribution to the observed changes and draw lessons for future use.

ETHICAL CONSIDERATIONS

The in-house IRB of SI reviewed data collection instruments for procedures to effectively safeguard participants, including confidentiality and data security, and whether the informed consent process was appropriate, as the evaluation worked with vulnerable populations. All SI evaluation personnel—including headquarters staff, field teams, and consultants— followed professional and ethical guidelines to ensure that the evaluation was carried out with honesty and integrity, respondents' confidentiality and privacy are protected, and data security is ensured. This included ensuring the informed consent process, including informing respondents about the potential uses of the findings and any potential sharing or publication of their data.

The location and timing of community interviews with patients ensured that the confidentiality related to the patients' illness and reasonable privacy were maintained. ET members undertook personal protection measures such as the use of face masks and handwashing as provided for in national guidelines, while also ensuring that patient confidentiality was not compromised.

DATA PREPARATION AND ANALYSIS

Data collection and handling: Data were collected over 3.5 weeks. During fieldwork, the ET prepared summary notes of the KIIs, observations, and community interviews each day to identify underlying themes emerging from the interviews and discussions. Secondary data and that from lab observations were added to other primary qualitative data for thematic analysis. After completion of fieldwork, the ET transcribed and organized notes captured during data collection. The evaluation questions and identified themes served as the organizing framework for the notes.

Consent forms with the signatures of participants and consent forms with interviewer's signatures for patient interviews and observations have been compiled and will be held until the final report is uploaded to the Development Experience Clearinghouse. Each KII (with respondent name), observation and community interview (both with no identifiers) was assigned an identification number and this list will stay with the ET until the end of report writing, along with data collection tools with raw data. Soft copies of lists of KII respondents are stored in password protected computers and accessible only to the ET. The coded analysis matrix references only the IDs and does not contain names of participants.

Coding: Transcripts from KIIs, observations, and exit interviews were analyzed manually based on the themes and subthemes contained in the data collection tools. Descriptive data was coded into a findings matrix template that includes pre-identified themes and subthemes from the evaluation design matrix and accommodate emerging subthemes. Emphasis was placed on comparing the responses across participant categories, geographies and facility type to identify similarities and differences in the data obtained.

Primary and secondary quantitative data were analyzed in spreadsheets for standard TB-related indicators appropriate for the data points, such as positivity rate, CNR and the number needed to screen (NNS)⁸. Although these data points are quantitative, they are not drawn from a representative sample, so the findings cannot be generalized. Throughout the analysis process, the ET looked for distinctive sub-themes and findings by geography and gender with descriptive and quantitative data.

⁸ Defined as the number of contacts that needed to be screened for every confirmed case identified.

LIMITATIONS

- This evaluation was not conducted in all locations where CTB Myanmar was implemented and did not engage all possible people involved with CTB Myanmar implementation, but a purposive sampling was used. While this was in line with the qualitative design of the evaluation and served the evaluation's purposes, findings are not representative of CTB Myanmar's overall performance. This limitation was mitigated by conducting a secondary analysis of CTB Myanmar data and NTP data, as available.
- Observations of patient-provider interactions and interviews with facility staff could not be included in the evaluation design due to limited access to these sites. This was compensated for by careful review of all available reports containing such information, such as STTA and JMM reports.
- As CTB Myanmar had already fully closed out, several staff on the core team were not available for KII.
- NTP data was available only up to 2015, and disaggregation was limited.
- The ET consulted with USAID/Burma, CTB Myanmar and NTP to obtain insights for sampling. Although the team did not necessarily take instruction from these stakeholders on the actual sampling of sites, any biased selection of sites resulting from the information obtained from these stakeholders may have affected the accuracy of the findings.
- Community-level interviews were conducted solely based on the selections made by subgrantee staff and volunteers, due to restrictions in accessing communities in some sites.
- Participants provided information based on their informed consent; however, biases could have resulted from lack of information or poor understanding of the questions or from social desirability, especially from patient participants. The ET ensured adequate interviewing practices and correct phrasing and rephrasing of questions without changing the core meaning/subject of the questions.

FINDINGS AND CONCLUSIONS

This section describes findings from the evaluation and conclusions by EQ. It also includes an assessment of potential case finding strategies for the future. Preceding these detailed descriptions, Table 3 below gives a snapshot of overall achievements and key limitations by CTB Myanmar objective, and Table 4 gives the achievement of the four key performance indicators of CTB Myanmar.

Table 3: Achievement by CTB Myanmar objective

Key Objective	Key Accomplishments	Limitations
<ul style="list-style-type: none"> 1. Reach the hard-to-reach through public private mix (PPM) engagement and through ACF in remote and ethnic areas 	<ul style="list-style-type: none"> Contribution to case finding through ACF and drug seller engagement 	<ul style="list-style-type: none"> Limited duration of implementation of all models Contribution to addressing MDR-TB crisis in Yangon insufficient
<ul style="list-style-type: none"> 2. Strengthen access to high quality TB diagnostics 	<ul style="list-style-type: none"> Progress towards accreditation of NRLs TA for CXR interpretation 	<ul style="list-style-type: none"> Systemic issues impeded successful TA provision
<ul style="list-style-type: none"> 3. Strengthen the national MDR-TB response in Yangon region 	<ul style="list-style-type: none"> Yield of DS-TB cases, through CI of DR-TB patients Contribution to developing the Yangon Regional Crisis Response Plan for MDR-TB 	<ul style="list-style-type: none"> Limited duration of implementation Causes for low yield not investigated
<ul style="list-style-type: none"> 4. Build the capacity of NTP through targeted technical assistance (TA) for policy/tool development around key technical priorities 	<ul style="list-style-type: none"> NSP and GF Concept Note development Cost effectiveness of ACF interventions aDSM mechanism established and functioning Guidelines and SOPs for mandatory notification, childhood TB management, TBIC, MDR-TB management, utilized by NTP 	<ul style="list-style-type: none"> Limited coordination with health facilities constrained utilization of some TA products

Table 4: CTB Myanmar indicators: achievement against targets

Performance indicator	Baseline	Target	Achievement
Notified cases DS TB all forms nationwide, number	138,352	154,643*	136,039 (87.9 percent of target)
CTB Myanmar activities will find 5,301 cases between 2017 and '19, number	-	5,301	4,520 (85.2 percent of target)

Source: CTB Final Report, 2019 (*Year 4 target is provided here as that is the most recent year for which the actuals are available)

EVALUATION QUESTION 1: WHAT WERE CTB'S KEY CONTRIBUTIONS TO TB CONTROL IN MYANMAR AND TO WHAT EXTENT HAS CTB/BURMA ADDRESSED KEY TB ISSUES AND GAPS?

FINDINGS

This section presents findings related to **five key interventions** implemented in specific geographies and technical areas: ACF in hard-to-reach areas, engaging drug sellers in Bago region and for MDR-TB

patients in Yangon, strengthening of the diagnostic network for MDR-TB and setting up the aDSM mechanism. It also includes an assessment of their contribution to national results, and challenges to their implementation. Findings related to the choice of these interventions and their design are included across the entire section.

CONTRIBUTION TO INCREASING CASE NOTIFICATION THROUGH ACF

Reaching hard-to-reach areas was a principal strategy in CTB Myanmar’s approach to increasing case notification. CTB Myanmar’s reports and documents show that conducting ACF in hard-to-reach areas was a strategic priority of CTB Myanmar since its inception. This design choice for improving case notification is supported by the recently completed TB Prevalence Survey which found that “the farther we go from a diagnostic facility, the higher the prevalence⁹”.

The General Administration Department of the Govt of Myanmar defines hard-to-reach areas based on road accessibility across seasons. These areas are further divided into moderate, hard and very hard-to-reach. About 5.8 million people (12 percent of the country’s population) are estimated to live in such areas¹⁰. Almost all of these areas are populated by ethnic minority groups.

CTB Myanmar trained staff of EHOs in Mon and Kayin states in Years 1 and 2. By the end of Year 2, CTB decided to add greater structure to this intervention through the subgranting mechanism, signifying a strategic shift in CTB Myanmar’s earlier emphasis on TA to the central level. As the subgranting process was done in consultation with the NTP, EHOs were not included, due to the low levels of openness in the government to formally contract with ethnic groups at the time.

CTB Myanmar implemented ACF in 22 hard-to-reach townships across Sagaing region, Kayah and Chin states, through subgrants to four organizations, reaching a total population of just over 2.29 million. Six of these townships are in the hardest-to-reach category. Subgrantees deployed cadres of volunteers to conduct TB-related discussions in small and large groups; identify symptomatic persons and accompany them to the township facility for tests or collect and transport sputum specimen and mobilize communities ahead of visits from the mobile TB team. Subgrantees also set up 113 SCCs - in RHCs or in volunteers’ homes. Each subgrantee worked out an incentive package for volunteers, but in general, the package included an incentive for every education session, reimbursement of all transport costs, both for the patient and for the volunteer for transporting sputum, accompanying a patient to the facility and for participating in monthly meetings, and for directly observed treatment (DOT) support. As a norm, volunteers work for seven days every month. Subgrantees report that they selected volunteers using pre-determined criteria related to literacy, experience in community-based health work, and location, and the selections were done in close consultation with the township health office, the RHC team and community leaders.

⁹ MOHS, Govt of Myanmar and WHO. 4th National Tuberculosis Prevalence Survey, 2017-’18. Short report, version 1.3, August 2019.

¹⁰ Myanmar Information Management Unit, 2019. Map ID 1648 v01, Hard to Reach Areas, Myanmar.

Table 5: ACF intervention details

Organization	Region	Townships	Population	Volunteers
MHAA	Sagaing	8	948,648	399
The Union	Sagaing	8	959,873	1,155
WVM	Kayah	3	141,936	150
PGK	Chin	3	147,524	151

Each subgrantee had its own adaptation of this overall intervention, such as variations in the ratio of villages to volunteers, and in the location of SCCs. These variations reflected the subgrantee’s understanding of the local context and their theory of how barriers to case finding would be overcome. In Kayah, for instance, the subgrantee, WVM worked with local ethnic organizations to identify symptomatic persons. A common feature across the sites was that project staff conveyed the results of sputum tests back to the RHC/SCC. Project staff also did joint supervision of volunteers work along with BHS staff stationed at RHCs, and report that this helped build the capacity of BHS staff, many of whom have been recently employed. It is notable that subgrantees were given targets for case finding, and these were not revised when one of the subgrantees had to withdraw from some locations owing to local-level conflict.

Subgrantee teams and township level health staff reported effective coordination between them in all the project locations. This was most evident in the manner in which communities were mobilized ahead of mobile team visits. Mobile teams visited a township approximately once a year in Kayah and Chin and once in three to six months in Sagaing and covered certain locations within the township at every visit. Volunteers received information about the mobile team visit from the township TB clinic through project staff and mobilized the local population for accessing the services.

All subgrantee teams developed mechanisms for case-based data collection with the township TB focal/ TB team, using the unique code that is given for each patient at notification. This was carried out manually, but the small scale of this exercise ensured that errors were kept to a minimum while also helping disaggregate cases by the source of referral. Disaggregation by other variables such as age or sex was not included in this manual exercise.

MHAA supports the salary of a TB lab technician in a regional hospital out of their organization’s funds, who was seconded by CTB as the current GF grant does not support that position.

A third of all cases notified from target locations during its implementation period were from ACF, many of whom would have faced formidable challenges in accessing care themselves. A total of 2,678 cases were notified from ACF locations, including 26 with MDR-TB, between June 2017 and March 2019, as summarized in Figure 3 below¹¹. SCCs served 12,807 of these presumptive TB patients by transporting 25,614 samples for diagnosis (two samples per patient) and identifying 194 bacteriologically confirmed TB patients. This represents 27 percent of all notified bacteriologically confirmed patients from the 22 townships.

¹¹ This data does not include those referred by volunteers to the mobile team in Sagaing and Chin.

“I don’t like TB, but I like working for TB. There are people with TB in our communities”

- ACF volunteer

In all sites visited, community members reported that they were unlikely to have sought care early, or not at all without the volunteer accompanying them to the facility, and in some cases, visiting their home repeatedly to encourage them to go to the facility for testing. Subgrantee staff and volunteers state that as language is a key barrier in ethnic minority communities

where facility staff do not speak the local language, and the presence of volunteers with the symptomatics and patients helps them overcome this barrier. In one state, the regional TB officer reported that nearly half of the health staff are not local. In all locations, the long distances and the attendant transportation costs to the nearest township TB clinic for tests (and for some locations in Chin state, to the state capital) meant that symptomatic persons will not go until their illness became unbearable. Key informants at township and community levels also noted that subgrantee teams in ethnic minority areas have built a credible presence in hard-to-reach areas and have earned the trust of local communities and organizations of the minority groups.

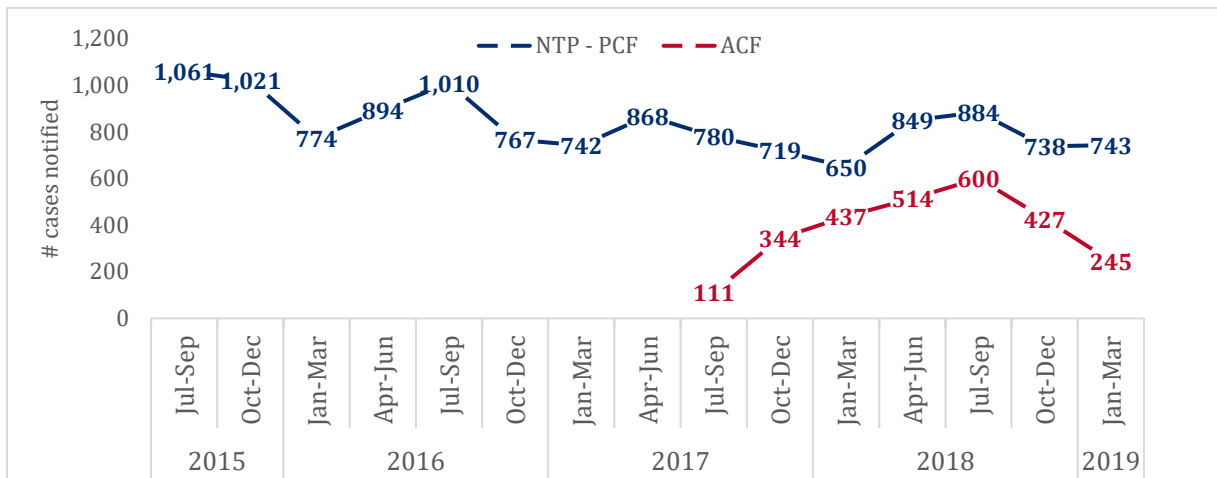
Figure 3: Yield from ACF in hard-to-reach areas

Presumptives identified	46,661
Presumptives tested	46,091
Confirmed cases	2,678 (26 MDR TB)

Data from ACF in hard-to-reach locations depicted in Figure 4 below provides a break-up of the cases notified by quarter to the NTP through passive case finding (PCF) prior to ACF implementation, and those that were notified to NTP through PCF and ACF during the time of implementation, starting from July – September 2017. There was an increase in the trend of cases notified through ACF activities for the first two-thirds of the implementation period, before declining over the last two quarters. The data provided in the graph shows that PCF also increased in a less pronounced manner during the same time period, which could be a result of the educational activities of ACF and an overall improvement in care seeking. It is also likely that, as pointed out in the JMM report of 2019¹², the increase in cases found through ACF reflects a reduction in the pool of undiagnosed cases in these communities.

Figure 4: Trend of case notifications before and during the ACF intervention

¹² Final report of the 6th Joint Monitoring Mission, 2019.



There are site-specific variations in the trend, which has possible programmatic implications. The project-wide totals provided above hide important site-specific variations. In the sites that the ET visited, aggregate data displayed in township TB centers showed that, unlike the project-wide trend, the number of cases found through ACF was consistently high and was at its peak when the intervention ended in March 2019, followed by a drop to near-zero levels until July-Sep 2019. Therefore, while the overall results from the ACF work show a decline, either due to the winding down of activities with CTB Myanmar closing, or due to exhaustion of the pool of undiagnosed cases and disruption in transmission, in these sites, we do not know the size of the undiagnosed pool of prevalent cases and the level of transmission. We will not know this unless ACF activities continue uninterrupted until case finding rates decline.

The ACF intervention faced significant challenges. The design and rollout of the intervention faced inordinate delays from its inception. Annual reports of CTB Myanmar reveal that conducting ACF in hard-to-reach areas was a priority from the start. CTB Myanmar proposed an initial ACF assessment, but could not carry it out due to delays in approval in Years 1 and 2. The delays occurred due to lack of clarity in CTB Myanmar about the process of obtaining approvals and the lack of staff stationed at Nay Pyi Taw to coordinate closely with MOHS. During these two years, CTB Myanmar trained staff of ethnic organizations as mentioned earlier, and the shift towards awarding subgrants took place in Year 3. This resulted in a relatively short implementation period of 1.5 years. There were also challenges in field implementation. Volunteers and staff report difficulty in coordinating the collection of samples from patients on a fixed day. Patients did not always bring the samples on the prescribed day, and this resulted in volunteers making more frequent trips to the facility than anticipated. While the project reimbursed the volunteers' expenses for all the trips made, they ended up working longer than the seven days that they were paid for. Floods, hilly terrain and limited availability of ferries (to reach communities located across rivers) limited the mobility of volunteers. Generally, transportation to remote locations is improving and people are able to access facilities more easily than before, some challenges such as flooding and local-level conflict persist, which makes travel challenging.

Volunteers and staff also report that incentives for participating in group education sessions led to community members in some locations demanding that they be paid for every interaction with the volunteer. Volunteers in both Kayah state and Sagaing region reported that persistent misconceptions

regarding the nature of the disease, its spread and treatment necessitated repeated attempts by them to get symptomatic persons to go to the facility or to provide sputum samples. They also report that over time, they have built trust and credibility in their communities and seeing patients get cured with treatment has helped counter some of the misconceptions in some locations.

Treatment for DS TB was not directly observed. The ET learned of patients with DS-TB receiving anti-TB medication every month from the facility but take the medicines themselves. ACF volunteers conduct follow up visits with patients on treatment and are often accompanied by BHS staff, but none provided feedback on DOT. Patients and volunteers report that patients with DS-TB receive medication every month themselves from the facility, often accompanied by volunteer (during CTB Myanmar implementation) and swallowed the medicines themselves, rather than be provided DOT. Although this is an incidental finding – corroborated by the JMM 2019 report – and it was not an element of the ACF intervention of CTB Myanmar, it assumes significance in the light of reports of treatment interrupters among the workplace acquaintances of community members that the ET interacted with. It also points to the need for ensuring adherence to implementation standards. It is not the same in the case of DR-TB patients: the NSP notes that strict DOT should be implemented for MDR-TB patients, and the ET came across reports of DOT being provided for patients with MDR-TB.

CTB Myanmar designed and conducted a comprehensive cost effectiveness evaluation of ACF activities¹³, including ACF efforts by all partners from 2013- 2016. This is described in detail under EQ 2.

CONTRIBUTION TO ADDRESSING THE MDR-TB CRISIS IN YANGON

The intervention aimed to accelerate case finding among close contacts of DR TB patients, through a revamped CI process and improved Xpert utilization. The intervention had two distinct components: 1) encouraging screening of close contacts of notified RR patients (index cases) and ensuring TBIC through home visits and health education sessions in 13 out of 44 townships of Yangon that had higher notification rates for DR-TB¹⁴; 2) improving utilization of Xpert by setting up a sputum specimen transportation system from GP clinics in all 44 townships to the 11 Xpert testing sites in Yangon and providing tools and systems for better coordination.

The intervention trained and deployed 26 outreach workers (ORWs) and 13 field supervisors, all of whom were full-time staff, and such a heavy deployment was deemed necessary to reach the target for case finding. The intervention expedited the screening of contacts by short-circuiting the prescribed CI process whereby a project volunteer or BHS staff visited the home of the index case after DOT was initiated. The team worked out a system with the township TB center by which the project's field coordinators obtained lists of notified RR patients from Xpert testing sites once a week and passed them on to the ORWs who mobilized patients and their close contacts to participate in counseling sessions carried out by BHS staff at the township health office. ORWs begin home visits soon after. This way, the intervention was able to initiate home visits earlier, in some cases even before DOT was initiated. ORWs also conducted home visits in the early mornings and late evenings when most family members were likely to be available in the home. Thus, they were able to meet with more close

¹³ MOHS, USAID, Challenge TB. Active case finding in Myanmar: Program assessment and cost effectiveness analysis. A study report. July 2019.

¹⁴ Based on the 2016 annual TB report.

contacts than through the routine CI visits of BHS staff, which generally take place during the daytime. The project screened all staff twice during its implementation period for TB.

The intervention also included the provision of equipment and supplies to GP clinics in all 44 townships of Yangon to collect and transport sputum specimen to the Xpert sites. The project developed an SCC register and distributed them to townships and GP clinics, as well as job aids for GPs on Xpert testing algorithm, adapted from national guidelines. The team worked with the Xpert sites and townships to identify and rectify errors in transferring notification data between the labs and treatment initiation sites at the township level, and conducted coordination meetings with the regional TB office and staff from all 44 townships in Yangon, to improve Xpert utilization. However, the job aids were developed only after the team discovered that GPs and township TB officers alike were unclear about the use of Xpert in screening contacts of DR-TB patients.

This intervention benefited from resources redirected from a patient-support component for MDR-TB patients intended for the hard-to-reach townships, which CTB Myanmar found was being supported under the GF and the 3MDG fund grants (the latter also supported by USAID).

The intervention faced numerous limitations and challenges. The intervention was implemented for nine months, due to delays related to approvals and due to changes in the subgrantee's organizational structure. This is a very short period of time for any intervention to mature and provide results and learning, although there was no timeframe set for it, as all the interventions of CTB Myanmar evolved over time. Additionally, the proposed expediting of home visits could not take place in some townships where the TB officer mandated that the BHS staff accompany the ORW to patients' homes, or that the ORW visit the home only after an initial visit by the BHS staff.

The project team reports that many presumptives did not receive an Xpert test due to lack of clarity among providers in public facilities regarding NTP's revised algorithm for screening contacts. This is similar to findings from a study done by CTB Myanmar in Bago region on patients enrolled between 2016-'17, which found that 46 percent of MDR-TB presumptives, while eligible for Xpert testing, did not have one¹⁵. The study also found that providers were not aware of NTP's updated Xpert eligibility criteria.

ORWs found that the patients and family members would not take time off from work to get tested and feared losing their jobs if found to have TB. These families were also overrun by several misconceptions about the nature and spread of the disease and did not want their neighbors to know of their diagnosis. ORWs discontinued the practice of wearing T-shirts with the project logo in order to protect patients' anonymity, but patients' families were also averse to the ORWs wearing masks or encouraging the families to use the same. Key informants from other partner organizations also noted the high levels of misconceptions related to TB among the urban poor in Yangon. ORWs report that several DR-TB patients are very poor and resort to taking high-interest loans to meet basic needs of their families when they are out of work during the initial phase of treatment. One ORW reported that she continues to support one such patient from her own finances.

¹⁵Oo, T. *et al.* Magnitude and reasons for pre-diagnosis attrition among presumptive multi-drug resistant tuberculosis patients in Bago Region, Myanmar: A mixed methods study. *Sci Rep* 9, 7189 (2019) doi:10.1038/s41598-019-43562-3.

The low yield of DR-TB and high yield of DS-TB are both unusual and raise important questions. Project reports show that nearly 90 percent of all index cases had CI and an average of 5 contacts were screened for every index case, as shown in Table 6 below, but the team reports that these constitute only about 60 percent of all close/household contacts of these patients. Thus, the coverage has been lower than anticipated, for an intervention of this intensity, using a parallel and stand-alone structure. The intervention screened 3,811 household contacts of a total of 355 DR TB patients and identified 445 presumptives to be tested. Of these, 53 had confirmed TB. However, only 7 of these were DR-TB patients and the remaining 46 had DS-TB.

Table 6: Results from the DR TB activity in Yangon

Indicator	Activity	
	Home visits	Counseling at township
# index cases registered during the intervention	650	-
# index cases who had CI (home visit/counseling)	582	-
# contacts screened	2,811	377
# presumptives identified	405	40
# presumptives investigated	331	24
# confirmed cases	48	5
DS TB cases	41	5
DR TB cases	7	0
Number needed to screen	58.6	75.4
Positivity rate	14.5	20.8

The yield of presumptives and cases have been higher than similar interventions employing similar metrics in Mandalay, Myanmar¹⁶ India¹⁷ and South Africa¹⁸. The NNS is also lower than global experience¹⁹. However, in this intervention by CTB Myanmar, the index cases were DR-TB patients, by design but the yield consists predominantly of DS-TB cases, and that of DR-TB cases has been low. This is not only unusual but also raises at least one significant question, about the source of MDR-TB cases in the country, which comprise 5 percent of all new TB cases in the country²⁰.

The interval between diagnosis and start of CI reduced from a median of 24 days at the start of the intervention to 10 by its end. At the township level, this interval reduced notably in some townships,

¹⁶Htet KK et al. Improving detection of tuberculosis among household contacts of index tuberculosis patients by an integrated approach in Myanmar: A cross sectional study. BMC Infectious Diseases 2018. <https://doi.org/10.1186/s12879-018-3586-7>.

¹⁷Khaparde K, Jethani P, et al. Evaluation of TB case finding through systematic contact investigation, Chhattisgarh, India. Tuberculosis Research and Treatment. 2015; 2015:1–5.

¹⁸Thind D, et al. An evaluation of “Ribolola”: a household tuberculosis contact tracing program in north West Province, South Africa. Int J Tuberc Lung Dis. 2012;16(12):1643–8.

¹⁹Shapiro A et al. A systematic review of the number needed to screen to detect a case of active tuberculosis in different risk groups. 2013.

²⁰WHO Global TB Report, 2019.

and increased marginally in others. However, it appears that this result can only be sustained with a level of effort as high as this intervention.

CTB Myanmar conducted a range of other activities for strengthening the MDR-TB response. CTB Myanmar trained 397 volunteers in community-based MDR-TB care through partners MMA, PGK and MHAA. It also trained BHS staff in MDR-TB counseling and management, and supported NTP, MMA and PGK for participating in an international conference on MDR-TB patient support. CTB Myanmar assisted the Yangon public health team to develop GIS maps for MDR-TB hot spots as support to the MDR-TB Crisis Plan for Yangon region. CTB Myanmar conducted an MDR-TB mass media campaign in Years 4 and 5, disseminating key messages through cable television, radio and communication material for facilities and reaching an estimated 18 million people. The campaign included three cured MDR-TB patients as advocates. According to the final project report of CTB Myanmar, a post-campaign evaluation found that 36 percent of evaluation respondents recalled the activity.

In Year 3, CTB hired an **MDR-TB advisor** for the Yangon region, and embedded him within the Yangon Regional TB Office. Key informants from NTP and CTB Myanmar report that the advisor provided technical expertise on a day-to-day basis (including training clinicians in WHO updated guidance on PMDT and providing case management support), and also helped CTB Myanmar receive updated program data from the regional TB office on the MDR-TB situation in Yangon. He also worked closely with the MDR-TB technical staff in the CTB Myanmar team in rolling out the aDSM system.

CONTRIBUTION TO ENGAGING PRIVATE SECTOR PROVIDERS, DRUG SELLERS AND OTHER NON-PUBLIC ORGANIZATIONS

CTB Myanmar reports reveal that NTP was more inclined towards supporting public-public mix rather than collaborating with private facilities. There were protracted discussions on facilitating coordination between NTP, which is under the Department of Public Health (DOPH) and hospitals which come under the Department of Medical Services (DOMS). This is part of a broader systemic issue and is further explored under EQ 3. When these discussions did not result in any progress, CTB Myanmar decided to engage drug sellers, based on evidence on their role in care provision, and the impact of their engagement in case finding.

CTB Myanmar trained and supported drug sellers to improve case finding. The intervention was based on the following findings: 26 percent of people with a chronic cough sought care at local pharmacies, as reported in the Prevalence Survey of 2009-2010, and a positivity of 24 percent among symptomatic persons referred by private providers described in the national situation analysis of public private engagement conducted by CTB Myanmar. It is important to note, however, that this engagement of drug sellers is not new. It was implemented through PSI since 2012, with an earlier USAID funding cycle, and through a GF grant since 2015 in 50 townships and through the present GF grant in 35 townships.

CTB Myanmar trained a total 515 drug sellers from across 15 townships in Bago region in identifying and referring TB symptomatic persons and also on the basics of TB. The drug sellers were trained to screen all who come to their pharmacy, with the aid of a pamphlet, and then inform field staff the details of symptomatic persons. Soon, clients of the drug sellers began to complain about the practice and hence it was discontinued and only those who presented with cough were encouraged to be tested. In that sense, this was not a screening intervention. Once the drug seller provided information regarding a

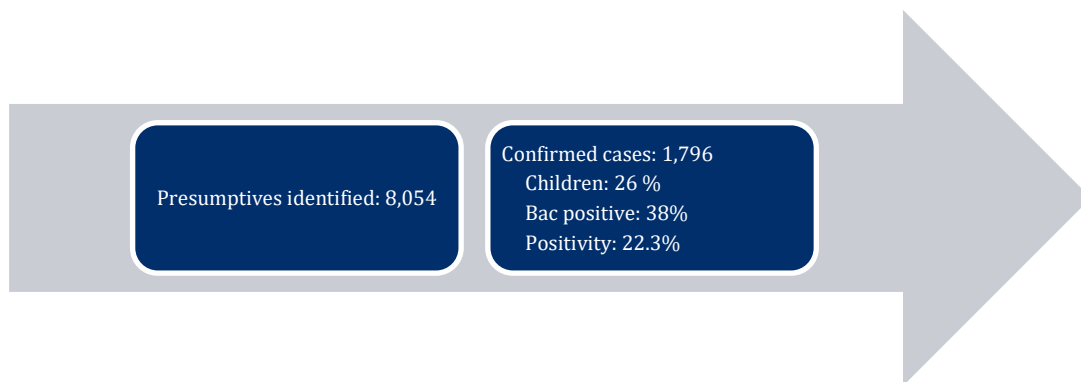
symptomatic, the project field staff took full responsibility to guide the patient from the drug store to the testing facility and further to the treatment.

Programmatic challenges included push back from the township medical officers for engaging unregistered drug sellers who predominated rural areas where the subgrantee, PSI, had to expand to in order to meet the targets given. In those locations, the project referred symptomatic persons to the private clinics affiliated with PSI. Key informants reported that some drug sellers feared losing their clientele by pointing out possible TB disease. This is also noted in PSI's report on factors influencing the performance of drug sellers in this intervention²¹. Two drug sellers the ET interviewed had developed helpful conversation starters that gently pointed coughers to the need for further investigation, without causing fear or offense. Subgrantee staff report that about 40 percent of drug sellers regularly referred symptomatic persons to the township facility for testing, and that there was no notable difference in the level of involvement among registered and unregistered drug sellers in referring symptomatic persons.

The intervention resulted in anticipated outcomes in terms of contribution to case finding.

According to the final report of CTB Myanmar, the intervention contributed to a total of 1,796 cases from March 2017 to February 2019 (487 in 2017, 1,109 in 2018 and 200 in the first quarter of 2019), which constitute 11 percent of all cases notified from the 15 townships during that period. Key informants report that about 20 to 30 percent of trained drug sellers were active during the intervention period. The target for symptomatic persons was not met but that for cases was, indicating that the positivity rate was underestimated. Key informants report that the intervention cost more than what NTP anticipated in terms of field staff positions, but that the subgrantee views these costs as essential for the success of the intervention. The ACF cost effectiveness study conducted by CTB Myanmar found that the incremental cost per case found through the drug seller intervention was US\$ 103 compared to that of ACF in hard-to-reach areas, at US\$ 95. However, the ACF study period was prior to the drug seller intervention of CTB Myanmar.

Figure 5: Yield from the drug seller engagement



KEY CONSTRAINTS IN CARE SEEKING AND TREATMENT ADHERENCE ADDRESSED BY CTB MYANMAR

Volunteers and subgrantee staff indicate higher awareness and willingness to seek care among women. Volunteers and subgrantee staff of ACF interventions report that the education

²¹ USAID, Challenge TB, PSI. A report on factors influencing the performance of drug sellers in accelerated TB case finding in Bago Region, Myanmar: a quantitative and qualitative study, June 2019.

sessions that they conduct were mostly attended by women; men do not attend even if they are around. Some volunteers conducted their group sessions in the farms where men stay overnight during specific seasons, where they would be hard-pressed to not participate. They also report that women with symptoms approached them more readily than men did.

Language and cost were the key barriers for both men and women that CTB Myanmar addressed in its target locations. Community members, both male and female as well as volunteers report that they find the transportation and CXR cost (when done in a private facility) prohibitive. Costs also include staying overnight at the township, as they live too far to return the following day. Patients, volunteers and health staff noted that ethnic minorities would not go to public facilities for fear of not being able to communicate in the national language. Patients from these areas stated that without the volunteer accompanying them, they would not have gone to the facility as early as they did, or not gone at all.

Delays in diagnosis were the result of inappropriate care seeking prior to CTB Myanmar’s intervention period but those due to diagnostic errors at facilities reportedly persisted. Six of the 16 patients interviewed lived in locations that are two hours’ road travel or more from the nearest facility. Ten of the 16 patients had delays ranging from four months to two years. Of these, seven had visited several local shops and private hospitals before reaching a public facility where TB was diagnosed. The other three had delays in facilities: two were told at the township hospital that the CXR was normal, but as symptoms persisted for months, they went to the State/Regional hospital where the CXR was repeated and they were diagnosed with TB and transferred back to the township facility. The third patient had neck glands treated at the township hospital but when they did not heal for a year, she visited the State/Regional hospital and was diagnosed with TB. It must be noted that the sample of patients that the ET interacted with were all identified by ACF volunteers, but the ones with delayed care seeking were from prior to CTB Myanmar’s ACF intervention but the diagnostic delays were from before and during the ACF intervention period.

Misconceptions and the stigma and discrimination they fuel are widely prevalent. The ET came across a range of misconceptions regarding the nature of the disease, its spread and treatment: TB running in families (reinforced by high levels of transmission within families), cough being a physiological process, and weight gain during treatment being pathological. The most prevalent was that having an “infectious” disease was a cause for fear and shame. These were encountered in all sites visited - from semi-urban locations in Bago to rural locations in Sagaing. Those that reported that they delayed care-seeking stated that they thought the cough was “normal”. The ET encountered several aspects of stigmatization of TB in communities: patients being shunned by neighbors or classmates, friends and family encouraging patients to stop treatment, and contacts hiding symptoms including hemoptysis. In all locations where the interventions were implemented, volunteers and staff of the subgrantee teams of CTB Myanmar addressed the misconceptions for patients and their families through project activities, but the stigma resulting from them does not appear to have reduced. In light of these findings, it is interesting that two key informants at the national level did not perceive stigma to be very high for TB.

*“One of our key tasks was to help people associate cough with TB”
- ACF field staff*

The ET also came across reports of several treatment interrupters. Many patients and volunteers report that patients on TB treatment had become “weaker”. On further probing, it became clear that treatment adherence was poor in these patients. Deaths during treatment also reinforce the idea that TB treatment made patients weaker.

CONTRIBUTION TO STRENGTHENING THE TB AND MDR-TB DIAGNOSTIC NETWORK

CTB Myanmar’s investments in the diagnostic network focused on improving services in the three labs providing culture and DST and LPA for first and second line anti TB drugs, and on ensuring the quality of CXR interpretation, in the context of possible overdiagnosis of TB among children. Its intervention in the Xpert network and the sputum transportation system was minimal.

CTB Myanmar provided technical and financial assistance for critical improvements in the two NRLs, in coordination with other partners. Key informant interviews with MOHS, partners and CTB Myanmar and a review of CTB Myanmar documents show evidence for the range of CTB Myanmar’s investments to obtain ISO 15189 accreditation for the two NRLs: NTRL in Yangon and the CMBL in Mandalay. CTB Myanmar facilitated the provision of short-term and ongoing TA and training from WHO, the CTB Global team and supra-national laboratories in India and Germany. Through these efforts, CTB Myanmar was able to introduce the Lab Quality Management System (LQMS) and secure buy-in from NRL staff to pursue ISO accreditation.

TA was also provided to the third biosafety level 3 lab in the country at Taunggyi. CTB Myanmar facilitated training of staff from all three labs on a range of topics related to biosafety, conducting SL-LPA, data visualization and overall lab management and advised other donors on technical aspects of the new NTRL structure in the same premises in Yangon. CTB Myanmar also reviewed existing SOPs for NRLs, revised and added new SOPs and manuals, including a site-specific biosafety manual for NTRL, as part of implementing LQMS and aiming for ISO accreditation. CTB Myanmar provided follow up TA in collaboration with WHO and the Global Laboratory Initiative to review progress in implementing improvements and developed action plans to ensure alignment with WHO updates related to the use of SL LPA, the expansion of Xpert sites; the sputum transportation system and the introduction of the shorter term regimen (STR) for MDR-TB. As a result of the TA provided for lab improvements, NTP began to see CTB Myanmar as a credible technical partner.

In a strategic shift from providing only TA, beginning in Year 3, CTB Myanmar conducted a range of lab-related procurements in coordination with other partners. This included biosafety improvements in the two NRLs, including environment-friendly incinerators, based on recommendations from TA experts and supplies and equipment needed to optimize workflow in the labs, in accordance with LQMS standards. CTB Myanmar also supported the calibration and certification of biosafety cabinets in all three BSL-3 labs in Year 4, from an international agency.

CTB Myanmar’s effort to improve services in NRLs was fraught with multiple, intractable challenges arising from multiple sources. Key informants from the labs report that training events organized by CTB Myanmar were too short to be effective. The international lab advisor that CTB hired

was not housed within NTRL but visited the facility once a week. Key informants from partners and the labs deemed this to be insufficient against a perceived need for day-to-day mentoring. Being external to the NTRL team, the advisor was not given access lab data, and this limited the support provided. More importantly, being part of the NTRL team was seen as necessary to build trust and a working relationship. Key informants also reported their perception of a lack of accountability and ownership of the LQMS and accreditation process by the NRL teams demonstrated by a commitment to tracking quality indicators, and scheduling and conducting routine safety checks. A TA report notes that NTRL fell short of providing strategic direction and oversight of the TB diagnostic network of the country but was limited to performing a service delivery role.

Other challenges reported by key informants include mismatches in specifications of equipment purchased by CTB Myanmar with the need; SOPs being too complex and not addressing the resource-constrained settings of the NRLs. In response, CTB Myanmar revised the SOPs and translated them from English to Burmese. The new NTRL building has not become fully functional owing to critical biosafety and other issues, which have been highlighted in CTB Myanmar’s TA reports and in the JMM 2019 report.

Both NRLs face considerable staffing constraints; just over half of all positions are filled and that, mostly by seconded staff. NTRL reports administratively to the national health laboratory and technically to the NTP and this contributes to the delays in addressing human resource challenges and also limit the voice of NTRL in staffing and funding decisions. The NRL teams have been facing an exponential increase in workload with the expansion of PMDT services as well as other tasks such as EQA for sputum smear microscopy for the entire network of microscopy centers in the country. High turnover of staff (as staff move to other labs or to the private sector) is also a significant constraint. CTB Myanmar’s efforts to build in-country capacity for calibrating biosafety cabinets is a case in point: it procured equipment needed for the calibration of biosafety cabinets and funded the training of biosafety engineers in conducting this annual exercise, but these staff moved out after being trained.

By the end of Year 3, SL-LPA was being routinely conducted in the NRLs and patients were triaged to standardized STRs or individualized regimens, and NTRL has largely kept up with the pace of expansion of PMDT services. However, EQA for first- and second-line DST and LPA have not been done since 2016; a partnership is being worked out with a supra-national lab in India for providing this support.

Accreditation targets were not met; the focus on accreditation may have diverted efforts from providing quality services. Progress towards LQMS implementation improved over the years, with CMBL making greater progress than NTRL, but both have failed to reach end-of-project targets. In Year 5, CTB Myanmar moved from using the GLI-recommended process to the Stepwise Lab Improvement Process Towards Accreditation (SLIPTA), based on a TA recommendation. SLIPTA is expected to support closer monitoring of progress towards ISO accreditation.

Table 7: Progress in LQMS implementation

NRL	Achievement, percent			End-of-Project
	Year 3	Year 4	Year 5	Target, percent
NTRL, Yangon	30	40	45	55-64
CMBL, Mandalay	30	40	66	75-84

Source: Annual Technical Performance Reports, CTB Myanmar

Key informants from partners engaged in supporting MDR-TB diagnosis were of the view that accreditation took attention away from delivering quality services and that ISO accreditation is more pertinent for commercial entities. They also do not see this pursuit as a judicious use of resources. They perceived the need of the hour for the NRLs to be the delivery of timely, quality-assured and traceable results across the country's TB service network. Others stated that accreditation lends credibility and weight to lab results. The choice of indicators by CTB Myanmar to track the impact of its support to lab services appears to support the former view: these indicators focused on outputs related to accreditation (such as the number of SOPs developed and the number of GLI-approved standards met) rather than on outcomes related to quality, such as turn-around time. With input from the Mission, CTB began tracking the latter set of indicators in Years 4 and 5. Key informants also pointed out the need for maintaining the LQMS standards over time, which would require continued upkeep of processes related to these standards, and the related funding, which will continue to pose a challenge as NRLs are critically dependent on donor funding. Key informants report that the Pharmaceutical Chemistry Lab of FDA, the only lab in the country to have achieved and maintained ISO accreditation since 2016, is domestically funded and prioritizes on-the-job training of new staff, in order to counter the high turnover among staff.

CTB Myanmar provided central-level TA to the sputum transportation system and the Xpert network. CTB Myanmar successfully conducted an assessment of the sputum transportation system ahead of developing an SOP and disseminating it countrywide in Year 4. It also facilitated the procurement of products for transporting biological samples, to assist with a pilot on the use of Omnigene sputum transportation. CTB Myanmar worked with other partners to set up the GxAlert connectivity system for all Xpert sites, but its efforts to consolidate multiple diagnostic algorithms into one using Xpert were not successful until end of the project due to challenges in coordinating between NTP and the expert core committee that approves changes to algorithms.

CTB Myanmar provided high-quality TA for improving the use of CXR for TB diagnosis, but it remains underutilized. CTB Myanmar facilitated the development of an SOP for EQA of interpretation of CXR findings in Year 3, and refined it further using results from a pilot carried out with other partners in Year 4. The pilot found high inter-rater variation and low specificity leading to under and over diagnosis, especially in hard-to-reach areas. CTB Myanmar and other partners shared these results widely and recommended the expansion of the EQA to 14 facilities by the end of 2019. CTB provided technical experts for a national level training on CXR interpretation, with GF funding. The presence of ACF work in Chin state provided an opportunity for CTB Myanmar to work with the regional TB office to assess the status of CXR use, particularly for diagnosing TB in children and to provide training.

NTP staff at national and regional levels reported that the capacity for CXR interpretation did not go beyond the regional level. This was corroborated by statements from volunteers and community members about considerable delays in diagnosis due to incorrect interpretation of CXR findings at township hospitals, and additional costs incurred by the patients in accessing care at the regional/state level facilities. In other hard-to-reach areas the ET heard statements of clinicians being reluctant to use CXR, due to low confidence in their own capacity to interpret the findings.

CONTRIBUTION TO SETTING UP OF ADSM FOR MDR-TB TREATMENT

CTB Myanmar was instrumental in establishing the aDSM mechanism. NTP introduced the new TB drugs bedaquiline and delamanid in March 2016 and STR in November 2017. A review of project documents and interviews with key informants show that CTB Myanmar coordinated and facilitated the establishment of aDSM, which is an essential in-country mechanism for quality recording, reporting and management of adverse effects of the new drugs and STRs. CTB Myanmar also coordinated and facilitated the setting up and regular meeting of a National Core Committee for aDSM (NCCA) with representatives from the NTP, FDA, clinical professors, medical superintendents from TB specialist hospitals, Médecins sans Frontières (MSF) Holland and WHO. CTB Myanmar also collaborated with WHO and MSF to assist the NTP to develop an aDSM manual and job aids in English and Myanmar languages, organized a national-level training on the subject, and provided technical and financial support for the clinical aspects of aDSM, in the form of equipment, SOPs and training for the use of electrocardiogram (ECG) and audiometry to monitor adverse effects of the drugs.

Key informants from all stakeholders engaged in PMDT services report that as a result of these activities, NTP was able to start implementing the core aDSM package for patients on new and repurposed drugs, those on STRs and those being treated for extensively drug resistant (XDR) TB. NCCA meetings serve as the forum for causality assessment and case reviews. CTB Myanmar channeled NTP's special interest in pharmacovigilance into establishing this system.

The mechanism has been functioning effectively and has been recognized internationally. A review of reports related to the functioning of aDSM found that all the WHO-recommended steps of the system were functioning. CTB supported the participation of NTP, FDA and academicians in the Asia-Pacific Pharmacovigilance Workshop, where delegates from 10 countries were provided with an opportunity to develop and present country plans for aDSM implementation, including next steps and roles of each organization in the respective countries. FDA became an associate member of the WHO Programme for International Drug Monitoring at the Uppsala Monitoring Center, and NTP submits aDSM data to the global database through the NCCA.

During the period of CTB Myanmar, 668 patients initiated on new drugs and regimens were covered under the aDSM system; 260 serious adverse events reported, and causality assessed. Eighteen percent of the events reviewed by NCCA were found to be causally related to anti TB drugs. More significantly, national policies on DR-TB management have been revised based on these reviews.

Challenges in continued implementation of aDSM threaten its continued effectiveness. High turnover of staff trained in aDSM necessitates rapid upskilling of incoming staff, without which gaps in implementation will be inevitable; gaps in clinical oversight and stockout of supplies and maintenance of equipment related to monitoring side effects have been reported. The lack of a designated full-time staff member at FDA for aDSM also constrains routine monitoring of implementation. All activities related to aDSM are funded by donors, and tasks related to reporting are also carried out presently by staff of technical partners.

CONCLUSIONS

CTB Myanmar successfully designed and implemented ACF, reaching nearly half of all people living across hard-to-reach areas, but inordinate delays in getting it started resulted in a short implementation period. The ACF models implemented by the four subgrantees had important differences, but all of them include the essential elements for successful case finding. The ACF model successfully contributed

to case finding, and these cases may not have sought care at appropriate facilities without facilitation from the intervention. However, as the trend of case finding was high in some locations when the intervention stopped, pools of undiagnosed cases are likely persisting in those locations, leading to high transmission levels.

The intervention among DR-TB patients in Yangon contributed to an increased attention to the need for CI among MDR-TB patients. It did not however contribute meaningfully to addressing the MDR-TB crisis in Yangon, due to severe time limitations as well as formidable challenges in implementation. The low yield of DR-TB cases from this intervention, along with a relatively high yield of DS-TB cases warrant further investigation. The drug seller intervention of CTB Myanmar had a smaller reach than other similar interventions, and its contribution to case finding was along expected lines, based on global experience. All of these interventions contributed to CTB Myanmar's goal of finding 5,300 additional cases, and also provided considerable learning for future use.

CTB Myanmar helped overcome language and cost barriers for both men and women in hard-to-reach areas, which were key constraints to seeking care. Erroneous diagnosis contributed to delays in diagnosis among some patients, before and during ACF implementation. Stigma and discrimination are widely prevalent, fueled by multiple misconceptions and these impact care seeking as well as treatment adherence among women, men and children. There were no specific constraints for women in seeking care for TB.

Investments in NRLs are among the largest from CTB Myanmar. The goal of obtaining accreditation helped CTB provide focused attention to improvements in NTRL, but the approach appears to have been a distraction from providing quality services in the face of expanding PMDT services. Systemic deficiencies slowed down progress along LQMS indicators. CTB Myanmar's technical and financial support has been critical to the improvements in the use of CXR as a diagnostic tool. aDSM is a fundamental practice in MDR-TB patient management and indicates the ability of the system to detect and manage them. This has clearly been one of CTB Myanmar's success stories and testifies to the investment made in collaboration and coordination to get this off the ground and ensure that it is sustained. The technical and advocacy skills of the MDR-TB Advisor contributed to the successful rollout of STRs and in setting up of aDSM.

EVALUATION QUESTION 2: TO WHAT EXTENT HAS CTB'S TECHNICAL ASSISTANCE TO NTP AT DIFFERENT LEVELS ADVANCED TB PREVENTION AND CONTROL IN BURMA IN LINE WITH CTB GLOBAL-LEVEL OBJECTIVES, AND CTB/BURMA'S PROJECT OBJECTIVES, AND PROMOTED SUSTAINABILITY?

FINDINGS

This section presents findings related to the **national-level investments** of CTB Myanmar in the form of TA and capacity building and their continuation beyond CTB Myanmar's lifetime. Each the four objectives of CTB Myanmar listed earlier, and the activities related to them contributed to several of the global objectives and sub-objectives of CTB, listed below:

Objective 1. Improved Access

Sub-objective 1. Enabling environment

Sub-objective 2. Comprehensive, high quality diagnostics

Sub-objective 3. Patient-centered care and treatment

Objective 2. Prevention

Sub-objective 4. Targeted screening for active TB

Sub-objective 5. Infection control

Objective 3. Strengthened TB Platforms

Sub-objective 7. Political commitment and leadership

Sub-objective 8. Comprehensive partnerships and informed community involvement

Sub-objective 9. Drug and commodity management systems

Sub-objective 10. Quality data, surveillance and M&E

Sub-objective 11. Human resource development

EFFECTIVENESS AND RELEVANCE OF TECHNICAL ASSISTANCE AND CAPACITY BUILDING SUPPORT

CTB Myanmar was successful in providing technical and financial support for the development of strategy documents and the Global Fund Concept Note. CTB Myanmar was a key contributor in the development, publication and dissemination of NSP (2016- '20) and its operational plan, the National Monitoring and Evaluation Plan for TB Control (2016- '20) and the National TB Spending Assessment (2011- '14). This was evidenced by findings from review of CTB Myanmar documents, the NSP document and perspectives of key informants. CTB Myanmar utilized the WHO planning and budgeting tool and the services of a health economist for the latter. These documents guided the country's TB activities for the said period. CTB Myanmar used and had to reprioritize its activities to meet this requirement. CTB Myanmar conducted a financial gap analysis to determine available domestic and international funding for TB control and hired a consultant to write the GF Concept Note and address comments of the Technical Review Panel, in consultation with the TB Technical Strategy Group (TB-TSG). Key informants noted that the nature of the funding mechanism of CTB Myanmar provided the agility to move in rapidly and effectively fill this need, as well as the willingness and flexibility of the CTB Myanmar team to undertake major reprogramming.

CTB Myanmar provided successful TA for a range of TB-related themes but use of the TA products continues to be variable. In response to concerns of diagnostic challenges and possible overdiagnosis of primary TB in children (aged 0-14 years), CTB Myanmar provided TA to conduct an extensive assessment of the status of diagnosis of childhood TB and used its findings and recommendations to lead the development of a guideline, communication material and SOPs for the management of childhood TB. CTB Myanmar also worked alongside WHO to complement the GF grant's training activities. CTB Myanmar combined its TA for childhood TB with that for improving CXR interpretation during the assessment phase and in subsequent training events, in Chin state. The contribution of childhood TB to overall cases notified reduced from 25 percent in 2015 to 19 percent in 2018²², ostensibly the result of improved awareness and capacity among healthcare providers in

²² CTB Myanmar Final Project Report, 2015-19.

interpreting CXR findings. However, as noted in the JMM 2019 report, and by key informants from the national program and partners, implementation of the guidelines is sub-optimal as it involves clinical providers who are outside the purview of NTP, particularly the use of sputum examination for older children and gastric aspirates for younger ones. This TA complemented the technical and financial support that CTB Myanmar provided for CXR interpretation, discussed under EQ 1.

The proportion of childhood cases in Chin state continues to be high (42 percent in 2018). CTB Myanmar subgrantee staff in the state report large-scale migration of adults outside the state, resulting in a skewed demographic that comprises mostly children and elderly people. This finding warrants rigorous assessment for the magnitude of the issue, as the high proportion of childhood TB cases in the state could very well be due to this distortion in the denominator that is not accounted for in the reporting of cases.

TPT for eligible child contacts (under 5 years of age) of TB patients is an essential component in management of childhood TB, clearly articulated in the guidelines, but the JMM 2019 report notes that the implementation of this standard of care is nearly nonexistent, due to the difficulties in engaging clinicians who are outside the purview of NTP. There is no data on TPT coverage in the most recent annual report of NTP.

CTB Myanmar designed and conducted a comprehensive cost effectiveness evaluation of ACF activities with TA from CTB Global and FHI 360 headquarters. The evaluation included ACF efforts by all partners from 2013 to 2016. As referred to earlier, the study assessed the incremental cost effectiveness of each ACF model, in the form of additional cost per case, and also identified programmatic opportunities to improve ACF efforts. The ET noted that the study assumed the drug seller intervention implemented by PSI in Bago region to be a screening one, while in reality there was no screening but only linking of symptomatic persons with project staff; hence the additional cost per case could have been overestimated for this intervention. Findings from the study showed all the models to be effective and cost effective, while the community-based ACF intervention (such as the one carried out in hard-to-reach areas by CTB Myanmar) have the lowest incremental cost per additional case found. The study recommended approaches be tailored to suit specific needs of the township. Findings from the study have been used in deliberations on ACF implementation models for the next cycle of interventions in the Global Fund and A2H grants.

CTB Myanmar also supported the development of guidelines for MDR-TB treatment that key informants report is used effectively. TA provided by CTB Myanmar for aDSM for MDR-TB management was also highly successful in setting up the system and continues to be implemented after the end of the project, albeit in the same, limited scale. Key informants noted that these have been implemented well due to the robust technical support and strong working relationships of the MDR-TB Advisor seconded to Yangon region. Additionally, PMDT teams comprise mostly of seconded staff, and hence the technical capacity built in PMDT is not necessarily that of NTP's.

Other TA provided by CTB Myanmar met with limited success. As a first for the country, CTB Myanmar worked with other partners to develop guidelines for mandatory notification of TB cases by private providers and trained over 1,000 private medical practitioners in Yangon, which is considered as the highest priority region for mandatory notification. CTB Myanmar reports and key informants noted that CTB Myanmar provided this TA due to the priority MOHS accorded to this area and had to

discontinue the development of an electronic recording and reporting system for private providers to enable the notification process as NTP wanted to explore other options for reporting.

CTB supported several TA missions on TBIC, revised and updated the TBIC guidelines, developed training material and conducted a national level training led by an international expert and advised GF and 3MDG grants on TBIC-related infrastructure in hospitals. CTB Myanmar also did a joint assessment of TBIC in facilities across six regions along with other partners, to advise on reprogramming GF funds towards TBIC activities in these facilities and to inform the country-specific FAST strategy, a focused approach to curtail the spread of TB in congregate settings. As part of rolling out FAST, CTB Myanmar trained staff of four hospitals and provided TBIC related equipment to seven public hospitals. A key informant reported that compliance with TBIC guidelines in public hospitals was found to be poor during a GF grant audit done during Year 4 of CTB Myanmar. Project reports note that sustaining commitment and changes in hospital processes such as fast tracking the identification, separation and investigation of symptomatic persons in facilities is a challenge especially in high-volume hospitals without continual follow up and support. CTB Myanmar also provided technical and financial support for the development of an SOP for CI with clear linkages to TPT for child contacts, but its level of implementation is not known. This is again due to the need for engaging providers and departments other than NTP.

Some TA and capacity building initiatives planned by CTB Myanmar could not be carried out as they did not receive NTP approval or were delayed to the extent that the project ran out of time or because they involved collaboration with other departments within MOHS. These include a situational analysis of CI, assessment of TB burden among healthcare workers, joint supervision visits and review of recording and reporting tools to assess TB HIV collaborative efforts. TA recommendations from CTB Myanmar on changes related to the present diagnostic algorithm have not been implemented due to challenges in coordinating the effort between the NTP and the national expert core committee that reviews and approves diagnostic and treatment protocol.

ADOPTION, CONTINUATION OR SCALE UP OF MODELS AND TOOLS INTRODUCED BY CTB MYANMAR

The models developed and/or implemented by CTB Myanmar to improve case finding continue under other grants, through continued engagement of CTB Myanmar and USAID; CTB Myanmar's ACF evaluation provided the needed evidence. GF and A2H grants have taken up ACF in all the 22 townships in hard-to-reach areas where CTB Myanmar implemented the intervention, and two of the four subgrantees of CTB Myanmar continue in the GF/A2H grants. CTB handed over details of activities, volunteers and SCCs to the local health system, from where they were taken up by implementers of the GF and A2H grants. Findings from the ACF evaluation were discussed extensively at TBTSO meetings. The group also facilitated discussions related to the taking over of the ACF interventions by the new grant programs – a discussion that was initiated by CTB Myanmar along with a proposed budget and activity plan.

GF and A2H grants continue the ACF intervention with modifications that have important programmatic implications. CTB Myanmar supported the costs of transporting sputum deposited in the SCCs and also travel costs for volunteers for accompanying presumptive cases to the facility for testing, based on fixed rates. This system of reimbursement, along with the challenges in coordinating the collection of the samples, led to most volunteers opting for accompanying patients for testing. GF

and A2H grants have utilized this lesson in developing a common package of incentives. However, the level of effort under the GF/A2H grants appears to be much lower than that in CTB Myanmar, with only a third of volunteers re-deployed.

Volunteers in the areas where their numbers have been reduced reported that they are concerned and discouraged about covering the large area that they understand has now been allotted to them. They were of the view that they would be required to maintain the same level of effort in the expanded area. “We can’t spend all day in this work”, they said, indicating that they were not clear on what was expected of them in the GF/A2H grants. Subgrantee teams of CTB Myanmar that also implement the GF and A2H grants report that the frequency and intensity of training and on-site supervision are lower than that provided in CTB Myanmar.

The MDR-TB and drug seller interventions also continue with modifications. The GF and A2H grants and the USAID Essential Health Services Project implemented by Jhpiego have taken over and expanded the drug seller intervention of CTB Myanmar in Bago as well as in Yangon and other sites. The latter two grants are of a short duration, and findings from the ACF cost effectiveness evaluation gave further impetus to continue the intervention under the GF grant.

CI for index patients with DR-TB in Yangon region now continues with support from the GF grant at a larger geographic scale. However, the new program cycle has deployed a new set of field staff rather than utilizing the ones trained during CTB Myanmar’s intervention, ostensibly due to the long-time lapse between the two cycles.

CTB Myanmar’s models for case finding have several elements that contribute to sustainability but dependence on donor funded activities persists. Several elements in the ACF intervention of CTB Myanmar were designed to sustain appropriate careseeking in communities through its activities to build awareness and address misconceptions through the network of volunteers. Volunteers who were engaged by CTB Myanmar in ACF but not included in the GF and A2H grants continue to encourage symptomatic persons to get tested and follow up with patients for their treatment adherence. One volunteer that the ET interacted with stated that she accompanies symptomatic persons to the facility, if someone bears the travel costs, and if she has the time. Thus, support for careseeking continues to be a need and the costs incurred in supporting careseeking are a critical element to sustain this process. CTB Myanmar documents report that drug sellers are motivated mainly by frequent visits from project staff; the incentive they get for referring symptomatic persons is “not much” but they are not likely to continue to do the work without it. The drug sellers that the ET interviewed stated that they are happy to refer symptomatic persons, but they are only used to linking the symptomatic person with project staff and they hadn’t yet met the project staff in the current GF and A2H grants. With a few exceptions, township and BHS staff that the ET interacted with appreciated the value added by CTB Myanmar interventions during their period of implementation and were keen that the same level of effort be restored through the current GF and A2H grants.

The ACF strategy document of CTB Myanmar states the need for avoiding parallel structures, and this was the endeavor of the ACF intervention in hard-to-reach areas but not so in the CI intervention for DR-TB patients in Yangon. The ACF strategy also states that the model was designed to keep costs, especially patient-support costs to a level that can be taken on by other donors at the end of CTB. Key informants from a range of stakeholders noted that these initiatives, as with other donor-funded initiatives in TB and other programs in the country, are fully dependent on external funding, and that

sustainability of initiatives in the country tends to be viewed in terms of continuing implementation with other donors, and not being funded through domestic sources.

ACF models developed and/or implemented by CTB Myanmar have certain elements that are heavily project-dependent, likely due to its emphasis on reaching case finding targets. Project staff in the ACF interventions conveyed results back to the patient/volunteer/SCC, and those in the drug seller intervention personally took over every symptomatic person from the point when they receive the information from the drug seller. The CI intervention for DR-TB patients in Yangon was structured in a manner that is completely parallel to the existing public health system (of township TB staff and BHS staff). Key informants from subgrantees noted that they were required to meet the targets of symptomatic persons and confirmed cases, even when the geographic scope of their intervention was reduced due to unforeseen reasons. Thus, the overall goal of CTB Myanmar (to find and notify 5,300 more cases) seems to have driven the design and implementation of these models alongside the intention of learning and testing what works. Key informants from other partners engaged in TB care emphasized that learning implementation models was a key strength of USAID grants, and hence, the overall emphasis of CTB Myanmar should have been on learning rather than on finding a certain number of cases. It is not known if the new program cycle has included these elements (as they are still in the training and deployment phase).

Tools and systems developed by CTB Myanmar continue to be used and expanded to varying extents. The aDSM system including the NCCA and SOPs for using ECG and audiometry continue to function with donor support, with no expansion beyond what was included in CTB Myanmar. GF grants continue to train health staff using guidelines for TBIC, CI and CXR interpretation, but the EQA for CXR, recommended by CTB Myanmar, has not been established yet.

CONCLUSIONS

CTB Myanmar's support for NSP 2016-'20 and the GF concept note development ensured that TB prevention and control in Burma had a strategic reference point, guidance and direction and that standards of care were aligned with international standards. These are in line with CTB Global objectives as well as with the country level objectives that seek to meet the gaps outlined in the NSP. This task also demonstrated the agility of the CTB Myanmar funding mechanism and of the team.

CTB Myanmar provided high-quality TA for development of guidelines, SOPs operational plans and training manuals are informed of the country's context and reflect current international guidance. These strategic investments have built NTP capacity and some of them continue to impact interventions beyond CTB Myanmar's lifetime, being the foundation for ongoing support by other partners. However, guidelines and recommendations related to childhood TB management, CI, TBIC and CXR interpretation that require buy-in and ongoing coordination with actors outside NTP (such as clinicians in hospitals and the national expert core committee) have not been widely implemented. In other areas, such as mandatory notification by private providers, TA from CTB Myanmar could not be brought to its logical conclusion due to the lack of a clear strategic direction from NTP, and the limited time available to develop and implement the guideline. Thus, the impact of CTB Myanmar's TA has been limited by systemic challenges.

The ACF cost effectiveness evaluation conducted by CTB Myanmar, along with the coordinating function of TBTSO and the exit strategies of CTB Myanmar contributed to the continuation of all the

case finding models developed and/or implemented by CTB Myanmar through new funding mechanisms: ACF in hard-to-reach areas, drug seller engagement and CI for DR-TB patients in Yangon. However, the reduction in geographic area and the intensity of effort in the GF and A2H grants (relative to that in CTB Myanmar) has not been managed well by the current grant projects as seen in the lack of understanding of ACF volunteers about the downscaling of their roles. It is also likely to slow the momentum that began during CTB Myanmar.

Continued implementation of ACF, CI and drug seller interventions is fully dependent on donor funding, to the extent that sustainability of interventions is viewed in their ability to be taken up by subsequent funding cycles. Certain elements in these models as implemented by CTB Myanmar make them inherently unsustainable, and this is likely due to the emphasis of CTB Myanmar on meeting case finding targets.

EVALUATION QUESTION 3: WHAT GAPS AND OPPORTUNITIES EXIST FOR FURTHER USAID INVESTMENT IN THE PRIVATE SECTOR AND COMMUNITY PROGRAMMING?

FINDINGS

This section presents **gaps in current programming and opportunities** that are aligned with USAID’s global vision for TB control. It also presents a preliminary assessment of the additional value that can be expected from two specific areas of investment.

GAPS IN CURRENT PROGRAMMING THAT CAN BENEFIT FROM USAID INVESTMENT

Scaling back of ACF under GF and A2H grants runs the risk of losing the momentum built by CTB Myanmar and the opportunity to confirm a decline in the pool of undiagnosed cases.

“There are only 8 volunteers under the GF grant in the place of 27 under CTB. Each of them is expected to cover up to 18 villages. The GF grant team should have done a situational analysis before deciding to scale down.”

-Head of facility in a hard-to-reach township

With the exception of Chin state, other places have seen a reduction in the number of volunteers to a third of the size in CTB Myanmar. The catchment area of the re-deployed volunteers has also been increased to correspond to the reduction in the number of volunteers, but with no increase in the level of effort expected from volunteers. This implies a reduced overall effort in terms of fewer home visits and education sessions. As noted under Findings of EQ I, the trend of case notification in some hard-to-reach locations was increasing when CTB Myanmar ended, and hence the size of

the pool of undiagnosed cases (including new, incident cases) is not known. For this to be known, it will be important for ACF to continue it with the same intensity until the trends begins to decline. The Prevalence Survey (2017-'18) report also notes that lower yield of cases while case efforts are maintained/accelerated could point to cutting of transmission, but we won’t know if we reduced case detection efforts at this stage. Key informants from a range of partners expressed the need to continue the pace of case finding in these hard-to-reach townships.

The ET found a community in a hard-to-reach township close to a motorable road where several families living within a radius of a few hundred meters had patients currently on treatment or have

recently completed treatment. The ET also found two families where nearly all members had had TB over the past 5-7 years.

Stigma continues to hamper care seeking and treatment adherence, and is poorly understood, along with mechanisms to address it. As noted under EQ I, misconceptions regarding TB continue to fuel stigma in all locations that the ET visited – hard-to-reach areas as well as urban poor settlements in Bago and Yangon regions and there have been no efforts to gain in-depth understanding of the phenomenon.

“We need to raise the profile of TB, not just on World TB Day, but all through the year”

- Senior NTP official

The ET found no evidence of any in-depth work undertaken to characterize stigma, particularly its impact on the various marginalized groups and potential mechanisms to address it. The ET also noted that the CYC campaign which was initiated during an earlier USAID program cycle and continued by CTB Myanmar, reached schools and congregant settings in Yangon

in collaboration with departments of education and transport, and had cough etiquette as its key message. In the light of the specific misconceptions noted earlier, particularly the fear of having an “infectious” disease, this message is likely to reinforce the same fear which appears to be driving the stigma in the locations visited by the ET. While there is no evidence to link the two, the pervasiveness of the misconceptions that the ET encountered warrant the consideration of a possible link. While there is need to strengthen non-pharmaceutical interventions, to contain transmission, the strongest evidence for achieving that is from timely initiation of treatment.

Key informants of partner organizations and NTP noted the lack of attention to TB in the public discourse and in the media, and the related lack of awareness as one of the reasons for the unchecked spread of misconceptions. They also noted the lack of donor interest in the areas of improving awareness. The findings of in this evaluation also indicate the need for a coordinated multi-sectoral response to address it but this requires further exploring and validating through a better understanding of the nature and origins of the misconceptions that drive the stigma.

There has been little characterization of the MDR-TB situation in Yangon and exploration of the effectiveness of implementation models. While the high burden of MDR-TB in Yangon has been recognized since 2013, and studies have shown potential sub-locations with higher risk for DR TB among previously treated patients²³, there have been little further assessment of the contours of the situation in terms of patients’ demographics and social characteristics. There is also the need to assess current intervention models, including the CI among MDR-TB patients carried out by CTB Myanmar.

NTP is in need of robust TA, and USAID mechanisms are best positioned to provide it. Key informants from all partner organizations working in TB noted the need for robust external TA to NTP in a range of areas, such as expanding quality assured diagnostic services along with sputum transportation and MDR-TB services in Yangon, especially in developing, testing and evaluating operational models and new approaches for expanding such services. Continued TA will also be required for the uptake of new guidance on TB care and control as they become available. In particular, CTB Myanmar’s final report notes that while its TA was instrumental in supporting the initiation of STR

²³ Tun, Thanda & Nyunt, Wint et al (2016). Drug-resistant tuberculosis among previously treated patients in Yangon, Myanmar. International Journal of Mycobacteriology. 5. 10.1016/j.ijmyco.2016.06.004.

for MDR-TB patients, ongoing TA will be required as WHO guidelines shift to promote even better regimens in the near future.

Key informants also emphasized that TA is the strength and “specialty” of USAID, owing to the relative flexibility that USAID grants have in bringing in high-quality international TA as was done by CTB Myanmar and the USAID grants that preceded it.

Serious challenges in human resources and inter-departmental coordination limit the utilization of TA in implementation. As noted under Findings related to EQ 2 above, reports of the prevailing serious deficiencies in staffing at all levels of NTP and the health system were widespread, along with significant challenges in coordination between NTP and other departments within MOHS, particularly DOMS and the national expert core committee. Most available staff are seconded staff under the GF grant, which plans to reduce these numbers from 2020.

“We cannot overburden health staff any further. One more brick on their shoulders, and their backs will break.”

- Head of a partner organization

Guidelines and SOPs developed by CTB Myanmar incorporate current WHO guidance and reflect evidence-based practices from other contexts, but they are yet to be rolled out for want of such coordination between departments. A retrospective

analysis of routine program data from 2007 to 2014 found poorer contribution of public hospitals to TB case finding and poorer treatment outcomes compared to private hospitals over the same period²⁴.

Despite these sobering findings related to TB diagnosis and treatment in public hospitals, there has been very little engagement of public hospitals in CTB Myanmar, both for FAST and for CI, ostensibly due to the challenges in dealing with services that are outside the purview of NTP.

OPPORTUNITIES FOR FUTURE INVESTMENT

The new NSP includes engagement of migrant populations working in mines in hard-to-reach townships. Key informant interviews and document reviews show that there has been no systematic effort in CTB Myanmar or other partners or NTP to reach these migrant populations. Key informants from regions and states transient populations and “simply disappear” when they receive a diagnosis of TB. These workers are not included in the official population of the townships but constitute a sizeable number. It is not clear to what extent they were represented in the recent prevalence survey. Patients interviewed by the ET who work in mines reported the presence of a range of misconceptions related to TB among their co-workers, owing to which they delay care seeking, and interrupt treatment. Partners also noted that the new NSP incorporates partnership with mining corporations in order to reach these vulnerable populations.

MOHS is keen on pursuing mandatory notification and will require technical and financial support from partners. Key informants noted that the guidelines for this activity has been received well and that the plans to implement it will require a better understanding of ways to engage GPs, especially in the area of reporting, which requires further simplifying. CTB Myanmar intended to do the latter but did not complete it owing to time constraints. GPs will need to be continually engaged using models that have worked in similar contexts, and these need to be scale up beyond Yangon.

²⁴ Nwe et al. Engagement of public and private facilities in tuberculosis care in Myanmar: contributions and trends over an eight-year period. *Infectious Diseases of Poverty* (2017) 6:123 DOI 10.1186/s40249-017-0337-8.

MOHS is more open now than before to collaborate with EHOs. Case finding and case holding are challenges in ethnic minority areas. As noted under EQ 1, although the overall prevalence in the states has dropped, it is likely that these areas hold pockets of high transmission. Implementers of the GF grant have now begun discussions with NTP for setting up diagnostic facilities within areas that are served by EHOs. As the JMM 2019 report also notes, this is a more sustainable arrangement than ACF. However, key informants from partners noted the need for expanding this collaboration to include treatment facilities in these areas, with partner organizations and donor agencies facilitating training and supervision of EHO staff by NTP.

ADDITIONAL CASE FINDING: A PRELIMINARY ASSESSMENT

Scaling ACF interventions back to the level of effort supported by CTB Myanmar will lead to the detection of an estimated 712 additional cases per year in the 22 townships. Assuming that high transmission persists in 11 out of the 22 townships that CTB Myanmar reached, which are categorized as hard and very hard-to-reach, and assuming that the median number of cases found through ACF and PCF during 2018 (the only full year of ACF implementation) continues, the number of cases that can be found through ACF and through the combined effort of ACF and PCF can be estimated as follows:

- Total population of the 11 townships: 792,335, or 36 percent of the total population of the 22 townships
- Total number of cases notified during 2018 from 22 townships through ACF: 1,978
- Estimated median cases notified during 2018 from the 11 selected townships through ACF: $1,978 * 36\% = 712$
- Total cases notified during 2018 from 22 townships, ACF and PCF combined: 5,099
- Estimated total cases notified during 2018 from the 11 selected townships through ACF and PCF combined: $5,099 * 36\text{ percent} = 1,835$

Thus, restoring the level of effort to that found during CTB Myanmar in 11 of the 22 townships is expected to lead to the notification of an additional 712 cases through ACF alone, and a total of 1,835 cases over one year.

Supporting notification by the GPs trained by CTB Myanmar will result in the detection of an estimated 1,923 cases over a year. A study carried out in an urban location in India from 2015 to 2017 to engage private GPs and specialists to identify and refer symptomatic persons for testing at public health facilities found about half of them to be actively referring symptomatic persons²⁵. The study found a normal distribution of referrals by the physicians. About half of all the referrals were confirmed to have TB.

²⁵Ananthakrishnan R, Richardson MD, van den Hof S, et al. Successfully engaging private providers to improve diagnosis, notification, and treatment of TB and drug-resistant TB: the EQUIP public-private model in Chennai, India. *Glob Health Sci Pract.* 2019;7(1):41-53. <https://doi.org/10.9745/GHSP-D-18-00318>.

The median number of symptomatic persons they referred over a two-year period is given in Table 8 below. Projecting these findings to Yangon, re-engaging the 1,043 GPs that CTB Myanmar trained in mandatory notification, training them further on reporting electronically and continued engagement will lead to an estimated 522 of them referring symptomatic persons at the same median rate as found in the study, as provided in Table 8.

Table 8: Distribution of cases found by GPs in the study and its projection for Yangon

Study in urban site, India			Projection for Yangon	
# referrals (range)	# referrals (median)	% GPs	# GPs trained by CTB Myanmar that actively refer	# estimated referrals
1–5	3	62.6	326	978
6–10	8	14.5	76	608
11–30	20.5	13.7	71	1,456
31–50	40.5	6.2	32	1,296
51–70	60.5	0.9	5	303
71–100	85.5	0.9	5	428
100–120	100	1.3	7	700
Totals		100	522	5,768

Such an effort is expected to lead to the referring of an estimated 5,768 referrals, of which 2,883 are expected to be confirmed cases, over a 1.5-year period. The annualized number of confirmed cases would be 1,923. Given the total population of Yangon is 7 million, this will translate into an **additional CNR of 27.8 per 100,000 population.**

CONCLUSIONS

In the light of evidence suggestive of active transmission currently or at least until recently, in certain pockets of hard-to-reach townships, scaling back of ACF under GF and A2H grants runs the risk of losing the momentum built by CTB Myanmar and the opportunity to confirm a decline in the pool of undiagnosed cases. Thus, the scale back in ACF at this juncture is a clear programmatic gap.

The biggest gap, arguably, is in the understanding of stigma and its role in driving delays in care seeking and interruptions in treatment. While stigma may not be as prevalent as for HIV, there is evidence that it continues to be a formidable barrier to care seeking for cough and adhering to treatment. What is more, the key message of CYC seems to run counter to the efforts at in the hard-to-reach areas and Yangon to address the fear of a contagious disease and seems to fuel the fear further. This warrants a re-examination of the rationale and impact of the campaign in the light of findings from assessments of stigma and discrimination.

Another critical gap is in understanding the epidemiology of MDR-TB in Yangon as well as other locations, including the size and nature of the problem, transmission mechanisms and assess the effectiveness of innovative models of care.

The need for high-quality TA to NTP and the role of USAID in facilitating the provision of is well recognized and documented but systemic issues related to human resources in NTP and the wider health system, and coordination between DOPH and DOMS, constrain the utilization of TA in improving service delivery, and possibly missing a considerable number of cases in these high-volume facilities. The JMM 2019 report notes an improvement in the extent of collaboration since March 2016, following restructuring of MOHS, but much remains to be done, especially at the central level where major activities involving policy making, planning, management and budgeting take place, the two departments have been kept distinct from each other.

There is need to explore the extent of rollout of the SOPs and guidelines developed by CTB Myanmar, within these constraints, but also continue providing TA at the central level to enable the uptake of new guidance on the full range of thematic areas.

There has been no effort in CTB projects or by partners or NTP to reach migrant populations, but this is envisioned in the new NSP, and therefore presents an opportunity for USAID to work with partners in developing viable models to intervene in this vulnerable population. Facilitating the establishment of diagnostic and treatment facilities including training and supervision through coordination between EHOs and NTP is another opportunity to reach very hard-to-reach areas with possible high transmission.

Preliminary estimations show that scaling ACF interventions back to the level of effort supported by CTB Myanmar will lead to the detection of an estimated 712 additional cases. Although this number is low, the vulnerable nature of the population justifies this effort. Supporting notification by the GPs trained by CTB Myanmar will result in the detection of an estimated 1,923 cases over a year and an additional CNR of 27.8 per 100,000 population.

RECOMMENDATIONS

CTB Myanmar has successfully established NTP capacity through high-quality TA and developed and evaluated models for improved case finding in strategic locations. The need to protect and further advance these gains from the past five years and the enduring issue of missed cases necessitate further support for TB care and control in the country. The following are **priority investments for a future mechanism of USAID support to the NTP**:

1. Explore ways to expand GF and A2H investments in ACF (preferably as part of the next GF grant writing cycle) to resume and maintain the pace of ACF that CTB Myanmar had built, building on the CTB model and approach. Work with these two grants and TB teams at region/state and township levels to develop a nuanced approach that is able to identify pockets of high transmission and responds with a combination of ACF, sputum transportation and mobile team activities, until well after a decline in case finding is documented from these areas. As CTB reached about half of the estimated population living in all hard-to-reach areas of the country, consider expanding the ACF intervention also to the remaining areas that were not included under CTB Myanmar, especially those with ethnic minority groups and conflict affected areas.
2. Consider support to the expansion of services to migrants working in mining areas, in line with what is envisioned in the new NSP. Develop interventions and broker relationships between

mining companies and the local township health offices, to help operationalize strategies outlined in the new NSP.

3. Continue support for the rollout of mandatory notification of GPs, by supporting the establishment of a user-friendly reporting mechanism through robust TA and supporting training and supervision of GPs beginning in Yangon, and with those that CTB Myanmar trained. Simplified reporting mechanisms would be critical to secure and maintain the involvement of GPs
4. Lead a joint effort to bring about greater collaboration with DOMS to help reach public and private hospitals with implementing the guidelines and SOPs developed with the support of CTB Myanmar, particularly in the areas of TBIC, CI, CXR use and interpretation and TPT for children
5. Provide TA to further assess and characterize the MDR-TB problem in Yangon including its transmission pathways to inform current and future interventions. Examine reasons for the low yield in the CI intervention among DR TB patients in Yangon under CTB.
 - Consider including retrospective CI for all DR TB patients in Yangon under the new program cycle, especially for those contacts that did not receive Xpert testing during the early part of the CI intervention of CTB Myanmar.
6. Fund/build capacity for research that investigates stigma and discrimination related to TB, adapting existing tools for and social behavior change interventions for addressing this in a way that empowers local communities. One option is to re-program current USAID investments to include building the capacity of national NGOs to apply for (and subsequently implement) the Stop TB Partnership call for proposals for “Challenge Facility for Civil Society 2019” released in December 2019. This call includes activities for conducting stigma assessments.
7. Review/redesign key messages of the CYC campaign in the light of findings from stigma assessment.
8. Collaborate with MOHS and partners to advocate with the central, region/state governments to mount a high-level, multisectoral response engaging education, labor, transport, women’s development and others to address misconceptions related to the disease and their sources, through high-profile counter-messaging.
9. Continue support to expanding aDSM and ensuring continued functioning of the NCCA: ensure allocation of funds by FDA for its membership at the WHO monitoring center, and for recruiting fulltime staff for ADSM, who will ensure the continued functioning of equipment and provision of supplies for clinical monitoring and management.
10. Ensure that future program cycles focus on developing and testing models, documenting processes, and evaluating the effectiveness, rather than focusing on gap-filling.
 - An important starting point would be to develop objective statements and performance metrics related to model development

- Include operations research, specifically to test the models to be developed and implemented
- Ensure that the models have inbuilt linkages to the existing primary healthcare system
- Learning from the CTB Myanmar experience, build in sufficient time for approvals at all stages in model development and implementation.

ANNEXES

ANNEX I: EVALUATION STATEMENT OF WORK

SECTION C – STATEMENT OF WORK

C.1 BACKGROUND

Description of Activity to be evaluated:

Activity/Project Name	Activity/Project Name Challenge TB-Burma
Implementer	FHI360
Cooperative Agreement/Contract #	AID-OAA-A-14-00029
Total Estimated Ceiling of the Evaluated Project/Activity (TEC)	\$15,410,000
Life of Project/Activity	04/15/2015-9/30/2019
Active Geographic Regions	National level, and Challenge TB Burma townships in Yangon, Mandalay, Sagaing, Kayah, Chin and Bago
Development Objective(s) (DOs)	Mission DO: Health Status Improved CTB project objectives Objective 1. Increase TB Case Finding Objective 2. Improve Diagnostic Capacity Objective 3. Strengthened National TB Program Objective 4: Support National MDR-TB Response
USAID Office	USAID/Burma Office of Public Health

C.2.1 EVALUATION QUESTIONS

The illustrative evaluation questions below are closely linked to the CTB activity's development hypothesis depicted in the Results Framework. The evaluation methodologies responding to the key questions below (as reflected in Section C.2.2) will be developed by the contractor in the evaluation design and work plan after execution of the contract.

- I. What were CTB's key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?
 - To what extent did CTB contribute to the overall national results in reducing the TB burden in Myanmar?
 - What are the most important TB gaps and issues that CTB focused on in its geographical areas, and how well did the selection of interventions and geographical areas align with need?
 - What gender constraints/gaps were faced by women with TB/MDR, especially in hard to reach remote area and how were they addressed by CTB?
 - What were the key contributions of CTB in the following technical areas?

- i. Increasing case notification and active case finding
 - ii. Addressing the MDR-TB crisis in Yangon
 - iii. Strengthening TB and MDR-TB diagnostic network
 - iv. Assisting NTP in introducing active drug safety monitoring and management (aDSM) for MDR-TB cases
 - v. Engagement with private sector providers, drug sellers, and other non-public organizations in TB case finding.
2. To what extent has CTB's technical assistance to the national TB program at different levels advanced TB prevention and control in Burma in line with CTB Global-level objectives, and CTB/Burma's project objectives, and promoted sustainability?
 - What technical assistance and capacity-building support provided by CTB was most effective, and what activities were less effective?
 - To what extent were interventions, models and tools introduced by CTB adopted and scaled up with other resources (domestic or other donor)? What are examples of tools or approaches that were continued or scaled up?
 - What efforts did CTB undertake to ensure broader uptake of its approaches? What evidence exists of uptake?
 3. What gaps and opportunities exist for further USAID investment in the private sector and community programming?
 - How many missing TB cases could be identified through further scale-up of private sector engagement (including, but not limited to, mandatory reporting, diagnostics, and drug seller networks) and community-based efforts, considering current programmatic coverage and the 2018-19 TB Prevalence Survey findings?
 - What lessons and best practices from CTB private sector interventions can be applied to future efforts to control TB and efforts to build country capacity?

C.2.2 EVALUATION DESIGN AND METHODOLOGY

The evaluation team is expected to assess the progress made in achieving CTB-Burma's intermediate objectives Objective 1: Increase TB Case Finding; Objective 2: Improve Diagnostic Capacity; Objective 3: Strengthened National TB Program; and Objective 4: Support National MDR-TB Response.

This evaluation anticipates using a mixed methodology with data sources, including but not limited to CTB Myanmar work plans, trip reports, deliverables, research surveys, studies, evaluation reports, and similar project-related documents; project M&E; evaluation reports and project progress reports; data on coverage of CTB project activities; data from field observation, key informant interviews; national statistics on TB indicators as well as information from 2018 national TB prevalence survey report, which is expected to be released in June 2019 and will be made available to the evaluation team.

Questions	Suggested Data Sources	Suggested Data Collection Methods	Suggested Data Analysis Methods
<p>1. What were CTB's key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?</p>	<p>NTP NSP (2016-2021), CTB work plans and reports, other reports of related TB activities such as Active Case Finding (ACF) Review, CTB Hard to reach activities evaluation, Operational Research of PSI pharmacy channel review, 2018 TB Prevalence survey preliminary results and available data from Prevalence survey.</p>	<p>-- Qualitative (key informant interview and/or focus group discussions etc. as relevant), -- Desk review, secondary analysis as necessary. -- Phone interviews with health providers located outside of Yangon. Interview with subrecipients of FHI360; WHO country office, PRs of the Global Fund Grant, Assess to Health Fund. Interview with NTP and NTRL staff in the country.</p>	<p>To be proposed by the contractor</p>
<p>2. To what extent has CTB's technical assistance to the national TB program at different levels advanced TB prevention and control in Burma in line with Global CTB and CTB/Burma project objectives, and promoted sustainability?</p>	<p>NTP NSP (2016-2021), CTB work plans and reports, other reports of related TB activities such as ACF Review, CTB Hard to reach activities evaluation, Operational Research of PSI pharmacy channel review, 2018 TB Prevalence survey preliminary result and available data from Prevalence survey, Gender Analysis reports from CTB and other sources (donors, CSOs, DHS)</p>	<p>-- Qualitative (key informant interview and/or focus group discussions etc. as relevant), -- Desk review, secondary analysis as necessary. -- Phone interviews with health providers located outside of Yangon. Interview with subrecipients of FHI360; WHO country office, PRs of the Global Fund Grant, Assess to Health Fund. --Interview with NTP and NTRL staff in the country. -- Case study of a sample of women with TB/MDR-TB.</p>	<p>To be proposed by the contractor</p>

<p>3. What gaps and opportunities exist for further USAID investment in the private sector and community programming?</p>	<p>NTP NSP (2016-2021), CTB work plans and reports, other reports of related TB activities such as ACF Review, CTB Hard to reach activities evaluation, Operational Research of PSI pharmacy channel review, 2018 TB Prevalence survey preliminary result and available data from Prevalence survey; program coverage data from Global Fund and Access to Health Fund (UNOPS); literature on private health sector in Myanmar; national community health policy.</p>	<p>-- Qualitative (key informant interview and/or focus group discussions etc. as relevant), --Desk review, secondary analysis as necessary. --Phone interviews with private sector stakeholders, donors and partners involved with private sector and community efforts; WHO country office, PRs of the Global Fund Grant, Assess to Health Fund. --Interview with NTP staff</p>	<p>To be proposed by the contractor</p>
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C.3 EVALUATION TEAM COMPOSITION AND QUALIFICATIONS

USAID does not have any specific qualifications for the evaluation team, but the contractor shall provide a team that has any necessary qualifications to successfully achieve the objectives of this task order.

ANNEX II: DETAILED DESCRIPTION OF EVALUATION DESIGN AND METHODS

DOCUMENTS REVIEWED

SAMPLING PROCEDURE FOR PRIMARY DATA COLLECTION

The evaluation team applied multistage purposive sampling to select regions/states, followed by townships within the selected regions/states and facilities within the selected townships. These served as sites for primary data collection in the form of KIIs, FGDs, patient interviews and observations.

The key criteria used for the selection of regions/states within CTB Myanmar's geographic reach were a) the feasibility of conducting the site visit within the available time, b) the security situation and c) the presence of a special intervention. Kayah and Chin have had comparable interventions for hard to reach areas, and therefore one of them was selected, based on accessibility. Criteria for the selection of townships reached by CTB Myanmar within selected regions/states was the performance of the region/state as indicated by the case notification rate (CNR) per 100,000 population in the NTP Annual Report of 2016. The proposed townships are those with both high and low CNR. Selection of large facilities was based on specific interventions carried out in these facilities. These parameters are a trade-off between what is feasible within the available time and ensuring that the entire range of CTB Myanmar's interventions are included for primary data collection. Table 9 below lists the proposed sites and the criteria used for their selection.

Table 9: Selection of sites and criteria used

	District/Township	Criteria for selection of Region/Township	Facility	Additional criteria for selection of Facility
Yangon	Thaketa Township	Strengthening DR TB contact investigation NRL strengthening	Outreach workers Mingalardon TB HIV hospital NRL	ACF implemented
Mandalay		NRL strengthening	NRL	
Sagaing	Mawlaik Township	CNR <= 148* Hard-to-reach area strategy implemented	Kalay General Hospital	ACF implemented
Kayah	Demosoe Township	CNR <= 148 Hard-to-reach area strategy implemented	Loikaw General Hospital	ACF implemented
Bago	Waw Township	CNR <= 220 Intervention with drug sellers implemented	Drug sellers	

*From NTP Annual Report, 201

ANNEX III: EVALUATION DESIGN MATRIX

Evaluation question	Main themes/sub questions (provided by USAID)	Potential questions/inquiry	Data collection method(s)	Data source/type of respondent	Data analysis method
EQ 1: What were CTB's key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?	I.a. To what extent did CTB contribute to the overall national results in reducing the TB burden in Myanmar?	What do NTP and CTB documentation/data tell regarding CTB's contribution to changes in national TB burden? What assumptions underpin this estimation and how reasonable/valid is each?	Document review, secondary data analysis; KII	CTB design documents and APA reports; CTB/NTP, NTP quarterly and annual data; CTB core team, USAID/Burma, NTP team, GF/WHO/JICA	Thematic analysis of qualitative data using pre-determined and emerging subthemes; triangulate from multiple sources; analysis of secondary quantitative data
	I.b. What are the most important TB gaps and issues that CTB focused on in its <u>geographic areas</u> , and how well did the selection of interventions and geographic areas align with need?	<i>(What was the rationale behind the selection of project geographies)</i> What methods did CTB use to identify the key gaps and issues by selected geographic area, and how adequate and relevant were they? What were the issues and gaps identified? What considerations went into CTB's prioritization of identified issues? To what extent did CTB follow through with maintaining these priorities, through its period of implementation? Where it did not, what were the reasons? In hindsight, how effective was prioritizing these needs and gaps (over others) in reducing the TB burden? How effective was the level of effort (LOE) given to addressing each gap/issue? What else could have been done?	Document review; secondary data analysis; KII	CTB design documents and APA reports; CTB/NTP quarterly and annual data; CTB core team, USAID/Burma, NTP team, GF/WHO/JICA	Thematic analysis of qualitative data using pre-determined and emerging subthemes; triangulate from multiple sources; analysis of secondary quantitative data
	I.c. What gender constraints and gaps were faced by women with TB/MDR-TB, especially in hard to	Delays in diagnosis: duration, reasons, treatment shopping, provider attitudes, specific constraints faced in family, community and health facilities.	Document review; KII; interviews with men and women with TB and MDR-TB	CTB design documents and APA reports; CTB/NTP quarterly and annual data; CTB-MMA staff; MDR-TB staff at facilities;	Thematic analysis of qualitative data using pre-determined and emerging subthemes; triangulate from multiple sources;

<p>reach remote area and how were they addressed by CTB?</p>	<p>Delays in obtaining results, and in initiating treatment; specific constraints faced in family, community and health facilities Challenges with continuing with treatment, follow-up visits – family, financial, community and other How are all of the above similar and dissimilar between men and women? What interventions within CTB design and implementation address each of the above issues, and to what extent did they alleviate the issue?</p>		<p>KII with TB and MDR-TB patients (men and women)</p>	<p>analysis of secondary quantitative data. Mapping of the care seeking process for each patient, reflecting the patient pathway, including timelines and easily recognizable notations for key events.</p>
<p>I.d. What were the key contributions of CTB in the following <u>technical</u> areas? i. Increasing case notification and active case finding (<i>overlap with v</i>) ii. Addressing the MDR-TB crisis in Yangon iii. Strengthening TB and MDR-TB diagnostic network iv. Assisting NTP in introducing active drug safety monitoring and management (aDSM) for MDR-TB cases (<i>overlap with EQ 2</i>) v. Engagement with private sector providers, drug sellers, and other non-public organizations in TB case finding</p>	<p>For all technical areas: What specific gaps in [technical area] existed at the start of CTB, and how did CTB prioritize the ones to address? To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons? What contributions [to technical area] can be considered key, and why? For ACF: What was CTB's contribution to the design of NTP's ACF strategies? What ACF strategies did CTB directly support and how successful were they? What challenges were faced and addressed and what lessons were learned?</p>	<p>Document review; analysis of secondary data; KII; direct observations in in labs, FGDs</p>	<p>CTB design document and APA reports; CTB/NTP, NTP quarterly and annual data; NTP staff, USAID/Burma staff, CTB core team, PGK, WVM, MMAA, Union, PSI, MHA staff, Region/state, district and township TB and lab staff, public facility TB staff, private clinics, drug sellers, volunteers of partner organizations; observations in labs; aDSM related aggregate data</p>	<p>Thematic analysis, using pre-determined and emerging subthemes; triangulate data from multiple sources; anecdotal evidence, where available</p>

EQ2: To what extent has CTB's technical assistance to the national TB program at different levels advanced TB prevention and control in Burma in line with CTB Global-level objectives, and CTB/Burma's project objectives, and promoted sustainability ?	2.a. What technical assistance (TA) and capacity-building (CB) support provided by CTB was most effective, and what activities were less effective?	How were TA needs assessed and TA sourced? What criteria should be used for assessing the effectiveness of TA and CB? What TA and CB were most effective and why? Which TA and CB were not as effective and why?	Document review; analysis of secondary data KII	CTB Myanmar design document and APA reports; NTP reports; CTB/NTP, NTP quarterly and annual data; NTP staff, USAID/Burma staff, CTB core team, GF/WHO/JICA staff	Develop criteria for assessing effectiveness of TA; Thematic analysis, including pre-determined and emerging subthemes; triangulate data from multiple sources; anecdotal evidence, where available; analysis by CTB objective
	2.b. To what extent were interventions (especially those related to hard to reach areas and the MDR-TB response in Yangon), models and tools introduced by CTB adopted, continued and scaled up with other resources (domestic or another donor)? What are examples of tools or approaches that were continued or scaled up?	What are the tools, models and interventions introduced by CTB? What parameters should be used to assess the extent of their scale up? Based on these parameters, what is the extent of scale up of each? What factors enabled or hindered the successful scale up (or lack thereof) of each? Which of the interventions of CTB for hard to reach areas have been taken up by NTP/partners? To what extent? Which aspects of the MDR-TB response in Yangon have been taken up by NTP/Partners? To what extent?	Document review; KII	CTB APA narrative and special reports including OR publications; NTP reports, guidance documents and SOPs; NTP staff, USAID/Burma staff, CTB core team, GF/WHO/JICA staff	An inventory of tools, models and interventions; Thematic analysis, including pre-determined and emerging subthemes; triangulate data from multiple sources; anecdotal evidence, where available; analysis by CTB objective
	2.c. What efforts did CTB undertake to ensure broader uptake of its approaches? What evidence exists of uptake?	To what extent were the above successes and scale up due to the efforts of CTB?			Thematic analysis, including pre-determined and emerging subthemes; triangulate data from multiple sources; anecdotal evidence, where available; analysis by CTB objective
EQ3. What gaps and opportunities	3.a. Considering current programmatic	How many estimated cases are being missed (by type of TB) and	Document and literature review; KII; brainstorming	Literature including but not limited to the Finding Missed Cases guide from KNCV, in	Developing/documenting assumptions and estimating potential

<p>s exist for further USAID investment in the private sector and community programming?</p>	<p>coverage and the findings of the TB Prevalence Survey of 2018-19, how might a scaled-up approach to engaging the private sector and community-based efforts affect case finding efforts, (namely in areas of high prevalence, high loss to follow up or poor reporting)?</p>	<p>how many can be found through the various interventions</p>		<p>country documents and earlier estimations; evidence from published and grey literature; CTB/NTP/DHIS2 data</p>	<p>cases found; triangulate data from multiple sources</p>
	<p>3.b. What lessons and best practices from CTB private sector interventions can be applied to future efforts to control TB and efforts to build country capacity?</p>	<p>What are the lessons and best practices in these areas, what qualifies them as such, what scale are they currently at, and what future scale up is feasible</p>	<p>Document review, secondary data analysis, KII</p>	<p>CTB APA narratives and special reports, CTB staff and partners, WHO, NTP, USAID</p>	<p>Triangulate data from multiple sources; develop a matrix of lessons and best practices</p>

ANNEX IV: DATA COLLECTION TOOLS

INFORMED CONSENT FORMS

Key informant interview consent form – individual KIs (Total 55, except heads of facilities)

Title: Challenge TB Burma Review

Review team: Beulah Jayakumar, Soe Myat Naing

Sponsor: USAID/Burma

Introduction

Hello, my name is------. I am part of a team from Social Impact (SI) currently conducting an independent review of **Challenge TB** (CTB). CTB is a USAID-funded activity which supports the National TB Program of the Ministry of Health and Sports, Govt of Myanmar, to improve the quality of and access to TB services and is implemented by FHI 360 and its partners. This review is intended to identify lessons and to obtain opinions about how new activities can better support the NTP in the future.

I would like to request you to read (or have read to you) this Consent Form. I want to be sure that you understand the purpose of this review and your responsibilities before you decide if you want to be in it or not. Please ask me to explain any words or information that you may not understand.

Information about the interview

If you agree to this interview, we are going to ask you and other key informants about the interventions of CTB that you may know of, and your perceptions of their results. We will also ask you about the successes and challenges CTB encountered and how future activities could be improved to achieve more significant results. We plan to conduct interviews like this with about 60 respondents across the locations where CTB works. The information you share will be kept confidential and will not be disclosed to anyone in a way that can be linked to you. Although we will share the opinions you give us in a report to other entities outside of the review team, all your answers will be treated with confidentiality and will be anonymized in the report. This interview will take about 1 to 2 hours. I will not write down your name on this form and your name will not appear when we analyze the data or in the report, so that the answers you give cannot be linked to you. You have the right to tell whomever you choose about this interview.

If you decide not to participate

You are free to decide if you want to participate in this interview or not. You have the right to refuse to answer any questions, stop the interview or leave at any time. Your relationship with CTB or other organizations that provide similar services or will use the review results will not be affected at all.

Possible risks

We do not anticipate any significant risks to you or your organization/facility because of your participation in this interview. However, this interview will result in time away from your regular activities.

Possible benefits

KEY INFORMANT INTERVIEW CONSENT FORM – HEADS OF FACILITIES (Total 6)

Title: Challenge TB Burma Review

Review team: Beulah Jayakumar, Soe Myat Naing

Sponsor: USAID/Burma

Introduction

Hello, my name is------. I am part of a team from Social Impact (SI) currently conducting an independent review of **Challenge TB** (CTB). CTB is a USAID-funded activity which supports the National TB Program of the Ministry of Health and Sports, Govt of Myanmar, to improve the quality of and access to TB services and is implemented by FHI 360 and its partners. This review is intended to identify lessons and to obtain opinions about how new activities can better support the NTP in the future.

I would like to request you to read (or have read to you) this Consent Form. I want to be sure that you understand the purpose of this review and your responsibilities before you decide if you want to be in it or not. Please ask me to explain any words or information that you may not understand.

Information about the interview

If you agree to this interview, we are going to ask you and other key informants about the interventions of CTB that you may know of, and your perceptions of their results. We will also ask you about the successes and challenges CTB encountered and how future activities could be improved to achieve more significant results. We plan to conduct interviews like this with about 6 respondents across the locations where CTB works. We also seek your consent to interview staff at the TB clinic and the lab in this facility and observe the functioning of the lab, in terms of adherence to standards of infection control, functioning of equipment and expansion of new diagnostics. The information you share will be kept confidential and will not be disclosed to anyone in a way that can be linked to you. Although we will share the opinions you give us in a report to other entities outside of the review team, all your answers will be treated with confidentiality and will be anonymized in the report. This interview will take about half an hour. I will not write down your name on this form and your name will not appear when we analyze the data or in the report, so that the answers you give cannot be linked to you. You have the right to tell whomever you choose about this interview.

If you decide not to participate

You are free to decide if you and your facility want to participate in this interview or not. You have the right to refuse to answer any questions, stop the interview or leave at any time. Your relationship with CTB or other organizations that provide similar services or will use the review results will not be affected at all.

Possible risks

We do not anticipate any significant risks to you or your facility because of your participation in this interview. However, this interview will result in time away from your regular activities.

Possible benefits

The results of this review are expected to inform USAID's planning and decision-making, assess the results of CTB and improve strategies for more significant public health impact in the future. By participating in this interview, you will, however, get no immediate and direct personal benefit.

Confidentiality

We will protect information about you and your involvement in this review to the best of our ability. Only this team will have access to your name and the name of your facility. We will not record your name in our data collection tools or notes, but only in this consent form, which we will keep separately from the notes and transcripts of this interview. We will also not indicate your name in the any of the reports we prepare, but only your official designation and place of work in an annex to the report. We will not tell our peers, supervisors, or friends about your participation or about the information you give. After we remove your personal information, the data we collect may be combined with other study participants' data and findings included in the report.

If you have a question about the review

If you have any questions about this review, you may contact Marissa Germain via email address mgermain@socialimpact.com. You can also contact the Social Impact Internal Review Board. The contact person is Leslie Greene Hodel; phone number +1-703-465-1884; email address: irb@socialimpact.com.

VOLUNTARY AGREEMENT

I certify that the nature and purpose, the potential benefits, and the possible risks associated with participating in this interview have been explained to me.

Signature of participant

Date

PATIENT INTERVIEW CONSENT FORM (Total 16 patients)

Title: Challenge TB Burma Review

Review team: Beulah Jayakumar, Soe Myat Naing

Sponsor: USAID/Burma

Hello, my name is------. I am part of a team from Social Impact (SI) currently conducting an independent review of **Challenge TB** (CTB). CTB is a USAID-funded activity which supports the National TB Program of the Ministry of Health and Sports, Govt of Myanmar, to improve the quality of and access to TB services and is implemented by FHI 360 and its partners. This review is intended to identify lessons and to obtain opinions about how new activities can better support the NTP in the future.

I would like to read to you this Consent Form. The volunteer (name) informed us that s/he supports/supported you in your treatment and hence your opinions regarding the services you obtained is important to us. I want to be sure that you understand the purpose of this review and your responsibilities before you decide if you want to be in it or not. Please ask me to explain any words or information that you may not understand.

Information about the interview

If you agree to be part of this interview, we are going to ask you and other patients about your perceptions and experiences related to your TB care, things that help or hamper your ability to get care, and your ideas about how your care could be improved. We plan to conduct interviews like this with about 16 respondents across the locations where CTB works. The information you share will be kept confidential and will not be disclosed to anyone in a way that can be linked to you. Although we will share the opinions you give us in a report to other entities outside of the review team, all your answers will be treated with confidentiality and will be anonymized in the report. I will not write down your name on this form and your name will not appear in when we analyze the data or in the report, we write so that the answers you give cannot be linked to you. You have the right to tell whomever you choose about this review. This interview will take about 1 hour.

If you decide not to participate

You are free to decide if you want to participate in this interview or not. Your relationship with CTB or other organizations that provide similar services or will use the review results will not be affected at all. Your decision to participate or not to participate in this interview will in no way affect the services you currently receive or the support you receive from CTB. You have the right to refuse to answer any questions, stop the interview or leave at any time.

Possible risks

We do not anticipate any significant risks to you because of your participation in this interview. However, this interview will result in time away from your regular activities.

Possible benefits

The results of this review are expected to help in the planning and provision of better services for those with TB and for the community. By participating in this interview, you will, however, get no immediate and direct personal benefit.

Confidentiality

INTERVIEW CONSENT FORM FOR GUARDIANS OF MINOR PATIENTS (Total 16 patients – INCLUDING NONMINORS)

Title: Challenge TB Burma Review

Review team: Beulah Jayakumar, Soe Myat Naing

Sponsor: USAID/Burma

Hello, my name is----- . I am part of a team from Social Impact (SI) currently conducting an independent review of **Challenge TB** (CTB). CTB is a USAID-funded activity which supports the National TB Program of the Ministry of Health and Sports, Govt of Myanmar, to improve the quality of and access to TB services and is implemented by FHI 360 and its partners. This review is intended to identify lessons and to obtain opinions about how new activities can better support the NTP in the future.

I would like to read to you this Consent Form. The volunteer (name) informed us that s/he supports/supported you in your treatment and hence your opinions regarding the services you obtained is important to us. I want to be sure that you understand the purpose of this review and your responsibilities before you decide if you want to be in it or not. Please ask me to explain any words or information that you may not understand.

Information about the interview

If you agree to be part of this interview, we are going to ask you and other patients about your perceptions and experiences related to the TB care your ward received, things that help or hampered your ability to get care for your ward and your ideas about how your care could be improved. We plan to conduct interviews like this with about 16 respondents across the locations where CTB works. The information you share will be kept confidential and will not be disclosed to anyone in a way that can be linked to you. Although we will share the opinions you give us in a report to other entities outside of the review team, all your answers will be treated with confidentiality and will be anonymized in the report. I will not write down your name or the name of your ward on this form and your name or that of your ward will not appear in when we analyze the data or in the report, we write so that the answers you give cannot be linked to you. You have the right to tell whomever you choose about this review. This interview will take about 1 hour.

If you decide not to participate

You are free to decide if you and your ward want to participate in this interview or not. Your relationship with CTB or other organizations that provide similar services or will use the review results will not be affected at all. Your decision to participate or not to participate in this interview will in no way affect the services your ward currently receives or the support you receive from CTB. You have the right to refuse to answer any questions, stop the interview or leave at any time.

Possible risks

We do not anticipate any significant risks to you or your ward because of your participation in this interview. However, this interview will result in time away from your regular activities.

Possible benefits

The results of this review are expected to help in the planning and provision of better services for those with TB and for the community. By participating in this interview, you will, however, get no immediate and direct personal benefit.

Confidentiality

We will protect information about you and your ward and your involvement in this review to the best of our ability. We will not record your name or that of your ward in our data collection tools or notes or in this consent form, or in the reports we prepare, but only your ward's age, gender and official designation and place of work in an annex to the report. We will not tell your peers, community members or friends about your participation or about the information you give. After we remove your personal information, the data we collect may be combined with other study participants' data and findings included in the report.

If you have a question about the interview

If you have any questions about this review, you may contact Marissa Germain via email address mgermain@socialimpact.com. You can also contact the Social Impact Internal Review Board. The contact person is Leslie Greene Hodel; phone number +1-703-465-1884; email address: irb@socialimpact.com.

VOLUNTARY AGREEMENT

The participant read the consent form (or the form was read to him/her) and gave consent to be interviewed.

Signature of Interviewer

Date

FOCUS GROUP DISCUSSION - CONSENT FORM (Total 2 FGDs)

Title: Challenge TB Burma Review

Review Team: Beulah Jayakumar, Soe Myat Naing

Sponsor: USAID/Burma

Hello, my name is----- . I am part of a team from Social Impact (SI) currently conducting an independent review of **Challenge TB** (CTB). CTB is a USAID-funded activity which supports the National TB Program of the Ministry of Health and Sports, Govt of Myanmar, to improve the quality of and access to TB services and is implemented by FHI 360 and its partners. This review is intended to identify lessons and to obtain opinions about how new activities can better support the NTP in the future.

I would like to request you to read (or have read to you) this Consent Form. I want to be sure that you understand the purpose of this review and your responsibilities before you decide if you want to be in it or not. Please ask me to explain any words or information that you may not understand.

Information about the discussion

If you agree to be part of this discussion, we are going to ask you and other key informants about the interventions of CTB that you may know of, and your perceptions of their results. We will also ask you about the successes and challenges CTB encountered and how future activities could be improved to achieve more significant results. We plan to conduct discussions like this with about one other group in a location where CTB works. The information you share will be kept confidential and will not be disclosed to anyone in a way that can be linked to you. Although we will share the opinions you give us in a report to other entities outside of the review team, all your answers will be treated with confidentiality and will be anonymized in the report. I will not write down your name on this form and your name will not appear in when we analyze the data or in the report, we write so that the answers you give cannot be linked to you. You have the right to tell whomever you choose about this review. This discussion will take about 1 to 2 hours.

If you decide not to participate

You are free to decide if you want to participate in this discussion or not. You have the right to refuse to answer any questions, stop the discussion, or leave at any time. Your relationship with CTB or other organizations that provide similar services or will use the review results will not be affected at all. Your decision to participate or not to participate in this discussion will in no way affect the services you currently receive or provide or the support you receive from CTB.

Possible risks

We do not anticipate any significant risks to you or your organization/facility because of your participation in this discussion. However, this discussion will result in time away from your regular activities.

Possible benefits

The results of this review are expected to inform USAID's planning and decision-making, assess the results of CTB and improve strategies for more significant public health impact in the future. By participating in this discussion, you will, however, get no immediate and direct personal benefit.

Confidentiality

KEY INFORMANT INTERVIEW – IMPLEMENTING PARTNER, FHI360

Interviewees: Country Director, Technical Director, Regional Directors, M&E Director

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

Note: Any of the questions below that are addressed by the IP's initial presentation to the evaluation team, will not be repeated in the KII

EQI: What were CTB's key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?

EQ Ia. To what extent did CTB contribute to the overall national results in reducing the TB burden in Myanmar?

1. What do NTP and CTB documentation/data tell regarding CTB's contribution to changes in national TB burden?
 - a. What assumptions underpin this estimation and how reasonable/valid is each?
 - b. Please describe the process by which TB program data (esp. regarding case notification) is disaggregated by public/nonpublic. What steps have been taken to assure quality in this process?
 - c. In what ways did CTB contribute to improved data quality – at what levels?

EQ Ib. What are the most important TB gaps and issues that CTB focused on in its geographical areas, and how well did the selection of interventions and geographical areas align with need?

2. What was the rationale behind the selection of project geographies?
3. What methods did CTB use to identify the key gaps and issues by selected geographic area, and how adequate and relevant were they?
4. What were the issues and gaps identified? What considerations went into CTB's prioritization of identified issues?
5. To what extent did CTB follow through with maintaining these priorities, through its period of implementation?
 - a. Where it did not, what were the reasons?
6. In hindsight, how effective was prioritizing these needs and gaps (over others) in reducing the TB burden?
 - a. How effective was the LOE given to addressing each gap/issue?
 - b. What else could have been done?

EQ Id. What were the key contributions of CTB in the following technical areas?

EQ Idi. Improving case notification

7. What specific gaps in existed at the start of CTB in case notification in your area, and how did CTB prioritize the gaps it addressed?
8. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
9. What contributions to increasing case finding can be considered key, and why?
10. What was CTB's contribution to the design of NTP's ACF strategies?
11. What ACF strategies did CTB directly support and how successful were they?
 - a. What challenges were faced and addressed and what lessons were learned?

EQ Idii. Addressing the MDR-TB crisis in Yangon

12. What specific gaps in existed at the start of CTB in addressing the MDR-TB crisis in Yangon, and how did CTB prioritize the gaps it addressed?
13. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
14. What contributions to addressing this crisis can be considered key, and why?

EQ Idiii. Strengthening TB and MDR-TB diagnostic network

15. What specific gaps in existed at the start of CTB in the diagnostic network, and how did CTB prioritize the gaps it addressed?
16. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
17. What contributions to strengthening the diagnostic network can be considered key, and why?

EQ Idiv. Assisting NTP in introducing active drug safety monitoring and management (aDSM) for MDR-TB cases

18. What specific gaps in existed at the start of CTB in aDSM and how did CTB prioritize the gaps it addressed?
19. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
20. What contributions to strengthening aDSM can be considered key, and why?

EQ Idv. Engagement with private sector providers, drug sellers, and other non-public organizations in TB case finding

21. What specific gaps in existed at the start of CTB in engaging the private sector, and how did CTB prioritize the gaps it addressed?
22. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
23. What contributions to strengthening the private sector engagement can be considered key, and why?

EQ 2. To what extent has CTB’s technical assistance to the national TB program at different levels advanced TB prevention and control in Burma in line with CTB Global-level objectives, and CTB/Burma’s project objectives, and promoted sustainability?

24. What was the reasoning behind re-organizing CTB Myanmar’s hierarchy of objectives differently than CTB Global objectives? What were the benefits and challenges that came from this change?

EQ 2a. What technical assistance and capacity-building support provided by CTB was most effective, and what activities were less effective?

25. How were TA needs assessed and TA sourced?
26. What criteria should be used for assessing the effectiveness of TA and CB?
27. What TA and CB were most effective and why?
28. Which TA and CB were not as effective and why?

EQ 2b. To what extent were interventions, models and tools introduced by CTB adopted and scaled up with other resources (domestic or other donor)? What are examples of tools or approaches that were continued or scaled up?

29. What are the tools, models and interventions introduced by CTB?
30. What parameters do you use, to assess the extent of their scale up? Based on these parameters, what is the extent of scale up of each?
31. What factors enabled or hindered the successful scale up (or lack thereof) of each?
32. In your perception, in what ways did CTB approaches ensure sustainability of the gains made?
33. Which of the interventions of CTB for hard to reach areas have been taken up by NTP/partners? To what extent?
34. Which aspects of the MDR-TB response in Yangon have been taken up by NTP/Partners? To what extent?

EQ 2c. What efforts did CTB undertake to ensure broader uptake of its approaches? What evidence exists of uptake?

1. To what extent were the above successes and scale up due to the efforts of CTB?

EQ 3. What gaps and opportunities exist for further USAID investment in the private sector and community programming?

EQ 3b. What lessons and best practices from CTB private sector interventions can be applied to future efforts to control TB and efforts to build country capacity?

2. What are the lessons and best practices in these areas, what qualifies them as such, what scale are they currently at, and what future scale up is feasible?
3. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time

KEY INFORMANT INTERVIEW – SUBGRANTEE national/region/state levels

Interviewees: CTB focal persons in each subgrantee: PGK, MHAA, WVM, the Union, PSI

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

Note: Any of the questions below that are addressed by the IP's initial presentation to the evaluation team, will be deleted from this tool

EQ I: What were CTB's key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?

EQ Ib. What are the most important TB gaps and issues that CTB focused on in its geographical areas, and how well did the selection of interventions and geographical areas align with need?

1. What was the rationale behind the selection of project geographies?
2. What methods did CTB use to identify the key gaps and issues by selected geographic area, and how adequate and relevant were they?
3. What were the issues and gaps identified? What considerations went into CTB's prioritization of identified issues?
4. To what extent did CTB follow through with maintaining these priorities, through its period of implementation?
 - a. Where it did not, what were the reasons?
5. In hindsight, how effective was prioritizing these needs and gaps (over others) in reducing the TB burden?
 - a. How effective was the LOE given to addressing each gap/issue?
 - b. What else could have been done?

EQ Id. What were the key contributions of CTB in the following technical areas?

EQ Idi. Increasing case notification and active case finding

6. What specific gaps in existed at the start of CTB in case notification in your area, and how did CTB prioritize the gaps it addressed?
7. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
8. What contributions to increasing case finding can be considered key, and why?
9. What was CTB's contribution to the design of NTP's ACF strategies?

10. What ACF strategies did CTB directly support and how successful were they?

a. What challenges were faced and addressed and what lessons were learned?

EQ 3. What gaps and opportunities exist for further USAID investment in the private sector and community programming?

EQ 3b. What lessons and best practices from CTB private sector interventions can be applied to future efforts to control TB and efforts to build country capacity?

11. What are the lessons and best practices in these areas, what qualifies them as such, what scale are they currently at, and what future scale up is feasible?

12. To what extent were hard to reach area strategies and/or MDR-TB response (in Yangon) taken up by NTP/Partners? What is the evidence of that uptake?

13. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time

KEY INFORMANT INTERVIEW – SUBGRANTEE – MMA (national or region/state levels)

Interviewees: MMA CTB focal person

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

Note: *Any of the questions below that are addressed by the IP's initial presentation to the evaluation team, will be deleted from this tool*

EQ I: What were CTB's key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?

EQ Id. What were the key contributions of CTB in the following technical areas?

EQ Idii. Addressing the MDR-TB crisis in Yangon

1. What specific gaps in existed at the start of CTB in addressing the MDR-TB crisis in Yangon, and how did CTB prioritize the gaps it addressed?
2. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
3. What contributions to addressing this crisis can be considered key, and why?

EQ Idiv. Assisting NTP in introducing active drug safety monitoring and management (aDSM) for MDR-TB cases

4. What specific gaps in existed at the start of CTB in aDSM and how did CTB prioritize the gaps it addressed?
5. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
6. What contributions to strengthening aDSM can be considered key, and why?

EQ 3. What gaps and opportunities exist for further USAID investment in the private sector and community programming?

EQ 3b. What lessons and best practices from CTB private sector interventions can be applied to future efforts to control TB and efforts to build country capacity?

7. What are the lessons and best practices in these areas, what qualifies them as such, what scale are they currently at, and what future scale up is feasible?
8. To what extent were hard to reach area strategies and/or MDR-TB response (in Yangon) taken up by NTP/Partners? What is the evidence of that uptake?
9. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time

KEY INFORMANT INTERVIEW – NTP

Interviewees: NTP Manager

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

EQ I: What were CTB's key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?

EQ Ib. What are the most important TB gaps and issues that CTB focused on in its geographical areas, and how well did the selection of interventions and geographical areas align with need?

1. What was the rationale behind the selection of project geographies?
2. To what extent did CTB follow through with maintaining focus on key issues and gaps, through its period of implementation?
 - a. Where it did not, what were the reasons?
3. In hindsight, how effective was prioritizing these needs and gaps (over others) in reducing the TB burden?
 - a. What else could have been done?

EQ Id. What were the key contributions of CTB in the following technical areas?

EQ Idi. Increasing case notification and active case finding

4. What specific gaps in existed at the start of CTB in case notification, and how did CTB prioritize the gaps it addressed?
5. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
6. What contributions to increasing case finding can be considered key, and why?
7. What was CTB's contribution to the design of NTP's ACF strategies?
8. What ACF strategies did CTB directly support and how successful were they?
 - a. What challenges were faced and addressed and what lessons were learned?

EQ Idii. Addressing the MDR-TB crisis in Yangon

9. What specific gaps in existed at the start of CTB in addressing the MDR-TB crisis in Yangon, and how did CTB prioritize the gaps to address?
10. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?

11. What contributions to addressing this crisis can be considered key, and why?

EQ Idiii. Strengthening TB and MDR-TB diagnostic network

12. What specific gaps in existed at the start of CTB in the diagnostic network, and how did CTB prioritize the gaps it addressed?

13. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?

14. What contributions to strengthening the diagnostic network can be considered key, and why?

EQ Idiv. Assisting NTP in introducing active drug safety monitoring and management (aDSM) for MDR-TB cases

15. What specific gaps in existed at the start of CTB in aDSM and how did CTB prioritize the gaps it addressed?

16. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?

17. What contributions to strengthening aDSM can be considered key, and why?

EQ Idv. Engagement with private sector providers, drug sellers, and other non-public organizations in TB case finding

18. What specific gaps in existed at the start of CTB in engaging the private sector, and how did CTB prioritize the gaps it addressed?

19. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?

20. What contributions to strengthening the private sector engagement can be considered key, and why?

EQ 2. To what extent has CTB’s technical assistance to the national TB program at different levels advanced TB prevention and control in Burma in line with CTB Global-level objectives, and CTB/Burma’s project objectives, and promoted sustainability?

EQ 2a. What technical assistance and capacity-building support provided by CTB was most effective, and what activities were less effective?

21. How were TA needs assessed and TA sourced?

22. What TA and CB were most effective and why?

23. Which TA and CB were not as effective and why?

EQ 2b. To what extent were interventions, models and tools introduced by CTB adopted and scaled up with other resources (domestic or other donor)? What are examples of tools or approaches that were continued or scaled up?

24. What factors enabled or hindered the successful scale up (or lack thereof) of each?
a. Discuss this for each model/ tool that has been described and documented by CTB

25. What factors enabled or hindered the successful scale up (or lack thereof) of each?

26. In your perception, in what ways did CTB approaches ensure sustainability of the gains made?

27. Which of the interventions of CTB for hard to reach areas have been taken up by NTP/partners? To what extent?

28. Which aspects of the MDR-TB response in Yangon have been taken up by NTP/Partners? To what extent?

EQ 2c. What efforts did CTB undertake to ensure broader uptake of its approaches? What evidence exists of uptake?

29. To what extent were the above successes and scale up due to the efforts of CTB?

EQ 3. What gaps and opportunities exist for further USAID investment in the private sector and community programming?

EQ 3b. What lessons and best practices from CTB private sector interventions can be applied to future efforts to control TB and efforts to build country capacity?

30. What are the lessons and best practices in these areas, what qualifies them as such, what scale are they currently at, and what future scale up is feasible?

31. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time

KEY INFORMANT INTERVIEW – Region/State/District/Township TB Unit

Interviewees: TB Unit in charge

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

EQ I: What were CTB’s key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?

EQ Id. What were the key contributions of CTB in the following technical areas?

(Use only those that are applicable to the geographic area)

EQ Idi. Increasing case notification and active case finding

1. What specific gaps in existed at the start of CTB in case notification, and how did CTB prioritize the gaps it addressed?
2. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
3. What contributions to increasing case finding can be considered key, and why?
4. What ACF strategies did CTB directly support and how successful were they?
 - a. What challenges were faced and addressed and what lessons were learned?

EQ Idii. Addressing the MDR-TB crisis in Yangon

5. What specific gaps in existed at the start of CTB in addressing the MDR-TB crisis in Yangon, and how did CTB prioritize the gaps to address?
6. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
7. What contributions to addressing this crisis can be considered key, and why?

EQ Idiii. Strengthening TB and MDR-TB diagnostic network

8. What specific gaps in existed at the start of CTB in the diagnostic network, and how did CTB prioritize the gaps it addressed?
9. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
10. What contributions to strengthening the diagnostic network can be considered key, and why?

EQ Idiv. Assisting NTP in introducing active drug safety monitoring and management (aDSM) for MDR-TB cases

11. What specific gaps in existed at the start of CTB in aDSM and how did CTB prioritize the gaps it addressed?
12. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
13. What contributions to strengthening aDSM can be considered key, and why?

EQ 1dv. Engagement with private sector providers, drug sellers, and other non-public organizations in TB case finding

14. What specific gaps in existed at the start of CTB in engaging the private sector, and how did CTB prioritize the gaps it addressed?
15. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
16. What contributions to strengthening the private sector engagement can be considered key, and why?

EQ 3. What gaps and opportunities exist for further USAID investment in the private sector and community programming?

EQ 3b. What lessons and best practices from CTB private sector interventions can be applied to future efforts to control TB and efforts to build country capacity?

17. What are the lessons and best practices in these areas, what qualifies them as such, what scale are they currently at, and what future scale up is feasible?
18. To what extent were hard to reach area strategies and/or MDR-TB response (in Yangon) taken up by NTP/Partners? What is the evidence of that uptake?
19. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time

KEY INFORMANT INTERVIEW – Senior TB Laboratory Supervisor

Interviewees: STLS

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

EQ I: What were CTB’s key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?

EQ Id. What were the key contributions of CTB in the following technical areas?

(Use only those that are applicable to the geographic area)

EQ Idi. Increasing case notification and active case finding

1. What specific gaps in existed at the start of CTB in case notification, and how did CTB prioritize the gaps it addressed?
2. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
3. What contributions to increasing case finding can be considered key, and why?
4. What ACF strategies did CTB directly support and how successful were they?
 - a. What challenges were faced and addressed and what lessons were learned?
 - b. What more can be done for active case finding in your area?

EQ Idv. Engagement with private sector providers, drug sellers, and other non-public organizations in TB case finding

5. What specific gaps in existed at the start of CTB in engaging the private sector, and how did CTB prioritize the gaps it addressed?
6. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
7. What contributions to strengthening the private sector engagement can be considered key, and why?
8. What more can be done in your area to involve private providers better?
9. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time

KEY INFORMANT INTERVIEW – SCC

Interviewees: SCC staff

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

EQ1: What were CTB’s key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?

EQ 1d. What were the key contributions of CTB in the following technical areas?

(Use only those that are applicable to this area)

EQ 1di. Increasing case notification and active case finding

1. What specific gaps in existed at the start of CTB in identifying presumptive and collecting samples, and how did CTB prioritize the gaps it addressed?
2. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
3. What contributions to increasing case finding can be considered key, and why?
4. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time

KEY INFORMANT INTERVIEW – WHO

Interviewees: TB officer, WHO

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

EQ I: What were CTB’s key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?

EQ Ia. To what extent did CTB contribute to the overall national results in reducing the TB burden in Myanmar?

1. What do NTP and CTB documentation/data tell regarding CTB’s contribution to changes in national TB burden?
 - a. What assumptions underpin this estimation and how reasonable/valid is each?

EQ Ib. What are the most important TB gaps and issues that CTB focused on in its geographical areas, and how well did the selection of interventions and geographical areas align with need?

2. What was the rationale behind the selection of project geographies?
3. To what extent did CTB follow through with maintaining focus on issues and gaps, through its period of implementation?
 - a. Where it did not, what were the reasons?
4. In hindsight, how effective was prioritizing these needs and gaps (over others) in reducing the TB burden?
 - a. What else could have been done?

EQ Id. What were the key contributions of CTB in the following technical areas?

EQ Idi. Increasing case notification and active case finding

5. What specific gaps in existed at the start of CTB in case notification, and how did CTB prioritize the gaps to address?
6. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
7. What contributions to increasing case finding can be considered key, and why?
8. What was CTB’s contribution to the design of NTP’s ACF strategies?

EQ Idii. Addressing the MDR-TB crisis in Yangon

9. What specific gaps in existed at the start of CTB in addressing the MDR-TB crisis in Yangon, and how did CTB prioritize the gaps to address?
10. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
11. What contributions to addressing this crisis can be considered key, and why?

EQ Idiii. Strengthening TB and MDR-TB diagnostic network

12. What specific gaps in existed at the start of CTB in the diagnostic network, and how did CTB prioritize the gaps to address?
13. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
14. What contributions to strengthening the diagnostic network can be considered key, and why?

EQ Idiv. Assisting NTP in introducing active drug safety monitoring and management (aDSM) for MDR-TB cases

15. What specific gaps in existed at the start of CTB in aDSM and how did CTB prioritize the gaps to address?
16. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
17. What contributions to strengthening aDSM can be considered key, and why?

EQ Idv. Engagement with private sector providers, drug sellers, and other non-public organizations in TB case finding

18. What specific gaps in existed at the start of CTB in engaging the private sector, and how did CTB prioritize the gaps to address?
19. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
20. What contributions to strengthening the private sector engagement can be considered key, and why?

EQ 2. To what extent has CTB's technical assistance to the national TB program at different levels advanced TB prevention and control in Burma in line with CTB Global-level objectives, and CTB/Burma's project objectives, and promoted sustainability?

EQ 2b. To what extent were interventions, models and tools introduced by CTB adopted and scaled up with other resources (domestic or other donor)? What are examples of tools or approaches that were continued or scaled up?

21. What factors enabled or hindered the successful scale up (or lack thereof) of each?
 - a. Discuss this for each model/ tool that has been described and documented by CTB
22. To what extent were hard to reach area strategies and/or MDR-TB response (in Yangon) taken up by NTP/Partners? What is the evidence of that uptake?

EQ 2c. What efforts did CTB undertake to ensure broader uptake of its approaches? What evidence exists of uptake?

23. To what extent were the above successes and scale up due to the efforts of CTB?

EQ 3. What gaps and opportunities exist for further USAID investment in the private sector and community programming?

EQ 3a. Considering current programmatic coverage and findings from the TB Prevalence Survey of 2018-'19, how might a scaled-up approach to engaging the private sector and community-based activities affect case finding efforts (namely in areas of high prevalence, high loss to follow up, or poor reporting)?

24. How many missed cases can be potentially found through scaled up efforts? What does available evidence and WHO experience in other contexts tell us?

EQ 3b. What lessons and best practices from CTB private sector interventions can be applied to future efforts to control TB and efforts to build country capacity?

25. What are the lessons and best practices in these areas, what qualifies them as such, what scale are they currently at, and what future scale up is feasible?
26. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time

KEY INFORMANT INTERVIEW – JICA/JATA/UNOPS/Save the Children/Chemonics

Interviewees: TB focal persons at JICA, IOM, MSF, etc.

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

EQ 1a. To what extent did CTB contribute to the overall national results in reducing the TB burden in Myanmar?

1. What do NTP and CTB documentation/data tell regarding CTB's contribution to changes in national TB burden?
 - a. What assumptions underpin this estimation and how reasonable/valid is each?

EQ 1b. What are the most important TB gaps and issues that CTB focused on in its geographical areas, and how well did the selection of interventions and geographical areas align with need?

2. What was the rationale behind the selection of project geographies?
3. To what extent did CTB follow through with maintaining focus on issues and gaps, through its period of implementation?
 - a. Where it did not, what were the reasons?
4. In hindsight, how effective was prioritizing these needs and gaps (over others) in reducing the TB burden?
 - a. What else could have been done?

EQ 2. To what extent has CTB's technical assistance to the national TB program at different levels advanced TB prevention and control in Burma in line with CTB Global-level objectives, and CTB/Burma's project objectives, and promoted sustainability?

EQ 2b. To what extent were interventions, models and tools introduced by CTB adopted and scaled up with other resources (domestic or other donor)? What are examples of tools or approaches that were continued or scaled up?

5. What factors enabled or hindered the successful scale up (or lack thereof) of each?
 - a. Discuss this for each model/ tool that has been described and documented by CTB

EQ 2c. What efforts did CTB undertake to ensure broader uptake of its approaches? What evidence exists of uptake?

6. To what extent were the above successes and scale up due to the efforts of CTB?

EQ 3. What gaps and opportunities exist for further USAID investment in the private sector and community programming?

EQ 3a. Considering current programmatic coverage and findings from the TB Prevalence Survey of 2018-'19, how might a scaled-up approach to engaging the private sector and

community-based activities affect case finding efforts (namely in areas of high prevalence, high loss to follow up, or poor reporting)?

7. How many missed cases can be potentially found through scaled up efforts? What does available evidence and WHO experience in other contexts tell us?

EQ 3b. What lessons and best practices from CTB private sector interventions can be applied to future efforts to control TB and efforts to build country capacity?

8. What are the lessons and best practices in these areas, what qualifies them as such, what scale are they currently at, and what future scale up is feasible?
9. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time

KEY INFORMANT INTERVIEW – USAID/Burma

Interviewees: TB officer/AOR

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

EQ I: What were CTB's key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?

EQ Ia. To what extent did CTB contribute to the overall national results in reducing the TB burden in Myanmar?

1. What do NTP and CTB documentation/data tell regarding CTB's contribution to changes in national TB burden?
 - a. What assumptions underpin this estimation and how reasonable/valid is each?

EQ Ib. What are the most important TB gaps and issues that CTB focused on in its geographical areas, and how well did the selection of interventions and geographical areas align with need?

2. What was the rationale behind the selection of project geographies?
3. What methods did CTB use to identify the key gaps and issues by selected geographic area, and how adequate and relevant were they?
4. What were the issues and gaps identified? What considerations went into CTB's prioritization of identified issues?
5. To what extent did CTB follow through with maintaining these priorities, through its period of implementation?
 - a. Where it did not, what were the reasons?
6. In hindsight, how effective was prioritizing these needs and gaps (over others) in reducing the TB burden?
 - a. How effective was the LOE given to addressing each gap/issue?
 - b. What else could have been done?

EQ Id. What were the key contributions of CTB in the following technical areas?

EQ Idi. Increasing case notification and active case finding

7. What specific gaps in existed at the start of CTB in case notification, and how did CTB prioritize the gaps it addressed?
8. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
9. What contributions to increasing case finding can be considered key, and why?
10. What was CTB's contribution to the design of NTP's ACF strategies?

11. What ACF strategies did CTB directly support and how successful were they?

a. What challenges were faced and addressed and what lessons were learned?

EQ Idii. Addressing the MDR-TB crisis in Yangon

12. What specific gaps in existed at the start of CTB in addressing the MDR-TB crisis in Yangon, and how did CTB prioritize the gaps it addressed?

13. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?

14. What contributions to addressing this crisis can be considered key, and why?

EQ Idiii. Strengthening TB and MDR-TB diagnostic network

15. What specific gaps in existed at the start of CTB in the diagnostic network, and how did CTB prioritize the gaps it addressed?

16. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?

17. What contributions to strengthening the diagnostic network can be considered key, and why?

EQ Idiv. Assisting NTP in introducing active drug safety monitoring and management (aDSM) for MDR-TB cases

18. What specific gaps in existed at the start of CTB in aDSM and how did CTB prioritize the gaps it addressed?

19. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?

20. What contributions to strengthening aDSM can be considered key, and why?

EQ Idv. Engagement with private sector providers, drug sellers, and other non-public organizations in TB case finding

21. What specific gaps in existed at the start of CTB in engaging the private sector, and how did CTB prioritize the gaps it addressed?

22. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?

23. What contributions to strengthening the private sector engagement can be considered key, and why?

EQ 2. To what extent has CTB’s technical assistance to the national TB program at different levels advanced TB prevention and control in Burma in line with CTB Global-level objectives, and CTB/Burma’s project objectives, and promoted sustainability?

EQ 2a. What technical assistance and capacity-building support provided by CTB was most effective, and what activities were less effective?

24. How were TA needs assessed and TA sourced?
25. What criteria should be used for assessing the effectiveness of TA and CB?
26. What TA and CB were most effective and why?
27. Which TA and CB were not as effective and why?

EQ 2b. To what extent were interventions, models and tools introduced by CTB adopted and scaled up with other resources (domestic or other donor)? What are examples of tools or approaches that were continued or scaled up?

28. What are the tools, models and interventions introduced by CTB?
29. What parameters do you use, to assess the extent of their scale up? Based on these parameters, what is the extent of scale up of each?
30. What factors enabled or hindered the successful scale up (or lack thereof) of each?
31. In your estimation, in what ways did CTB approaches ensure sustainability of the gains made?
32. Which of the interventions of CTB for hard to reach areas have been taken up by NTP/partners? To what extent?
33. Which aspects of the MDR-TB response in Yangon have been taken up by NTP/Partners? To what extent?

EQ 2c. What efforts did CTB undertake to ensure broader uptake of its approaches? What evidence exists of uptake?

34. To what extent were the above successes and scale up due to the efforts of CTB?

EQ 3. What gaps and opportunities exist for further USAID investment in the private sector and community programming?

EQ 3b. What lessons and best practices from CTB private sector interventions can be applied to future efforts to control TB and efforts to build country capacity?

35. What are the lessons and best practices in these areas, what qualifies them as such, what scale are they currently at, and what future scale up is feasible?
36. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time

KEY INFORMANT INTERVIEW – Head of facility (District and township hospitals, MMA PPM and TB HIV hospitals, RHC)

Interviewee: Head of facility

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

Person interviewed _____ Position _____

Length of service in this position _____ years

Introductory questions

- I. What kinds of TB services are provided in your facility?
 - a. Diagnosis: Smear microscopy (Light/LED), Xpert, CXR, FNA, biopsy, cytology, Culture & DST
 - b. DOTS (DS and DR TB), inpatient services

(Use only relevant sections below)

EQ I: What were CTB’s key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?

EQ Ib. What are the most important TB gaps and issues that CTB focused on in its geographical areas, and how well did the selection of interventions and geographical areas align with need?

1. What methods did CTB use to identify the key gaps and issues in your facility, and how adequate and relevant were they?
2. What were the issues and gaps identified? What considerations went into CTB’s prioritization of identified issues?
3. To what extent did CTB follow through with maintaining these priorities, through its period of implementation?
 - a. Where it did not, what were the reasons?
4. In hindsight, how effective was prioritizing these needs and gaps (over others) in reducing the TB burden?
5. What more can be done, in your facility, to address TB related gaps?

EQ Id. What were the key contributions of CTB in the following technical areas?

EQ Idi. Increasing case notification and active case finding

6. What specific gaps in existed at the start of CTB in case notification, and how did CTB prioritize the gaps it addressed?
7. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?

8. What contributions to increasing case finding can be considered key, and why?
9. What ACF strategies did CTB directly support and how successful were they?
 - a. What challenges were faced and addressed and what lessons were learned?
 - b. What more can be done for active case finding in your facility?

EQ Idii. Addressing the MDR-TB crisis in Yangon

1. What specific gaps in existed at the start of CTB in addressing the MDR-TB crisis in Yangon, and how did CTB prioritize the gaps it addressed?
2. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
3. What contributions to addressing this crisis can be considered key, and why?

EQ Idiii. Strengthening TB and MDR-TB diagnostic network

4. What specific gaps in existed at the start of CTB in the diagnostic network, and how did CTB prioritize the gaps it addressed?
5. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
6. What contributions to strengthening the diagnostic network can be considered key, and why?

EQ Idiv. Assisting NTP in introducing active drug safety monitoring and management (aDSM) for MDR-TB cases

7. What specific gaps in existed at the start of CTB in aDSM and how did CTB prioritize the gaps it addressed?
8. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
9. What contributions to strengthening aDSM can be considered key, and why?

EQ Idv. Engagement with private sector providers, drug sellers, and other non-public organizations in TB case finding

10. What specific gaps in existed at the start of CTB in engaging the private sector, and how did CTB prioritize the gaps it addressed?
11. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?

12. What contributions to strengthening the private sector engagement can be considered key, and why?
13. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time

KEY INFORMANT INTERVIEW & OBSERVATION – NRL

Interviewees: Director/In charge

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

Position of person interviewed _____

Length of service in this position ----- years

EQ Id. What were the key contributions of CTB in the following technical areas?

EQ Idiii. Strengthening TB and MDR-TB diagnostic network

1. What specific gaps in existed at the start of CTB in your laboratory, and how did CTB prioritize which gaps to address?
2. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
3. What contributions to strengthening the diagnostic network can be considered key, and why?
4. What more needs to be done to improve the capabilities of your facility?

#	Data Points	Responses		
		Yes/No	Other	Reasons, perceptions, opinions
National Laboratory				
1	Is the number of staff appear adequate as per national guidelines?			
2.	Is laboratory facility equipped with the following functional items today?			
	• Light microscope			
	• LED microscope			
	• Xpert			
	• Supplies for Xpert			
	• Liquid Culture & DST			
	• Solid Culture & DST			
	• Supplies for culture &DST			
3	Observe the process of sputum sample handling:			
	• Proper sputum sample reception/collection			
	• Labeling of the sample container			

	<ul style="list-style-type: none"> • Proper processing of samples (Smear preparation, staining, fixing & reading) 			
	<ul style="list-style-type: none"> • Recording of result 			
	<ul style="list-style-type: none"> • Disposal of remaining sputum sample 			
4	Liquid culture			
	<ul style="list-style-type: none"> • Turnaround time acceptable 			Trend:
	<ul style="list-style-type: none"> • Contamination rate acceptable? 			Trend:
	<ul style="list-style-type: none"> • Negative pressure maintained at present? 			
5	Solid culture			
	<ul style="list-style-type: none"> • Turnaround time acceptable 			
	<ul style="list-style-type: none"> • Contamination rate acceptable? 			
	<ul style="list-style-type: none"> • Negative pressure maintained at present? 			
6	LPA			
	<ul style="list-style-type: none"> • Is the turn round time acceptable 			
	<ul style="list-style-type: none"> • Contamination rate acceptable? 			
	<ul style="list-style-type: none"> • Negative pressure maintained at present? 			
	<ul style="list-style-type: none"> • For SLDs – routinely performed? 			
7	Is there TB Lab register?			
	Does it have complete information?			
8	Is the most recent Lab report available? (Quarterly, annual...)			
9	Is your lab receiving fixed slides for AFB microscopy? If yes,			
	<ul style="list-style-type: none"> • Is the turnaround time acceptable? 			
	<ul style="list-style-type: none"> • What is the positivity rate 			
	<ul style="list-style-type: none"> • What is the wastage rate/ proportion of unreadable slides? 			
10	Is Xpert used in your facility for TB diagnosis? What is the yield, what is the turnaround time?			
	<ul style="list-style-type: none"> • Is the turnaround time acceptable? 			
	<ul style="list-style-type: none"> • What is the positivity rate 			
	<ul style="list-style-type: none"> • What is the utilization rate 			
11	Is there tissue crusher available for tissue sample preparation for Xpert?			
12	Availability and utilization of Personal protection equipment (N95)			
13	Samples sent to IRL for QC?			
14	Are you receiving sputum sample collected at other facility?			
	If yes, how is the sample transported			

	Is the turnaround time acceptable			Trend:
15	Are technical guidelines, SOPs, manuals available?			
16	Are you using national algorithm for TB diagnosis?			
17	Is performance data displayed on wall by graphs or tables?			
18	Is the result communicated to clinicians timely? Indicate How? See report			
19	Is there EQA in place? How often you do EQA?			
20	Is the most recent EQA report available? See the report? Check if regularly done?			
21	Is this laboratory accredited internationally?			
22	Are you conducting supportive supervision to facilities? How is the frequency & your feedback mechanism, see report			

5. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time

KEY INFORMANT INTERVIEW & OBSERVATION – Xpert lab

Interviewees: Director/In charge

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

Position of person interviewed _____

Length of service in this position _____ years

EQ Id. What were the key contributions of CTB in the following technical areas?

EQ Idiii. Strengthening TB and MDR-TB diagnostic network

1. What specific gaps in existed at the start of CTB in your laboratory, and how did CTB prioritize the gaps to address?
2. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
3. What contributions to strengthening the diagnostic network can be considered key, and why?
4. What more needs to be done to improve the capabilities of your facility?

#	Data Points	Responses		
		Yes/No	Other	Reasons, perceptions, opinions
Xpert lab				
1	Is the number of staff appear adequate as per national guidelines?			
	Number trained in Xpert tests adequate?			
	Number trained in Xpert maintenance adequate?			
2.	Is laboratory facility equipped with the following functional items today?			
	• Light microscope			
	• LED microscope			
	• Xpert			
	• Cartridges for Xpert			
	• Other supplies (Reagents, Sputum cups...)			
	• Power supply maintenance			

3	Is there a designated sputum collection area			
4	Is the area well ventilated			
5	Observe the process of sputum sample handling:			
	<ul style="list-style-type: none"> • Proper sputum sample reception/collection 			
	<ul style="list-style-type: none"> • Labeling of the sample container 			
	<ul style="list-style-type: none"> • Proper processing of samples (Smear preparation, staining, fixing & reading) 			
	<ul style="list-style-type: none"> • Recording of result 			
6	Is there TB Lab register?			
	Does it have complete information? Is there a column for referring entity?			
7	Is the most recent Lab report available? (Quarterly, annual...)			
8	Is your lab receiving fixed slides for AFB microscopy? If yes,			
	<ul style="list-style-type: none"> • Is the turnaround time acceptable? 			
	<ul style="list-style-type: none"> • What is the positivity rate 			
	<ul style="list-style-type: none"> • What is the wastage rate/ proportion of unreadable slides? 			
9	Is Xpert used in your facility for TB diagnosis?			
	<ul style="list-style-type: none"> • Is the turnaround time acceptable? 			
	<ul style="list-style-type: none"> • What is the positivity rate 			
	<ul style="list-style-type: none"> • What is the utilization rate 			
10	Is there tissue crusher available for tissue sample preparation for Xpert?			
11	Availability and utilization of Personal protection equipment (N95)			
12	Samples sent for QC?			
13	Are you receiving sputum sample collected at other facility?			
	If yes, how is the sample transported			
	Is the turnaround time acceptable			Trend:
14	Are there technical guidelines, SOPs, manuals available?			

15	Are you using national algorithm for TB diagnosis?			
16	Is performance data displayed on wall by graphs or tables?			
17	Is the result communicated to clinicians timely? Indicate How? See report			
18	Is there EQA in place? How often you do EQA?			
19	Is the most recent EQA report available? See the report? Check if regularly done?			
20	Are you conducting supportive supervision to facilities? How is the frequency & your feedback mechanism, see report			

5. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time

KEY INFORMANT INTERVIEW – TB clinic

Interviewees: In charge

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

Position of Person interviewed _____ Length of service in this position _____ years

EQ I: What were CTB's key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?

EQ Ib. What are the most important TB gaps and issues that CTB focused on in its geographical areas, and how well did the selection of interventions and geographical areas align with need?

1. What methods did CTB use to identify the key gaps and issues in your facility, and how adequate and relevant were they?
2. What were the issues and gaps identified? What considerations went into CTB's prioritization of identified issues?
3. To what extent did CTB follow through with maintaining these priorities, through its period of implementation?
 - a. Where it did not, what were the reasons?
4. In hindsight, how effective was prioritizing these needs and gaps (over others) in reducing the TB burden?
5. What more can be done, in your facility, to address TB related gaps?

EQ Id. What were the key contributions of CTB in the following technical areas?

EQ Idi. Increasing case notification and active case finding

1. What specific gaps in existed at the start of CTB in case notification in the facility, and how did CTB prioritize the gaps it addressed?
2. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
3. What contributions to increasing case finding can be considered key, and why?
4. What more can be done to improve case finding in this facility?
5. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time.

KEY INFORMANT INTERVIEW – MMA PPM Clinic and PPM General Practitioners

Interviewees: Director/In charge

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

Position of Person interviewed _____

Length of service in this position _____ years

EQ I: What were CTB's key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?

EQ Id. What were the key contributions of CTB in the following technical areas?

EQ Idii. Addressing the MDR-TB crisis in Yangon

1. What specific gaps in existed at the start of CTB in addressing the MDR-TB crisis in Yangon, and how did CTB prioritize the gaps it addressed?
2. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
3. What contributions to addressing this crisis can be considered key, and why?

EQ Idiii. Strengthening TB and MDR-TB diagnostic network

4. What specific gaps in existed at the start of CTB in the diagnostic network, and how did CTB prioritize the gaps it addressed?
5. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
6. What contributions to strengthening the diagnostic network can be considered key, and why?

EQ Idiv. Assisting NTP in introducing active drug safety monitoring and management (aDSM) for MDR-TB cases

7. What specific gaps in existed at the start of CTB in aDSM and how did CTB prioritize the gaps it addressed?
8. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
9. What contributions to strengthening aDSM can be considered key, and why?

EQ 1dv. Engagement with private sector providers, drug sellers, and other non-public organizations in TB case finding

10. What specific gaps in existed at the start of CTB in engaging the private sector, and how did CTB prioritize the gaps it addressed?
11. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
-What contributions to strengthening the private sector engagement can be considered key, and why?
12. Which aspects of the MDR-TB response in Yangon have been taken up by NTP/Partners?
To what extent?
13. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time

KEY INFORMANT INTERVIEW – Drug sellers

Interviewees: Drug seller

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

EQ1: What were CTB’s key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?

EQ 1d. What were the key contributions of CTB in the following technical areas?

EQ 1dv. Engagement with private sector providers, drug sellers, and other non-public organizations in TB case finding

1. How long have you been in this profession?
2. What kinds of health-related advice or treatment do people generally seek from you? How do you respond to such requests?
3. In what specific ways did CTB engage drug sellers in TB diagnosis and treatment?
4. What are the challenges you face in carrying out these tasks? How have you overcome them? To what extent did CTB help you in overcoming them?
5. In what ways has your involvement in TB diagnosis and treatment helped improve access to TB diagnosis and care in your community?

EQ 3. What gaps and opportunities exist for further USAID investment in the private sector and community programming?

6. What more can be done to improve the finding of cases from your community?
7. How better can drug sellers be engaged?
8. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for his/her/their time

INTERVIEW – PATIENTS/GUARDIAN OR PARENT

Facility/Community: _____ Facility level: _____

Patients Age: _____

Sex: Male _____ Female _____

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

1. How far from here is the facility where you receive(d) treatment?
 - € More than 10 km
 - € 5 to 10 km
 - € Less than 5 km

2. How long did/does it take for you to get there?
 - € More than 2 hours
 - € 1 to 2 hours
 - € Less than an hour

3. What was the major complaint/symptom you (or in your ward) went to the hospital for?
 - € Cough
 - € I was told I have TB / Referred by another facility or HEW
 - € Other symptoms

4. How long did you (or your ward) have the symptoms before you (or your ward) began treatment?

5. Where did you first seek treatment or care (for yourself or for your ward)?

6. What happened at that place? What treatment did you (or your ward) receive, and how did you (or your ward) feel after that?

7. Where did you (or you and your ward) go next? How long after the previous place did you (or you and your ward) go to this place?

8. What happened at that place? What treatment did you (or your ward) receive, and how did you (or your ward) feel after that?

9. How many other places did you (and your ward) go? Please describe

10. Who first suspected/considered that you (or you ward) might have TB?
 - € In this facility (OPD/Triage/other)
 - € Came here with referral from volunteer/other facility
 - € Other.....

11. How long did it take, after your (or your ward's) symptoms began, for you (or your ward) to be diagnosed with TB?
 - € Less than a month
 - € 1-2 months

€ More than 2 months

12. Could you tell us about the experience you (or you and your ward) went through, from the time your (or your ward's) symptoms began, until you (or your ward) were diagnosed with TB? Probe for:

Number of places visited:

Type of places of visited:

Cost incurred:

13. How many days after you (or your ward) got the diagnosis, did you (or your ward) start the treatment? If delayed, ask for reasons for delay

Patient Satisfaction/Quality of Care for TB

14. What is your perception of services in the facility where you (or your ward) were treated?

Probe for:

Opening hours of facility

Waiting time

Staff attitudes

Privacy and comfort

Allowing you to ask questions/concerns

Addressing concerns

Providing all relevant information about your (or your ward's) illness

Cleanliness of premises

15. Could you describe for us the advice you (or you and your ward) received regarding your (or your ward's) illness? Probe for: Advise on importance of continuing TB treatment/ Advise on cough hygiene/ Advise on bringing family members for screening

16. Please tell us about your experience in receiving TB treatment for yourself (or for your ward).

Probe for:

For current patients: Which month of treatment are you (or your ward) in?

How is/was the drug administered to you (or your ward) in the first two months of treatment –

Swallow medicine every day at health facility (DOT), took medicines with the help of treatment supporter, collect drug daily and swallow it yourself (or give your ward) at home, collect drug for a few days or weeks and return for refill.

17. When and where did you first learn about TB? Probe for: work of volunteer in his/her community

Perspectives on improving access

18. To what extent do you think people in your community know about TB and how and where to get tested and treated for it?

12.1 . What can be done to further improve the awareness of people

19. What do you think can be done to improve the awareness of people on TB in your community?

20. What can you recommend on how to get people with symptoms of TB get tested early enough?

Probe for – awareness, mobilization, location of facilities/distance, package of services offered, lab services, staffing, DOT and treatment support

21. What do you think you can do for others with TB, to get proper care early enough?

Thank the patient/guardian or parent for his/her time.

FOCUS GROUP DISCUSSION: Staff and Volunteers

Region/state: _____ Township: _____

Total number of participants _____ Male: _____ Female: _____

Interviewer: _____ Designation: _____

Interview date: _____ Time: _____

EQ I: What were CTB's key contributions to TB control in Myanmar and to what extent has CTB/Burma addressed key TB issues and gaps?

EQ Ib. What are the most important TB gaps and issues that CTB focused on in its geographical areas, and how well did the selection of interventions and geographical areas align with need?

1. What methods did CTB use to identify the key gaps and issues in your area, and how adequate and relevant were they?
2. What were the issues and gaps identified? What considerations went into CTB's prioritization of identified issues?
3. To what extent did CTB follow through with maintaining these priorities, through its period of implementation?
 - a. Where it did not, what were the reasons?
4. In hindsight, how effective was prioritizing these needs and gaps (over others) in reducing the TB burden?
 - a. How effective was the LOE given to addressing each gap/issue?
 - b. What else could have been done?

EQ Id. What were the key contributions of CTB in the following technical areas:

EQ Idi. Improving case notification

5. What specific gaps in existed at the start of CTB in case notification in your area, and how did CTB prioritize the gaps it addressed?
6. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
7. What contributions to increasing case finding can be considered key, and why?
8. What was CTB's contribution to the design of NTP's ACF strategies?
9. What ACF strategies did CTB directly support and how successful were they?

- a. What challenges were faced and addressed and what lessons were learned?

EQ 1dv. Engagement with private sector providers, drug sellers, and other non-public organizations in TB case finding

10. What specific gaps in existed at the start of CTB in engaging the private sector, and how did CTB prioritize the gaps it addressed?
11. To what extent were CTB activities responsive to these gaps and how well were they implemented – success, challenges, lessons?
12. What contributions to strengthening the private sector engagement can be considered key, and why?

EQ 3. What gaps and opportunities exist for further USAID investment in the private sector and community programming?

EQ 3b. What lessons and best practices from CTB private sector interventions can be applied to future efforts to control TB and efforts to build country capacity?

13. What are the lessons and best practices in these areas, what qualifies them as such, what scale are they currently at, and what future scale up is feasible?
14. We have come to the end of this interview. Is there anything else you would like to tell us at this time?

Thank the participant(s) for their time

ANNEX V: INFORMATION SOURCES

RESPONDENTS FOR KEY INFORMANT INTERVIEWS

1. NTP Officials – 2
2. USAID Burma – 2
3. MDR-TB Advisor, seconded to NTP – 1
4. CTB Myanmar staff – 2
5. Subgrantee national staff – all six subgrantees
6. Other partners in TB control: JICA, JATA, FDA, GF Principal Recipients, Chemonics Int'l
7. WHO TB officer
8. Regional TB officers – Sagaing, Yangon, Bago, Kayah
9. TB team leaders, region/state
10. District hospital – heads of facility
11. Township TB officers/ TB clinic incharge
12. Lab incharge – two NRLs, Xpert labs in districts
13. Subgrantee staff in the field
14. Outreach workers in Yangon -2
15. Drug sellers in Bago – 4
16. BHS staff in rural health centers

PARTICIPANTS FOR FOCUS GROUP DISCUSSIONS

1. FGD in Mawlaik – 2 men, 7 women
2. FGD in Demosoe – 8 women

LIST OF TB PATIENTS INTERVIEWED

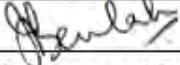
#	Age (in years)	Sex	Location
1	68	M	
2	20	F	
3	43	F	
4	43	F	
5	37	F	
6	37	F	
7	60	F	
8	59	F	
9	25	M	
10	45	F	
11	40	M	
12	14	M	
13	7	M	
14	62	F	
15	34	F	
16	39	F	

ANNEX VI: DISCLOSURES OF CONFLICT OF INTEREST

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Beulah Jayakumar
Title	Team Leader
Organization	Social Impact, Inc.
Evaluation Position?	<input checked="" type="checkbox"/> Team Leader <input type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	USAID Burma AID-486-I-14-00001
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Endline Evaluation of Challenge TB Burma
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes answered above, I disclose the following facts: <i>Real or potential conflicts of interest may include, but are not limited to:</i> <ol style="list-style-type: none"> 1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project. 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated. 5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated. 6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation. 	

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	February 15, 2020


Name	Tushar Kanti RAY
Title	Consultant
Organization	
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	USAID Burma AID-486-I-14-00001
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Endline Evaluation of Challenge TB Burma
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes answered above, I disclose the following facts: <i>Real or potential conflicts of interest may include, but are not limited to:</i> <ol style="list-style-type: none"> 1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project. 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated. 5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated. 6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation. 	

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	15-02-2020

Name	Soe Myat Naing
Title	Mid-Level Evaluation Specialist`
Organization	
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	USAID Burma AID-486-I-14-00001
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Endline Evaluation of Challenge TB Burma
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes answered above, I disclose the following facts: <i>Real or potential conflicts of interest may include, but are not limited to:</i> <ol style="list-style-type: none"> 1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project. 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated. 5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated. 6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation. 	

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Signature	
Date	February 16, 2020

ANNEX VII: EVALUATION TEAM MEMBER PROFILES AND CVS

Dr. Beulah Jayakumar, Team Leader. Dr. Jayakumar is a medical doctor and evaluation specialist with over 19 years of experience monitoring and evaluation of public health programs in Ethiopia, Afghanistan, South Sudan, and Bangladesh. A highly experienced Team Leader, she has led evaluations of USAID-funded TB and health-related programming and provided technical expertise to evaluations, surveys, and assessments since 2009 as an independent consultant. Recently, Dr. Jayakumar served as Team Leader for the final performance evaluation of the USAID/Ethiopia Challenge TB program, where she led the evaluation design, oversaw fieldwork and data collection efforts, and authored the final report. Earlier in her career, Dr. Jayakumar designed multiple USAID-funded Reproductive and Child Health and TB projects in India as World Vision India's Public Health Coordinator and implemented three such programs during several years as a program manager. Dr. Jayakumar holds a Diplomate of National Board in Family Medicine from the National Board of Examinations. She is fluent in English and Hindi.

Mr. Tushar Kanti Ray, Senior Tuberculosis Specialist. Mr. Ray is a Public Health and Social Development expert with over 30 years of experience in the field and more than 17 years of experience in TB project planning and management. He has worked as the USAID Country Director for TBCARE and has worked as the Country Technical advisor to STOPTB Partnership through UNOPS. As the Senior TB Specialist, he will provide remote expertise to inform and ensure TB-specific accuracy and specificity throughout the evaluation design. He has an M.A. in Sociology and a post graduate diploma in Rural Development.

Mr. Soe Myat Naing, Mid-level Evaluation Specialist. Mr. Soe brings ten years of experience in international development conducting and supporting evaluations and assessments in Burma. An experienced evaluator, Mr. Naing has expertise in semi-structured evaluation methods, qualitative data collection through FGDs and KIIs, and data analysis with SPSS software. He spent six years in Burma supporting TB and health-related programming, as an M&E Assistant for the IOM's TB Reach Project and as a M&E Officer with Medical Emergency Relief International (Merlin), where he supported the design and review of projects, designed questionnaires and data collection tools, verified data quality, and conducted other M&E support activities. Most recently, Mr. Naing was a Program Manager at Oxfam Burma, where he worked to embed gender analysis and learning in program activities. He holds a B.A. in Philosophy from the University of Patheingyi and speaks fluent Burmese and advanced English.

U.S. Agency for International Development

Ronald Reagan Building
Washington, DC 20052