Control and Prevention-Tuberculosis Summary Narrative

Burma, China, and Thailand

Family Health International (FHI 360)

FY2014 Annual Performance Report
(October 1, 2013 – September 30, 2014)

USAID
FROM THE AMERICAN PEOPLE

CAP-TB
CONTROL AND PREVENTION
OF TUBERCULOSIS

Table of Contents

Acronyms

APRO	Asia Pacific Regional Office
BTB	Bureau of Tuberculosis (Thailand)
CAP-TB	Control and Prevention of Tuberculosis (Greater Mekong Sub-region Multidrug Resistant Tuberculosis Prevention and Management Project)
DQA	Data Quality Assessment
DOT	Directly Observed Therapy
DST	Drug-susceptibility testing
FHI 360	Family Health International
FY	Fiscal year
GFATM	The Global Fund to Fight AIDS, Tuberculosis and Malaria
GMS	Greater Mekong Sub-region
GP	General Practitioner
IA	Implementing Agency
IEC	Information, education and communication
IR	Intermediate Result
IUATLD	International Union Against Tuberculosis and Lung Disease
MBCA	Myanmar Business Coalition on AIDS
MDR-TB	Multidrug resistant tuberculosis
MHAA	Myanmar Health Assistants Association
MMA	Myanmar Medical Association
MOU	Memorandum of Understanding
NCCM	National Catholic Commission on Migration
NTP	National TB Control Program
OCAT	Organizational Capacity Assessment Tool
PHO	Provincial Health Office
PGK	Pyi Gyi Khin
PMU	Program Management Unit
RDMA	Regional Development Mission Asia (USAID)
SLD	Second line drugs
TA	Technical assistance
TB	Tuberculosis
TCC	TB Clinical Center
USAID	United States Agency for International Development
WHO	World Health Organization
XDR	Extensively drug resistant
YATA	Yunnan Anti-Tuberculosis Association

Narrative I: Executive Summary

Control and Prevention-Tuberculosis (CAP-TB) is USAID RDMA's project on multi-drug resistant tuberculosis (MDR-TB) in the Greater Mekong Sub-region of Burma, Thailand, and Yunnan, China. The project's overall aim is to develop a model for cost-effective MDR-TB control that can be sustainably scaled up throughout Burma, China, and Thailand with potential expansion in the Greater Mekong.

During FY14, the CAP-TB project's patient-centered, community-driven model for MDR-TB elimination continued to be successfully implemented in each of the focus countries. Early analysis on the project's performance has shown positive results on impact for important TB and MDR-TB outcomes.

- In Burma, among 99 of the 313 patients who were initiated on MDR-TB treatment from April 2013 with CAP-TB support, there is a 100% culture conversion rate at 6 months, an interim endpoint that is a surrogate for final treatment outcome. MDR-TB patients supported by CAP-TB also have a reported mortality rate of 3.8%, which is very low for MDR-TB cohorts and will be followed closely until completion of the 20-24 month course. These results (***CAP-TB Indicators 19 and 20***) are pending full data from the Myanmar National Tuberculosis Program, thus they are still preliminary. However, this interim analysis indicates that the CAP-TB strategy for MDR-TB patient support is successful in keeping patients on treatment and consistently taking medication, which is a positive predictor for the final analysis looking at treatment completion and cure.
- In China, analysis of Kunming No. 3 Hospital data shows dramatic improvement in patients' TB knowledge as a result of the patient-centered counseling developed by CAP-TB (***Figure 2***). Patient follow-up visits at No. 3 Hospital's TB clinic have also significantly increased following the project's initiation (***Figure 1***), suggesting a change of behavior through increased patient-doctor communication and strategic counseling by nurses and MDR-TB peers. In addition, data from the public health sector (Yunnan Center for Disease Control) indicate that treatment default among MDR-TB patients has significantly decreased since initiation of CAP-TB, from 47.4% to 4.9%. These early data indicate that the CAP-TB strategy is impacting TB and MDR-TB control: through emphasizing patient-centered priorities, strengthening communication between patients and the TB network, and empowering patients to take ownership for achieving cure.
- In Thailand, the monthly TB team meeting in Rayong Province has been successfully established as a routine function of the TB network, ensuring sustainability beyond the project. QStream, the online mobile application for teaching and increasing knowledge retention, was also successfully piloted in Rayong during FY14. Analysis of a "FY14 Final TB Quiz" given to the Rayong team shows a positive correlation between QStream participation and increased TB knowledge, suggesting that this innovative method for teaching has potential to change the paradigm for training and medical education in Thailand (***Figure 3***).

Scale-up of the CAP-TB model has also been initiated in each of the project's countries. In China, the CAP-TB Kunming team has started implementation in Yunnan's rural Zhao Tong Prefecture, which has the highest TB prevalence in the province. TB outbreaks in Zhao Tong schools over the past year have highlighted the urgency of reversing the epidemic by increasing case detection and improving treatment outcomes. In Burma, the FHI 360 team has received funding from the Three Millennium Development Goals Fund to expand the CAP-TB "living support package" to an additional 1300 patients in Rangoon Region's high-prevalence townships. And in Thailand, the Ministry of Public Health's Department of Disease Control has requested technical assistance from CAP-TB to address the years-long MDR-TB outbreak in Kanchanaburi Province. This outbreak has received international and national attention, yet interventions have not reversed the increasing incidence of primary MDR-TB.

The expansion of CAP-TB implementation in each country is a critical junction for the project, and it requires identification of the highest impact, most cost-effective elements with the best potential for sustainability. In the coming year, CAP-TB's performance in addressing key TB/MDR-TB outcomes will continue to be monitored and analyzed. Key elements that should be prioritized for sustainability will be packaged for scale-up by the National TB Program, partners, and collaborators in each country, ensuring that the project's main initiatives will be sustained beyond the end of CAP-TB funding, in October 2016.

Narrative II: Program performance/achievements and key challenges

1. **MDR-TB Prevention (IR1):** The best prevention for MDR-TB is the successful detection and treatment of drug-susceptible TB. Primary prevention through early diagnosis of MDR-TB, prompt initiation of treatment, and effective infection control are priorities in each CAP-TB country. Early diagnosis by leveraging GeneXpert molecular technology is critical; in Burma, the diagnosis rate for the CAP-TB GeneXpert machine at the Lower Myanmar TB Center is high, with a test positivity rate of 23%, exceeding the estimated positivity rate of 18%. Minimizing patients' infectivity by initiating treatment and educating patients and families to decrease transmission is critical to prevent ongoing infection of contacts—this is particularly important in closed settings such as prisons and schools, as well as in crowded urban areas of Rangoon. Secondary prevention of MDR-TB by ensuring TB treatment compliance, decreasing treatment default, missed doses, and failure are also important. These elements lay the foundation for CAP-TB's community-driven strategy, which focuses on training and mobilization of a new cadre of workers with capacity to support patients through their treatment. In each country, there is a critical shortage of directly observed therapy (DOT) providers: it is therefore imperative to define a "stratified DOT approach" whereby all patients have some measure of accountability for medication compliance, whether from a health care worker, a community supporter, or family.

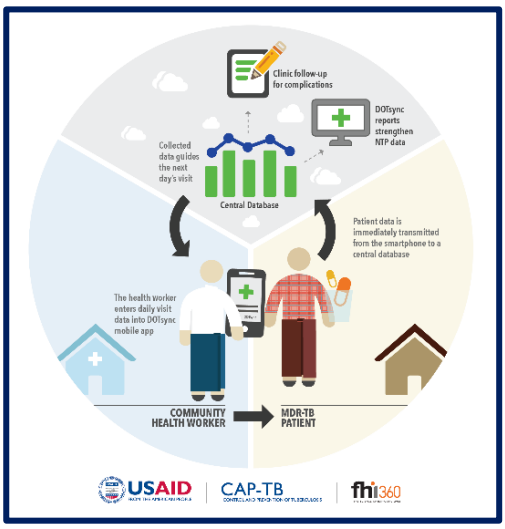
   Relevant indicators (Annex III and CAP-TB Data Collection Sheet):
   - MDR-TB cases diagnosed: CAP-TB #9 and PMP #7
   - Infection Control: CAP-TB #6 and PMP #9 (CAP-TB #2).
   - Ensuring DOT success for TB to prevent MDR-TB: CAP-TB #17 and PMP #9 (CAP-TB #2), CAP-TB #3 and #13

2. **MDR-TB Management (IR2):** MDR-TB management is expensive, highly toxic to patients, and lengthy—lasting 20-24 months. All of these factors challenge treatment completion and cure. The CAP-TB patient-centered, community-driven approach forms the foundation for the project's strategy to ensure treatment success. In each country, patient support is customized to the local needs and the existing health system capacity. The goal is to identify the most critical gaps that challenge continuity of care, medication compliance, timely identification of complications, and overall psychosocial wellness of the patients. *If MDR-TB patients supported by the project have better treatment outcomes than those supported by usual care, which elements of the CAP-TB package are the most critical, and just as importantly, can these be cost-effectively sustained by the health system*? Data from FY14 suggest that the CAP-TB strategy is impacting key TB and MDR-TB outcomes, thus it will be critical to continue monitoring and analyzing the project's data in the coming year to answer these questions.

   Patient treatment support:

   1. **In Burma**: CAP-TB's comprehensive living support package comprises monthly nutrition; monthly home visits for infection control, side effect evaluation, and psychosocial support; and money for transportation to clinic follow-up visits. Thus far, the Myanmar National TB Program has 6 month culture data for 99 of the 313 patients who initiated second line drugs (SLD) in April 2013 and have been supported by the project throughout their treatment: the 100% culture conversion rate at 6 months is very strong performance, and we await 6 month culture data for the additional patients in the CAP-TB cohort. Mortality has also been very low in the CAP-TB cohort (3.8%), and these data will continue to be followed in the coming year.

CAP-TB Burma also made great strides in the realm of innovation and technology by developing *DOTsync*, a mobile application for training and monitoring community DOT for MDR-TB. Using this mobile app may give the NTP the capacity to quickly mobilize a large cadre of community supporters to provide DOT for the many thousands of MDR-TB patients who will be diagnosed and initiated on treatment in the next three years. One of the most strategic elements of *DOTsync* is the fact that it is placed in the hands of community supporters, as opposed to being utilized by existing health care workers. This increases the potential for the mobile app to build capacity and expand the human resources for MDR-TB DOT, which is in critical shortage. *DOTsync* was also developed in close collaboration with the NTP, and key MDR-TB treatment outcomes data as well as data on the CAP-TB living support package (infection control, side effects, clinic follow-up) are included in the mobile app. All data are uploaded to a cloud-based system and can be downloaded for real-time analysis, which has potential to improve and strengthen the NTP's data management system for MDR-TB. *DOTsync* was developed with CommCare's open-source Dimagi software.



2. **<u>In China</u>**: Patient support groups, MDR-TB peer counselors, and social media TB networks are major project initiatives for MDR-TB management that have shown early success.

   a. Of note are early results from Kunming No. 3 Hospital, a new partner for CAP-TB in FY14: review of the hospital's TB clinic visits before and after CAP-TB initiation shows a significant increase in follow-up clinic visits (**Figure 1**), suggesting behavior change for patients and an improvement in continuity of care.

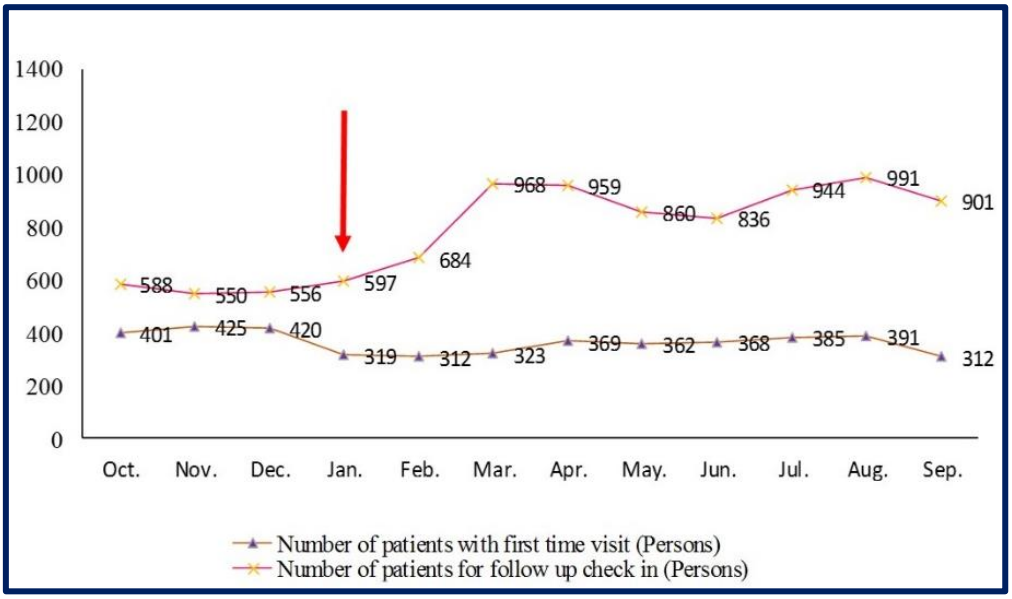


Figure 1. After CAP-TB engagement (arrow), the number of TB patients returning for follow-up visits at No. 3 Hospital nearly doubled when compared to pre-CAP-TB.

   a. Assessment of patients' TB knowledge at No. 3 Hospital also shows a marked improvement following nurse/MDR-TB peer counseling, as measured by pre-test and post-test questions administered during inpatient hospital stays (**Figure 2, below**).

b. Before the project's initiation, the rate of MDR-TB default in Yunnan Province was 47.4%, mostly due to intolerance of SLD and their side effects. Since initiation of the project's patient-centered support, the default rate has decreased to 4.9%, a marked improvement.

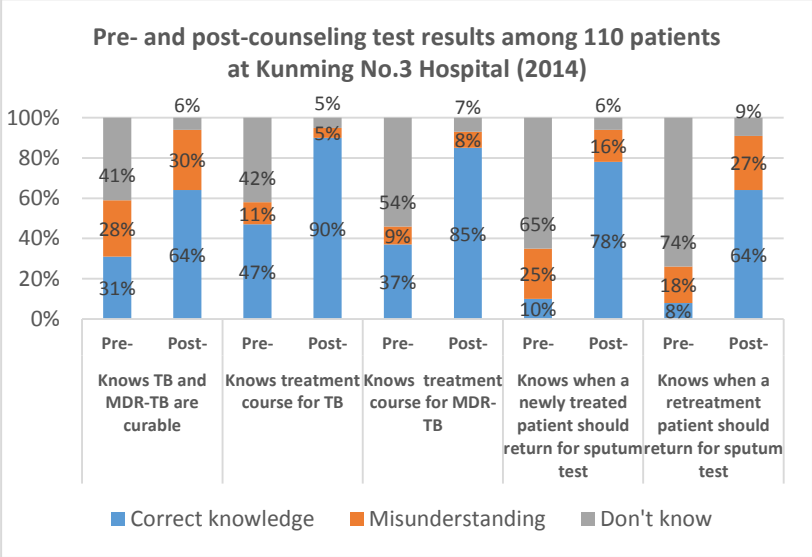


Figure 2. No. 3 Hospital: intensive, strategic counseling increased TB knowledge among TB inpatients.

Training to improve MDR-TB clinical and programmatic management: In Rayong, Thailand, the TB team has been strengthened through its partnership with CAP-TB, developing best practice tools and templates for patient tracking and laboratory follow-up. Monthly meetings of the Rayong TB team have established routine monitoring of MDR-TB cases to ensure systematic cohort review. One of the primary goals for these monthly reviews is to form a "safety net" by which the TB team can quickly identify worrisome trends in patient outcomes as well as systems issues that can be addressed to improve the TB network. As an example, during Q3 and Q4, the Rayong TB team identified an outbreak of MDR-TB in Rayong Central Prison, notifying Thailand's Bureau of Tuberculosis, and mapping a strategy to address the outbreak.

The CAP-TB FHI 360 team also developed a training curriculum for the monthly TB team meetings, covering key clinical concepts for TB, MDR-TB, and TB/HIV. Solidification of concepts was enforced using QStream, an innovative online and mobile application that sends out intermittent quiz questions by email or by the QStream mobile app. Analysis of the Rayong team's TB knowledge was done through a "***FY14 Final TB Quiz***": TB knowledge (Final Score) was positively correlated with participation in the monthly case conference and QStream quizzes that were administered throughout the year (R = 0.59, Figure 3). Although the sample size is small, the results suggest that this method of teaching is effective for improving and retaining TB knowledge. Given the high turnover among TB staff in Thailand, it is important to identify an efficient and effective method to certify and maintain basic TB knowledge among new and old staff. The CAP-TB Rayong method for teaching through case conferences and QStream may be one solution. The QStream methodology will also be used in FY15 to complement TB Nurse's Curriculum that will be conducted by the Anti-TB Association of Thailand in partnership with the Bureau of Tuberculosis. This will enable further analysis of QStream's effectiveness in the Thai context.

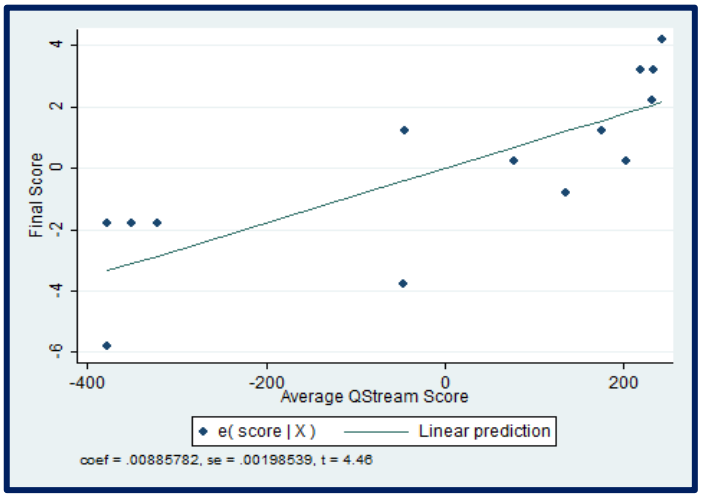


Figure 3. TB knowledge and retention (Final Score) is associated with QStream participation (Average Score)

Relevant indicators (Annex III and CAP-TB Data Collection Sheet):

1. Living Support Packages for MDR-TB patients: CAP-TB #17
2. Training to improve MDR-TB expertise: PMP #17 (CAP-TB #14); PMP #18 (CAP-TB #15); CAP-TB #16

3. **Strategic Information (IR3):** CAP-TB's goals for strategic information are to maximize the comprehension, distribution, and utilization of data. All too often, data are collected and reported, but not distributed to disseminate knowledge and not utilized in decisions affecting health policy. Building capacity to interpret data requires a paradigm shift in how data and information are handled. In addition to ensuring the quality of data, we must go one step further to build capacity for understanding the implications of data trends and results, and even beyond to use the data to inform health policy.

   To do this, the CAP-TB project has focused on monthly data reviews in Rayong and has initiated quarterly data workshops in Burma for all implementing agencies during Quarter 4 of FY14. These quarterly workshops will continue through FY15 and will also be conducted with the CAP-TB China team and its implementing partners.

   CAP-TB also complements its strategic information approach with an integrated social media platform centered on Facebook and Twitter. The social media sites disseminate resources, news, and latest developments in TB/MDR-TB, updates that are targeted at healthcare and TB stakeholders in the region and throughout the world. The CAP-TB social media platform serves as the gateway to the project's MDR-TB Knowledge Gateway--as well as to other resources, with the goal of capturing the attention of the project's audience and directing them to new publications and updates on MDR-TB.

   - In the coming year, CAP-TB will also pursue partnerships with the private sector to leverage additional resources and networks to disseminate the CAP-TB model throughout Asia. Janssen Asia Pacific has initiated a partnership with the CAP-TB regional team to build educational content for their Specialist Training Alliance for Resistant Tuberculosis (START), with a specific interest on China. The CAP-TB team will provide technical assistance to generate and edit educational content for START, ensuring relevance and technical accuracy for distribution to physicians and health care workers in Asia. Collaborating with the START team to develop educational content may also complement CAP-TB's strategy in providing a gateway to MDR-TB knowledge and updates, thus being a mutually beneficial partnership.

     Clearstate Singapore, an Economist Group business unit that specializes in providing healthcare market research and consulting services in Asia, has also initiated collaboration with the CAP-TB regional team to develop and disseminate resources for MDR-TB patient advocacy. Clearstate Singapore studies industries within healthcare, ranging from healthcare provision to medical technology to pharmaceuticals, in the Asia-Pacific region as well as other global emerging markets. They "connect with government regulators, key researchers and academicians, trade players, distributors and associations, as well as healthcare providers and clinicians to understand and develop market trends and insights." Collaborating with Clearstate Singapore may also leverage their connections in the Asia Pacific, enhancing CAP-TB's potential to impact the region.

   Research: Professor Richard Coker and his team from the London School of Hygiene and Tropical Medicine are partnering with the CAP-TB team to conduct research in China and Burma.

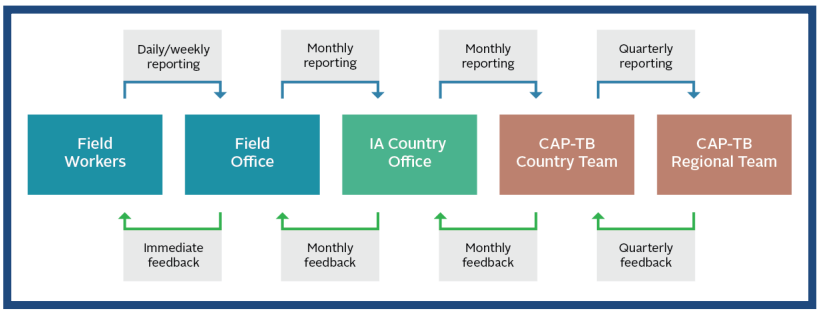
   In China, a comprehensive economic analysis on TB patient data from Yunnan Province from 2005-2013 is currently underway. Results from this comprehensive, quantitative analysis from 9 years of Yunnan data will be available during Quarter 1 of FY15. Qualitative research on tuberculosis, stigma, and poverty in Yunnan is also in progress. In-depth interviews and focus group discussions have been conducted and will be completed during Quarters 1 and 2 of FY15. Patient interviews included

questions on beliefs and knowledge of TB; experience of TB diagnosis, treatment seeking and treatment; types of assistance and support received (economic, social, emotional, advice); disclosure of TB status; impact on household, employment, family and social relationships – stigma, exclusion, support; economic impact of TB; and expectations for the future and confidence in completing treatment. TB-related stigma, discrimination, and barriers involving gender, age, language, and economic, institutional, and occupational variables were key themes during the interviews. How patients and physicians experienced TB varied by family support, educational background, and their economic situation. Additional interviews and focus group discussions will be conducted to understand better how gender and age impact TB-related stigma.

In Burma, the case-control study analyzing risk factors for MDR-TB will begin implementation in Quarter 1 of FY15. The CAP-TB team has the full support and collaboration from the Myanmar National TB Program, which will facilitate enrollment, data collection, reporting, and analysis. The NTP and the Ministry of Health Ethics Review Board have also expressed interest in the qualitative study to look at barriers in accessing care (similar to what is described above for Yunnan Province), however, local ethics approval is pending. Implementation will begin immediately following local ethics approval.

Strategic Information indicators (Annex III): PMP #20 (CAP-TB #21); PMP #21 (CAP-TB #22)

4. **Monitoring and Evaluation (M&E):** CAP-TB has used a regional support model for monitoring and evaluation (right). Data originate from the field, generated by outreach and community workers who conduct the activities. The IAs' field offices or district/community-level offices collect these field-level data and submit them to their organizations' central offices. The IAs then submit data to the CAP-TB country offices, where the project's M&E Officer or Program Officers then check the data quality. The CAP-TB country offices monitor the data on a regular basis, reporting back to the IAs at least once monthly. Quarterly reports are submitted from the CAP-TB country offices to the CAP-TB regional team for review and input. The FHI 360 APRO team in Bangkok supports the project at the regional level, providing additional input on data collection, validation, and quality assurance. Twice yearly, the project submits data and progress reports to USAID RDMA. Training of the IAs is done through direct visits by the CAP-TB teams, at which time the project's data collection forms are reviewed for completeness and accuracy.



M&E indicators (Annex III): PMP #20 (CAP-TB #21)

5. **Enabling environment for MDR-TB control and prevention (IR4):** Creating an "enabling environment" to support MDR-TB control and prevention is critical for strengthening the TB health system. CAP-TB's strategy is to strengthen key linkages within the system, which is essential for long-term sustainability and scale-up of the project's model, as discussed above in the **Executive Summary** (page 2). Developing an enabling environment that promotes MDR-TB control and prevention also includes engagement of the private sector, which is described above in **Strategic Information** (page 6), for the partnerships with Janssen Asia Pacific, the Specialist Training Alliance for Resistant Tuberculosis, and Clearstate Singapore.

Private sector indicators (Annex III): PMP #24 (CAP-TB #26)

***Table 1-1 – 1-7: Program level monitoring results*:** *Please reference "CAP-TB Data Collection" Excel sheet and Annex III, pp. 9-18 (below)*

Annex I: Method to estimate total number of individuals reached and adjustment factor to calculate for potential overlap among different partners and other USG

No estimations were made in Burma or Thailand data; all data reported represent actual numbers recorded and reported.

In China, estimations were made for large-group activities reported for PMP #9 (CAP-TB #2). Estimations were performed as follows for large community events (e.g., WTBD): all volunteers were instructed to keep count of the number of participants with whom they interacted and conducted surveys. At the end of the event, the number of volunteers was multiplied by the average number of participants. For community events, an average head count was conducted at the beginning, middle, and end of the event, and the average of the three counts was used to give the total participants in the event.

The project regularly assessed potential overlap with other donors and other USG-funded activities, thus there is no adjustment factor for overlap since none occurred to our knowledge. Project programming in all three countries was done in close alignment with the government TB control programs, other donors, and partners in order to ensure that the strategy and implementation plans were coordinated and complementary.

Annex II: Processes carried out to ensure data quality: *Please reference Monitoring and Evaluation Narrative II, Section D as well as each country's narrative report.*

Annex III: Summary of accomplishments against the work plan and targets: *Please see following pages **9-18** for country results and progress against work-plan and targets.*

Summary of accomplishments against the work plan and targets.

Burma						
PMP	**CAP-TB**	**Indicator description**	**FY 14 Target**	**Achievement**		**Explanation**
				#	**%**	
8	1	Number of TB patients newly registered for DOTs through USAID sites	278	240	86%	MBCA achieved 89% (177 out of 200) as they worked in close collaboration with NTP on enrollment. As of June, latest activity month of MBCA, **39 TB patients received DOT** by Outreach Workers of MBCA. The sub-contract between MBCA and FHI 360 ended in August. MMA achieved 81% (63 out of 78) as case selection to conduct DOT for MDR-TB patients was highly regulated, done jointly with Township Medical Officer and NTP. At the end of FY14, **42 MDR-TB patients** are on DOT by Community Supporters.
9	2	Number of individuals reached with TB prevention and treatment messages, through outreach and small group activities	22,910	21,267	93%	MBCA (8,147 out of 9,460) 86% MHAA (7,494 out of 8,150) 92% MMA (946 out of 450) 210% PGK (4,680 out of 4,850) 97% Target for FY14 includes **repeated individual contacts**, based on initial target set at the beginning of FY14. During FY13 APR, CAP-TB decided to report only new individual contact which would represent **number of individuals**. In this FY14 APR, achievement represents **individual counts** (unduplicated). Community Volunteers from MMA CAP-TB project outperformed and achieved double their target, thus making the average achievement 93% of the FY14 target.
	3	Number of individuals referred to TB- and MDR –TB related services	770	909	118%	This over achievement is mainly due to NTP's accelerated case finding activities in CAP-TB project townships. Volunteers from MMA CAP-TB project actively refer presumptive cases from the community and which was not planned during target setting. MBCA (142 out of 180) 79% MHAA (121 out of 120) 101% MMA (377 out of 110) 343% PGK (269 out of 360) 74%
	4	Number of IEC materials distributed through outreach and clinical interventions	58,250	70,649	121%	MBCA (15,448 out of 15,100) 102% MHAA (28,517 out of 22,000) 130% MMA (11,176 out of 12,000) 93% PGK (15,505 out of 9,150) 169%

Burma						
PMP	CAP-TB	Indicator description	FY 14 Target	Achievement		Explanation
				#	%	
13	5	Number of facilities with quality infection control standards with USAID support	2	0	0%	There was no related activity to report, postponed for FY15.
	6	Percentage of households with MDR-TB patients meeting quality infection control standards	100%	94%	NA	CAP-TB selected 10 top questions from the IC checklist directly related to infection control, in line with National TB Programme. Numbers of households receiving 7 of 10 points were defined as "meeting infection control standards". 429 households of MDR TB patients passed the standards out of total 455 households. (6 monthly indicator)
15	8	Number of laboratories provided with TA for the rollout of new diagnostics	2	NA		
7	9	Number of MDR-TB cases diagnosed	360	284	79%	Currently 23% positivity among tested 1,256 presumptive MDR TB cases. Previously target of 360 was calculated using estimated 18% positivity among 2,000 provided cartridges. The positivity was higher than expected, although not all 2,000 cartridges have been utilized in FY14. This explains the under-achievement even in light of the higher than estimated % positivity.
	10	Percentage of samples sent for external quality assurance that are verified as correct diagnosis by national reference laboratory	>90%	NA		
16	12	Number of USAID-supported facilities with strengthened MDR-TB referral system	2	2	100%	1 MBCA clinic and 1 Lower Myanmar TB center which CAP TB supported Gene-Xpert machine (6 monthly indicator)

Burma						
PMP	CAP-TB	Indicator description	FY 14 Target	Achievement		Explanation
				#	%	
	13	Percentage of successful referrals	75%	89%	NA	Among 909 referred cases, 814 accessed diagnosis and treatment services MBCA (131 had access out of 142) 92% MHAA (98 had access out of 121) 81% MMA (330 access out of 377) 88% PGK (255 had access out of 269) 95%
17	14	Number of individuals trained in TB-case-finding activities	121	88	73%	Contract termination with MBCA in July lead to lower recruitment of TB Champions, which explains the under-achievement. 59 from one ORW training and three TB Champion trainings were conducted by MBCA 14 ORW were trained during ORW refresher training by FHI 360. 15 Community Supporters were trained by MMA.
18	15	Number of individuals trained in programmatic management of MDR-TB	140	114	81%	NTP shifted its focus to include only key staff (67 trained) from selected townships for the PMDT refresher TOT. The initial target was planned for 90 participants from a higher number of townships, so this explains the underachievement. 21 and 26 trained GPs from PMDT training by MMA, which was conducted in Q2 and Q3.
	16	Number of individuals trained	14	9	64%	The follow up activity for Organizational Capacity Assessment, Technical Advisor from FHI 360 conducted a training workshop to develop draft communication strategy of each IA. Contract termination with MBCA in July was responsible for low achievement, since they did not participate in the training.
	17	Number of individuals received package of TB/ MDR-TB service through USAID supported sites	655	614	94%	The achievement reported here represents 18 coverage townships during reporting period. At the end of FY14 (during September), 322 MDR-TB patients received package of services in 16 coverage townships. Patients in the two coverage townships previously covered by MBCA are now transitioned to the NTP, thus explaining 16 out of the original18 townships represented here.
19	18	Number of local organizations provided with TA for strengthening community-based approaches for PMDT	4	4	100%	CAP-TB's four implementing agencies.

Burma						
PMP	**CAP-TB**	**Indicator description**	**FY 14 Target**	**Achievement**		**Explanation**
				#	**%**	
	19	Percentage of MDR-TB cases on MDR-TB treatment regimen with negative culture by six months	>80%	100%	NA	**313** MDR TB cases started second line drugs during April 2013 (start month of CAP TB support) to end of January 2014 (last month for initiating patients on CAP-TB living support package). NTP results for **99** patients who have completed 6th month sputum culture examination and **all** resulted 'Negative'.
	20	Percentage of MDR-TB cases on MDR-TB treatment regimen who died by six months	≤12.5%	3.8%	NA	**313** MDR TB cases started treatment during April 2013 (start month of CAP-TB support) to end of January 2014 (last month for initiating patients on CAP-TB living support package). **12** patients had expired before their month 6 of treatment.
20	21	Number of individuals trained on the collection, use, and analysis of data and strategic information for the management of the TB program	23	28	122%	1. 10 participants from NTP were trained in LSHTM's 'Research Methodology training'. Numbers from this training was not included during target setting, so this target was over achieved. 2. 2 are from M&E session at ORW refresher training. (Even though ORW from all IAs participated, staff from PGK and MHAA already got M&E training and reported. So, only 2 reported here since they were newly trained) 3. 7 from M&E and DQA training was conducted by MHAA with technical assistance from external consultant and FHI 360. 4. 9 from M&E training at PGK using external consultant.
21	22	Number of operational research studies supported with USAID funds	1	1	100%	LSHTM, in collaboration with FHI 360 and the NTP, is conducting a case-control study to identify risk factors for MDR-TB. This activity is in progress.
	25	Percentage of providers following NTP management guidelines for MDR-TB patients	80%	NA		

Burma						
PMP	CAP-TB	Indicator description	FY 14 Target	Achievement		Explanation
				#	%	
24	26	Number of private-sector partners working with NTP with USAID support	254	284	112%	Among 4 Implementing agencies, MMA and MHAA are existing partners with National TB Program, with Public Private Mix DOTs and community outreach TB care. Their capacity in TB care was increased for PMDT through CAP TB related activities. MBCA and PGK are new partners to National TB Program and their capacity in PMDT was initiated and strengthened through CAP TB related advocacy meetings and trainings. 233 GPs were trained during previous year. 21 new GPs in Q2 FY14 and 26 in Q3 FY14, at PMDT trainings and strengthened their capacity in MDR TB management by strengthening their relationship with NTP by updating their knowledge about: current MDR TB management and current practices of NTP, case finding and contact tracing. They are existing partners of NTP since they already worked with MMA for Public Private Mix DOTs.

China								
PMP	CAP-TB	Indicator description	Target FY14	Achievement				Explanation
				YATA	No.3	Combined	%	
9	2	Number of individuals reached with TB prevention and treatment messages, through outreach and small group activities	3640	2569	884	3453	95%	Small group: 1. 183(XSCDC 65 men, 118 women) elderly attended in the small group activities in FU Hai community 310 (TCC 188 men, 122 women) + 824 (No.3 hospital 443 men, 381 women) TB/MDR-TB patients who received one-on-one counseling; or attended small group activities; 2. 226 ((XSCDC 153 men, 73 women) TB/MDR-TB patients who received adherence education support through home visit, face-to-face counseling and/or phone calls; Large group: 1. 500 persons (XSCDC 320 men, 180 women) reached in community event on Sep. 27, 2013; 2. 700 persons (XSCDC 400 men, 300 women) reached in community event on Mar. 22, 2014; 3. 650 persons (XSCDC 300 men, 350 women); reached in community event on June.19,2014; 4. 60 persons (No.3 Hospital 36 men, 24 women) reached in World TB day event on Mar.24,2014;

China								
PMP	CAP-TB	Indicator description	Target FY14	Achievement				Explanation
				YATA	No.3	Combined	%	
	3	Number of individuals referred to TB- and MDR – TB related services	800	1749	31	1780	223%	1. Number of TB suspects referred to TB services - 297 persons (169 men, 128 women) in Fuhai and 1440 persons in TCC –The 1440 reported from TCC includes the people referred from prefectures, other hospitals in Kunming and the people referred from XS district. 2. Numbers of TB/MDR-TB patients successfully referred from TCC and Kunming No.3 Hospital and to XS district for community-based DOTS –12 from TCC (YATA) and 31 from No.3 Hospital;
13	5	Number of facilities with quality infection control standards with USAID support	5	3	1	4	80%	XSCDC, TCC, Fu Hai community health centre/stations, and Kunming No.3 Hospital. Initial target included an additional facility, which was not included in activities for FY14.
	6	Percentage of households with MDR-TB patients meeting quality infection control standards	100%				89%	9 MDR TB patients have been visited at home and received IC assessment, 1 failed to meet the quality infection control standards;
7	9	Number of MDR-TB cases diagnosed	56	57			102%	57 MDR-TB cases were found in Kunming by YNCDC, 36 of whom initiated treatment.
10	11	Number of new MDR-TB diagnosed patients initiated on treatment	40	36			90%	57 MDR-TB cases were found in Kunming by YNCDC, 36 of whom initiated treatment.
16	12	Number of USAID-supported facilities with strengthened MDR-TB referral system	26	26			100%	USAID-supported facilities includes community health centers/stations for DM/TB screening (10), Fu Hai community health center/stations (13), TCC, Kunming No.3 hospital, and Xi Shan CDC.
	13	Percentage of successful referrals	100%	79%	100 %		90%	YATA: 1. The percentage of successful referrals for DM/TB screening - 79% (209/266); No.3 Hospital:

China								
PMP	CAP-TB	Indicator description	Target FY14	Achievement				Explanation
				YATA	No.3	Combined	%	
								1. 31 TB/MDR-TB patients in Kunming No.3 Hospital, who are also XS citizens, all successfully referred to XSCDC for community follow up service – 100% (31/31);
17	14	Number of individuals trained in TB-case-finding activities	130	118		118	91%	YATA: 1. MDR-TB management and case finding conducted by Dr. Chen Yuan on July 19,2014: 118 persons (67 men, 51 women);
18	15	Number of individuals trained in programmatic management of MDR-TB	140			178	127%	**YATA:** 2. MDR-TB management training conducted by Dr. Chen Yuan on Jan.7,2014: 22 persons (7 men, 15 women); 3. MDR-TB management and case finding conducted by Dr. Chen Yuan on July 19,2014: 118 persons (67 men, 51 women); **No.3 Hospital:** 1. MDR-TB management training conducted by Dr. Chen Yuan on Jan.7,2014: 17 persons (3 men, 14 women); 2. National TB conference on Sep. 10, 2014: 2 persons (1 men, 1 women); **Yunnan AIDS Care Center:** 1. TB clinical training course conducted by Dr. Ignacio on Mar.10, 2014: 22 persons (14 men,8 women);
	16	Number of individuals trained	100			206	206%	YATA: 1. Effective communication training on April 15,2014: 26 persons (4 men, 22 women); 2. Stress management training conducted by OC on May 14,2014:15 persons (5 men, 10 women); 3. Counsellor training on Nov. 12, 2013: 15 persons (3 men, 12 women); 4. Counsellor refresh training on Feb. 10, 2014: 22 persons (4 men, 18 women); 5. Community-based care for TB/MDR-TB patients training on Nov. 28, 2013: 26 persons (9 men, 17 women); No. 3 Hospital: 1. Effective communication training in No.3 Hospital on April 17,2014: 21 persons (2 men, 19 women); 2. OC effective communication training for nurses from No.3 Hospital on May 15,2014: 78 persons (1 men, 77 women); 3. Counsellor training on Dec. 13, 2013: 7 persons (7 women); 4. Peer counsellor training on Feb. 20, 2014:3 persons (3 men);

China								
PMP	CAP-TB	Indicator description	Target FY14	Achievement				Explanation
				YATA	No.3	Combined	%	
								5. Counsellor training on Jun 8, 2014: 9 persons (6 men, 3 women); 6. Counsellor refresh training on Feb. 11, 2014: 9 persons (9 women); 7. Peer and TB medical counsellor refresh training on Aug. 29, 2014: 17 persons (2 men, 15 women);
19	18	Number of local organizations provided TA for strengthening community PMDT	6	5	1	6	100%	YATA/Yunnan CDC, Kunming CDC, Xi Shan CDC, TCC, Fuhai Community Health Center, and Kunming No.3 hospital;
20	21	Number of individuals trained on the collection, use, and analysis of data and strategic information for the management of the TB program	60			55	92%	YATA: 1. CAP-TB project M&E system training on Oct.23,2013: 12 persons (1 men,11women); 2. Sensitization trainings for community health service centers on Dec.4,2013: 19 persons (8 men, 11 women); 3. Qualitative research methods training on Aug. 20,2014: 19 persons (4 men, 15 women); No.3 Hospital: 1. FY14 annual DQA meeting and training on Sep.28,2014: 7 persons (3 men, 4 women); 2. TB information system training by Dr. Chen Yuan on July 16,2014: 13 persons (3 men, 10 women);
21	22	Number of operational research studies supported with USAID funds	3	3		3	100%	DM/TB bi-directional screening study; Multi-disciplinary investigation of MDR-TB in Yunnan by London School: qualitative and quantitative studies looking at barriers in accessing care and analyzing TB patient data over 9 years.
22	23	Number of studies published or conference presentations given as a result of USAID support for research programs	1	1		1	100%	Presentation of the CAP-TB model in Yunnan, accepted for presentation at a symposium the International Union Against TB and Lung Disease.
24	26	Number of private-sector partners	100	82		82	82%	Number of private sector partners in Fu Hai RD.

Thailand						
PMP	CAP-TB	Indicator description	Target	Achievement		Explanation
				#	%	
9	2	Number of individuals reached with TB prevention and treatment message in USAID-supported project areas	1500	1203	80%	The reported numbers included people reached through small group activities and World TB Day events.
	3	Number of individuals referred to TB- and MDR –TB related services	500	887	177%	Total numbers referred overachieved the target, however the percentage of successful referrals to the 4 CAP-TB catchment hospitals underachieved. 620 of these individuals were referred to hospitals outside the CAP-TB catchment area, while 267 (30%) were referred to the 4 CAP-TB catchment hospitals.
15	8	Number of laboratories provided with technical assistance for the roll-out of new diagnostics	1	7	700%	Training on good clinical laboratory practices was organized for laboratory personnel from seven provincial and community hospitals in Rayong Province. While there is one main laboratory at Rayong Provincial Hospital that serves the province, CAP-TB included all relevant hospitals in the training to maximize resources.
7	9	Number of MDR-TB cases diagnosed during the reporting period (both by conventional and molecular)	35	17	49%	There was a five-month gap (between November 2013-April 2014) while the cartridges were being procured. Delay in procurement was due to delays in working through the logistics for identifying vendors and working through the government system. ***The number of patients diagnosed with conventional method is still pending as the results take months to finalize, thus the result for FY14 will be higher than what is shown here.*** The target was based on FY13 achievements, and the underachievement is due to delays in GeneXpert cartridge procurement.
	13	Percentage of successful referrals	80%	56%		Calculated as # of cases received services (149) at the four hospitals divided by total cases referred to and amongst the four hospitals (267) reported for October 2013 – September 2014, FY14. About fifteen cases referred amongst the four hospitals in quarter 4 were not reported in the reporting forms of the receiving hospital. The project will follow up on these cases and further discuss with Rayong PHO and the four hospitals as to why referral success rate reported at the end of the fiscal year is lower than that reported in the SAPR (73%).
18	15	Number of individuals receiving training in programmatic management of MDR-TB	50	60	120%	33 are medical personnel while the remaining 27 are public health personnel, staff from local administrative organizations and village health volunteers
	16	Number of individuals trained	80	94	118%	The target was estimated based on 20 village health volunteers and health care providers in each area. The higher number of individuals trained resulted from more representatives from lower-level health facilities attended the intensive DOT training than expected.