

# **Control and Prevention of Tuberculosis**

## **Thailand Country Narrative Family Health International (FHI 360)**

**FY2015 Annual Performance Report  
(October 1, 2014 – September 30, 2015)**



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## Acronyms

AFB	Acid-fast Bacilli
ARV	Antiretroviral
BMA	Bangkok Metropolitan Administration
BTB	Bureau of Tuberculosis (Thailand)
CAP-TB	Control and Prevention of Tuberculosis (Greater Mekong Sub-region Multidrug Resistant Tuberculosis Prevention and Management Project)
DOT	Directly Observed Therapy
DHO	District Health Office
DR TB	Drug-resistant Tuberculosis
FAR	Foundation for AIDS Rights
FHI 360	Family Health International
FY	Fiscal year
HIV	Human Immunodeficiency Virus
IC	Infection Control
LA	Laboratory Accreditation
MDR-TB	Multidrug resistant tuberculosis
ODPC	Office of Disease Prevention and Control
PHO	Provincial Health Office
PMDT	Programmatic Management of Drug-resistant TB
SAO	Subdistrict Administration Organization
SHPH	Sub-district Health Promotion Hospital
TA	Technical Assistance
TB	Tuberculosis
USAID	United States Agency for International Development
VHV	Village Health Volunteer

## **Narrative I: Executive Summary**

In FY15, the CAP-TB Thailand program continued to strengthen technical capacity and coordination for MDR-TB management within the TB network in Rayong Province, with expansion to Tha Maka District, Kanchanaburi Province.

The focus of CAP-TB Thailand has been on health system and provider-level interventions. At the health system level, the project aimed to strengthen coordination between health care facilities at different levels, a critical element to maximize the TB network's capacity for providing continuity of care. The project worked in close collaboration with the key implementing agencies, Rayong Provincial Health Office (PHO) in Rayong and Makarak Hospital in Kanchanaburi to strengthen communication and coordination among health care providers and partners within the TB network.

At the provider level, the project focused on building technical capacity of health care providers, village health volunteers (VHVs) and partners through teaching sessions using complicated patient cases to introduce the teaching topics, training sessions for VHVs in Ta Pong and Yai Da subdistricts, Rayong Province and training on provider-patient communication (Motiv8) for health care providers in Rayong. In addition to these activities, the project also supported five coordinators, three in Rayong and two in Kanchanaburi, and built their capacity to assist the TB network in their province to provide proper care and support to MDR-TB patients. These five coordinators play a vital role in keeping the patient cohort information up-to-date for discussions at case conferences and supporting TB networks in patient care and management.

In FY15, the project supported Rayong partners to pilot a model for comprehensive Programmatic Management of Drug-resistant (PMDT) in Ta Pong and Yai Da subdistricts. The model aims to mobilize the community to assist health care providers in providing care and support to MDR-TB patients. VHVs in Ta Pong and Yai Da subdistricts were recruited and equipped with TB/MDR-TB knowledge and skills to enable them to support the work of health care providers in screening for presumptive TB patients and providing DOT for MDR-TB patients. Five committees and working groups were formed in these subdistricts to support the implementation of the Ta Pong Model. Ta Pong Subdistrict Administration Organisation (SAO) also committed their support for transportation and treatment cost for TB/MDR-TB patients who are in need, a strong indication of political commitment.

In addition to activities implemented through coordination with project partners in Kanchanaburi and Rayong Province, the project also worked with the Bureau of Tuberculosis (BTB) at the national level to support the decentralization of MDR-TB expertise to regions throughout Thailand. The project supported the introduction and utilization of an online support desk as a platform for physicians and health care providers countrywide to seek consultation from the BTB's drug-resistant tuberculosis (DR TB) experts. The project also supported the Medical Service Department of Bangkok Metropolitan Administration (BMA) in organizing a case conference for physicians, nurses, and interested personnel from BMA hospitals and departments in Bangkok.

## **Narrative II: Program performance/achievements and key challenges encountered during reporting period by thematic area**

### **A. MDR-TB Prevention**

**Output 1.1: Mobilized communities to advocate for and use TB service**  
**Activity 1.1.1 Organize one-week event to commemorate World TB Day**

A total of 1,859 persons (755 males, 1,104 females – *CAP-TB indicator 2/USAID PMP 9*) received knowledge on TB prevention and treatment from activities organized to commemorate World TB Day in the project catchment areas in Rayong Province. Of these, 1,227 persons (427 males, 800 females) received TB knowledge through small group activities.

Rayong Provincial Health Office (PHO) in collaboration with the six primary hospitals and Foundation for AIDS Rights (FAR) organized campaign activities to raise awareness among the public about TB, MDR-TB and HIV infection. The activities were organized in four areas namely Klaeng District (24 March), Ta Pong Subdistrict (28-30 April), Ban Khai (7 May) and Mabtapud Subdistrict (8 May). Activities included games and quizzes, TB screening, training session and exhibition booths.

**Output 1.2: Scaled-up implementation of TB infection control in health facilities and households**

**Activity 1.2.1: Implementation of Infection Control (IC) guidelines in hospitals and households**

CAP-TB in collaboration with Rayong Provincial Health Office (PHO) and Rayong Hospital's Infection Control nurse introduced *The Practical Guide: Tuberculosis Infection Control in Public Health Units, Congregate Settings, Communities and Households in Rayong* (TB IC guide) and corresponding checklists. This was introduced to representatives from provincial and community hospitals in Rayong on 19 November 2014. A total of 21 participants (all females) attended the meeting, with representation from Rayong PHO, registered nurses and public health officers (professional level) from public hospitals (Rayong, Klaeng, Ban Chang, Ban Khai, Pluak Daeng, Wang Chan and Khao Chamao, Ta Pong and Yai Da subdistrict health promotion hospitals), including Mongkut Rayong Hospital and Rayong Central Prison.

The TB IC guide and checklist was revised to be more practical and concise, following introduction and review by relevant parties. All participating hospitals conducted a TB IC self-assessment using the TB IC checklist for health facilities. The revised checklist piloted in Klaeng, Nikom Pattana and Muang (Ta Pong and Yai Da subdistricts) districts was found to be practical by the users. The application of the checklist in health facilities and patients' households will continue in the next fiscal year.

**Output 1.3: Strengthened TB/HIV integration**

**Activity 1.3.1: Integration of TB and HIV activities**

The TB and ARV clinics of Rayong Hospital organized an internal meeting in quarter one to analyze the patient flow of each clinic and identify the roles of health care providers at each service point. This was done in follow-up to the initial consultation meeting on TB/HIV integration between the Deputy Director General of the Department of Disease Control, Mr Somsak Akksilp (MD) with the Rayong Hospital Director and concerned personnel on March 2014.

The ARV Clinic screens its HIV patients for TB and refers AFB smear positive patients to the TB Clinic for TB treatment. AFB smear negative patients are treated by the ARV clinic and

not referred to the TB clinic for treatment. In addition to HIV infected patients who are AFB smear positive, the TB Clinic also treats patients who have been lost to follow-up and retreatment patients (both smear positive and negative), as well as TB patients with complications. TB patients with HIV co-infection are treated for TB and initiated on ARV at the TB Clinic; they are subsequently referred to the ARV Clinic for continued HIV treatment after they have completed their TB treatment.

In the next fiscal year, CAP-TB will conduct a workflow analysis of HIV, TB and diabetes clinics, with the goal to analyze work burden and coordination between the three clinics. The work flow analysis will also identify areas for improvement for integrated services and better patient management.

## **B. MDR-TB Management**

### **Output 2.1: Ensured capacity, availability, and quality of laboratory testing to support the diagnosis and monitoring of TB patients, including the rapid diagnosis of MDR-TB**

#### **Activity 2.1.1 Provide TA to build laboratory capacity in TB diagnosis**

The Senior Laboratory Specialist and Laboratory Specialist of FHI 360 Asia Pacific Regional Office (APRO) conducted initial laboratory assessment visits to the four primary hospitals (Rayong, Klaeng, Ban Khai and Mabtapud) - *CAP-TB indicator 8/USAID PMP indicator 15* from 3-4 November 2014.

This initial assessment was aimed to assess laboratory practice for TB and MDR-TB diagnosis in accordance with Laboratory Accreditation (LA) standards and to assess the need for technical support to strengthen TB and MDR-TB diagnosis. The assessment team used the LA checklists to comply with the Thailand Medical Technology Standard 2012.

Recommendations were given to improve laboratory practices such as regular updates of work instructions and calibration of laboratory equipment. Later in FY15, Rayong PHO together with the Office of Disease Control and Prevention (ODPC) 3 Chonburi also conducted assessment visits to Rayong and Mabtapud hospitals using their hospital standards for quality tuberculosis care.

In FY15, 230 persons were tested for MDR-TB using the GeneXpert. Among these, 25 patients (18 new cases, 7 retreatment cases) – *CAP-TB indicator 9/USAID PMP indicator 7*) were Rifampicin resistant. In addition, ten patients (3 new cases, 7 retreatment cases) were diagnosed with MDR-TB using conventional DST.

### **Output 2.2: Strengthened case-finding and referrals for MDR-TB**

#### **Activity 2.2.1 Strengthen referral system for MDR-TB**

*Conduct supervision visits to subdistrict health promotion hospitals (SHPHs) in Muang District and in Ta Pong and Yai Da subdistricts to monitor and provide necessary support to strengthen patient referral system*

Rayong PHO and Rayong Hospital in collaboration with Muang DHO conducted supervision visits to Ta Pong and Yai Da SHPHs to monitor progress and challenges faced in TB/MDR-TB prevention and management. Follow-up for TB/MDR-TB patients in the area was also done. An information sharing system and home visit guideline were developed to promote coordination between partners. A total of five committees at provincial, district and subdistrict levels were formed to support TB/MDR-TB prevention and management, as well

as to support the patient referral system in Ta Pong.

In addition, training and capacity building of village health volunteers (VHVs) in Ta Pong and Yai Da subdistricts were organized so that they can augment the role of health care providers in supporting MDR-TB patients in the area (*See activity 2.4.1*).

*Monitor referrals made to Klaeng, Ban Khai and Mabtapud hospitals and conduct home visits in collaboration with Rayong Hospital home visit team*

Rayong PHO followed up on patients referred from Rayong Hospital to Klaeng, Ban Khai and Mabtapud hospitals. This was done to ensure continuity of care from the hospital to community settings. During the reporting period, a total of 35 patients (Eight to Klaeng, five to Ban Khai and 17 to Mabtapud) were referred. Of this number, 26 are TB patients, six are MDR-TB patients and three are TB contacts.

In FY15, Rayong PHO and the home visit team from Rayong Hospital conducted 10 home visits for 16 MDR-TB patients. Of this number, six are current patients and 10 are newly registered patients.

*Coordination with Mongkut Rayong Hospital to improve the reporting system and to follow up on patient referrals*

In addition to supervision visits to community hospitals and SHPHs, Rayong PHO coordinated with Mongkut Rayong Hospital, a private hospital in Rayong Province, to improve reporting and follow up on patient referrals between Mongkut Rayong Hospital and public community hospitals and SHPHs in the area to ensure continuum of care.

### **Output 2.3: Strengthened human resource capacity for MDR-TB management**

#### **Activity 2.3.1: Conduct case conference for multi-disciplinary team of Rayong Hospitals and physicians from lower-level health facilities in Rayong**

CAP-TB supported Rayong PHO and project partners to conduct six bi-monthly case conferences in FY15. A total of 22 participants (19 females and three males; 21 are from public sector and one from private sector - *CAP-TB indicator 15/USAID PMP indicator 18*) who are representatives from project primary partner hospitals and the TB network attended the conferences. The project also built technical capacity by conducting teaching sessions to discuss complicated patient cases. Cases discussed included MDR-TB in diabetic patients, MDR-TB in an extra-pulmonary TB patient, and MDR-TB treatment in patients who smoke, are alcoholic and have socio-economic problems.

As of August 2015 when the last case conference in FY15 was organized, there were a total of 79 MDR-TB patients (64 males, 15 females); 71 (58 males, 13 females) are still alive and eight have died. Among the 71 patients, 25 are in the injection phase, 23 are people living with HIV and 11 have diabetes. The mean age of the patients is 43 years old and the median age is 41.

#### **Activity 2.3.2: Conduct case conference for TB teams from hospitals under Bangkok Metropolitan Administration in Bangkok**

In FY15, CAP-TB supported the Medical Service (MS) Department, Bangkok Metropolitan Administration (BMA) to conduct one case conference for physicians, nurses and interested personnel from hospitals under the BMA. The conference was conducted on 26 November 2014 at the Medical Service Department office building. A total of 46 participants attended the conference (11 males, 35 female; all from public sector – *CAP-TB indicator 15/USAID*

**PMP indicator 18**) from 10 BMA hospitals, Department of Health, BMA, and personnel from the MS Department.

Two case studies were presented. The participants discussed potential diagnosis and treatment of each case based on the patient's history and examination results presented by the case presenters. The participating DR TB experts provided further comments and advice. The presenters then concluded by highlighting key messages and learning issues for their case. The CAP-TB Chief of Party and CAP-TB Thailand Program Manager moderated the discussion throughout the conference.

## **Output 2.4: Scaled up quality treatment and community approaches for programmatic management of drug resistant tuberculosis (PMDT)**

### **Activity 2.4.1: Strengthen community-based DOT services**

#### *The analysis of work burden and review of TB/MDR-TB information materials*

On 17-18 December 2014, CAP-TB supported Rayong PHO and the partners to analyze their work flow, identify gaps and areas of improvement in providing DOT to MDR-TB patients; and to review TB/MDR-TB information materials. Attendees include representatives from partner hospitals, namely Rayong, Klaeng, Ban Khai and Mongkut Rayong as well as Ta Pong and Yai Da SHPH, Rayong Central Prison and Rayong PHO.

The key outputs from the meeting included DOT provision flowcharts as well as a summary of problems and challenges faced by public and private hospitals and Rayong Central Prison in providing services. The roles of the network at all levels, from community to provincial, and coordination within the network were also discussed to promote treatment success. It was agreed that two publications would be reproduced. One hundred copies of the TB manual for VHVs were reproduced and the Patient Manual: Anti-TB drug side effects will be reproduced in the next fiscal year. The project prepared disclaimer stickers for every copy of both documents to state the project's support on the production cost.

In addition, the project supported the procurement of six home visit bags, two stored and used by Rayong Hospital and four smaller bags stored and used by Ta Pong and Yai Da SHPHs. These bags are used to carry materials needed for home visits such as DOT books, DOT manuals, personal protective equipment and patient's medicines.

#### *Capacity building of village health volunteers in Ta Pong and Yai Da subdistricts*

In FY15, activities were organized to assess and improve TB knowledge and capacity of 37 VHVs (8 males, 29 females – **CAP-TB indicator 15/USAID PMP indicator 18**) village health volunteers (VHVs) in Ta Pong and Yai Da subdistricts. Of this number, 30 are core (regular) volunteers and seven are alternates. TB knowledge was provided through a combination of techniques, including slide presentation, discussion, games, pictures of patient's homes and DVDs. Topics of discussion included beliefs and perceptions that VHVs have about TB and MDR-TB patients, knowledge about TB, empowering communication, patient confidentiality, TB IC in the community, how to care for patients at home, and drug side effects.

The 30 core VHVs conducted screening among individuals at risk for TB/MDR-TB who participated in the Health Promotion and Disease Prevention and Control Fair organized during 28-30 April 2015.

*Quarterly monitoring and assessment of health care providers and village health volunteers who provide support to patients in Ta Pong and Yai Da*

The supervision and monitoring team provided regular support to health care providers at Ta Pong and Yai Da SHPHs regarding drug side effects. The team also linked health care providers at SHPHs with Rayong Hospital to strengthen coordination and support.

**Activity 2.4.2: Implement comprehensive PMDT model in Ta Pong and Yai Da communities**

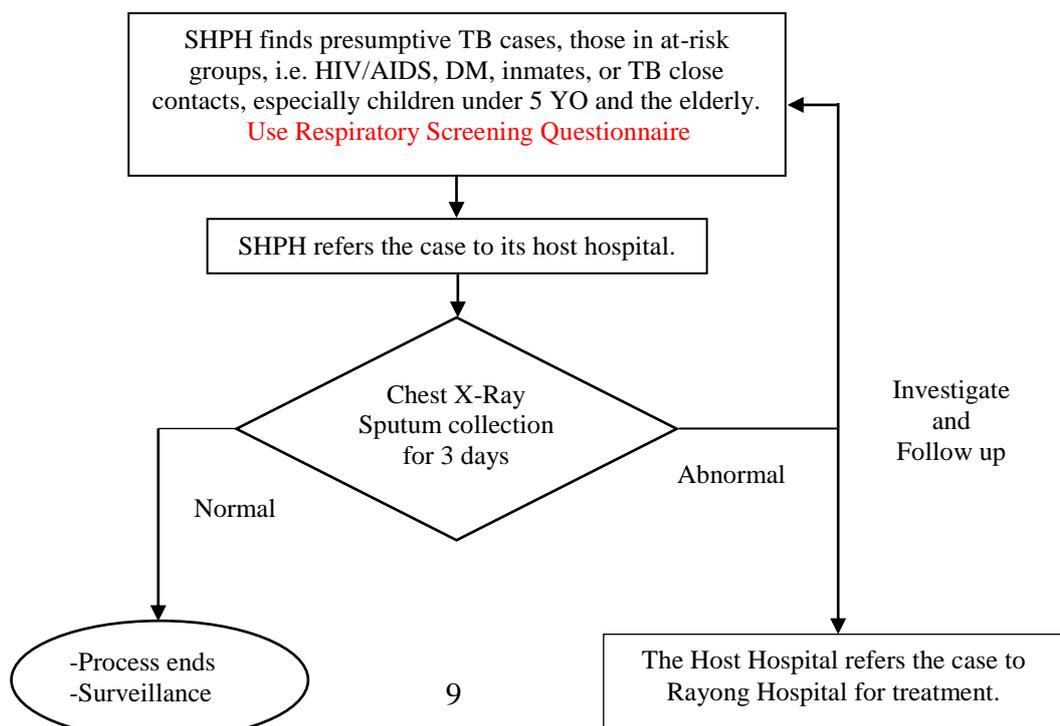
The Ta Pong Model is a comprehensive Programmatic Management of Drug-resistant (PMDT) model piloted in Ta Pong and Yai Da subdistricts, developed by the Rayong Hospital team. The model aims to provide quality DOT provision as well as treatment adherence and success; promote TB IC in health facilities and households; and strengthen referrals of patient/presumptive patients.

In FY15, five committees were formed to support the implementation of the model. Three committee meetings were organized. The key outputs from these meetings included the endorsement of a regulation governing the use of public space for TB patients. Ta Pong SAO allocated budget to support transportation cost to transport TB/MDR-TB patients to a hospital and to support treatment cost for patients who do not have any health benefits. The project supported the training for VHV's in Ta Pong and Yai Da subdistricts to address misinformation about TB/MDR-TB and to provide correct TB/MDR-TB knowledge and build capacity of the recruited VHV's as described under activity 2.4.1.

In FY16, the working group plans to organize meetings for relevant partners to share experiences and lessons learnt from implementing the model in FY15 and further build on the foundation established in FY15.

A TB screening protocol was also developed, as shown below. This model will be further expanded in all SHPHs in Muang District.

**Figure 1:** TB screening protocol for subdistrict health promotion hospitals in Muang District, Rayong Province



## **C. Strategic Information**

### **Output 3.1: Strengthened capacity of TB programs to collect, use, and analyze data for management**

#### **Activity 3.1.1: Support Bureau of Tuberculosis on the decentralization of MDR-TB expertise**

CAP-TB has supported the BTB in decentralizing MDR-TB expertise to regional and provincial levels through use of an online help desk. In FY15, the project focused its technical support on system promotion within the BTB network.

Specifically, the project supported the BTB in publicizing the online system through their network (12 offices of disease prevention and control (ODPCs), 77 public health office (PHOs) and Medical Service and Health departments of BMA). Five bi-weekly email newsletters were sent to the BTB network to introduce DR-TB experts; and to remind the network about the steps for sending out questions into the online help desk. The bi-weekly emails were also used to share TB culture guidelines; guidelines for sending specimens for MDR-TB diagnosis; and the international standard on TB diagnosis and treatment.

Of the total of 24 questions sent into the online helpdesk during January to September 2015, 71% concerned proper treatment and treatment regimen, 8% concerned side effects, 4% concerned diagnosis and 17% were for issues such as requesting for XDR-TB drug, treatment for non-tuberculous mycobacteria (*Mycobacterium abscessus*, *Mycobacterium avium* complex and other non-tuberculous mycobacteria), and MDR-TB household contact investigation.

#### **Activity 3.1.2: Conduct on-site mentoring to partners on data quality assurance (DQA), to build capacity for data use**

Data quality assurance was done to verify patient referrals and service uptake reported by the primary hospitals in the project reporting forms. The project had ongoing discussions with the project partners to identify ways to better track and report referrals and service uptake. The CAP-TB project staff verified the number of patients referred and coordinated with Rayong PHO for further verification with the reporting hospitals if needed. Referral success rate in the last six months of FY 15 was 93% - *CAP-TB indicator 13*.

#### **Activity 3.1.3: Review and reorganize patient data collection and record keeping**

In FY15, Rayong PHO and Rayong Hospital reviewed patient record keeping at Ta Pong and Yai Da subdistricts. It was found that patient records contain complete patient's information, but there is no log book for close contacts in place. Rayong PHO and Rayong Hospital plan to develop a close-contact log book that is also consistent with the records used at Rayong Hospital (the provincial level) to facilitate communication and coordination between hospitals.

## **D. Monitoring and Evaluation**

CAP-TB Thailand Country Program Manager and Program Officer conducted site visits to Rayong Province every month to attend monthly project meetings and to provide supportive supervision to Rayong PHO and partner hospitals. Project implementation was also monitored during each monthly meeting.

In FY15, Rayong PHO organized a total of 11 monthly project working group meetings. A total of 23 persons (21 females, two males) attended the meetings. In addition to activity implementation, the project's reporting forms were discussed, and it was agreed to revise

forms 3.2 and 4.4 from word document to excel for better data recording and tallying. Partner hospitals agreed to submit copies of TB09 to Rayong PHO for data verification purposes.

The working group also discussed future plans for the three CAP-TB coordinators after the project ends. These coordinators have performed at a high level and have demonstrated knowledge and capacity valuable to the organization that they might join in the future. The two coordinators have now been offered full-time positions at Rayong Hospital. Rayong PHO and Rayong Hospital will recruit new staff to replace these two coordinators.

## **E. Enabling environment for MDR-TB control and prevention**

### **Output 4.1: Strengthened partnerships for quality TB care, including private sector**

#### **Activity 4.1.1: Strengthen involvement of private hospitals for MDR-TB prevention and management**

Rayong PHO invited a representative from Mongkut Rayong Hospital to attend the monthly case conferences to be informed of patients' profiles and issues in each area. One nurse (female) from Mongkut Rayong Hospital has attended all conferences as well as other project activities, including the workflow analysis and IEC material review and provider-patient communication (Motiv8) training.

### **Output 5.1: Create crosscutting mechanism to support health portfolio**

#### **Activity 5.1.2 Kanchanaburi expansion**

Under the subagreement with Makarak Hospital in Tha Maka District, the project supported two coordinators to work full-time and support patient care and management at Makarak Hospital. Monthly meetings to update the TB network on MDR-TB patient cohort (from December 2012) have also been conducted. Through these meetings, the project also discussed complicated cases from Rayong and conducted short teaching sessions to provide additional information and knowledge about TB/MDR-TB.

During the subagreement period (1 April 2015 – 30 September 2015), a total of five monthly meetings were organized (24 April 2015, 29 May 2015, 24 July 2015, 28 August 2015 and 29 September 2015). A total of 55 participants (26 males, 29 females - *CAP-TB indicator 15/USAID PMP indicator 18*) attended the meetings. The meeting participants were representatives from concerned organizations both in Kanchanaburi and from Bangkok namely Office of Disease Prevention and Control (ODPC) 5 Ratchaburi, Kanchanaburi PHO, Tha Maka DHO, Makarak Hospital, Chao Khun Phaibook Hospital, 19<sup>th</sup> Somdet Phra Sangkharat Hospital, including 15 subdistrict health promotion hospitals in Tha Maka District, including Bureau of Tuberculosis, Thai MOPH – U.S. CDC Collaboration (TUC) and FHI 360.

## **F. Capacity building and technical assistance**

The CAP-TB Thailand Program built program management and technical capacity in TB/MDR-TB management among health care providers in Bangkok, Kanchanaburi and Rayong through case conferences. The project supported the Medical Service Department, Bangkok Metropolitan Administration; Rayong PHO and Rayong Hospital in Rayong Province and Makarak Hospital in Kanchanaburi Province to organize meetings for the multi-disciplinary team, health care providers and concerned personnel from the TB networks as described under activity 2.3.1, 2.3.2 and 5.1.2.

In Rayong, the project also conducted training on provider-patient communication or Motiv8, which is based on motivational interviewing techniques for 26 health care providers and public health officers in Rayong Province (two males, 24 females – **CAP-TB**

**16**). The participants were from Rayong, Rayong Hospital in Honor of her Royal Highness Princess Maha Chakri Sirindhorn, Klaeng, Ban Khai, Ban Chang, Pluak Daeng, Wang Chan, Khao Cha-mao, Nikom Pattana and Mongkut Rayong hospitals, including Ta Pong SHPH and Rayong Central Prison. The participants found the training and skills very useful and practical in communicating with patients. The training has changed their perception of provider-patient relationships--that they are in an equal partnership--and helped them listen to patients with an open mind. The overall goal of this patient-provider communication training is to change behavior (both providers and patients) in order to achieve treatment success.

In addition, intensive capacity building has been done with the five CAP-TB coordinators (three in Rayong and two in Kanchanaburi). The areas of focus range from technical and clinical TB skills, to data organization and presentation, case presentation, and TB referral network strengthening.

### **Narrative III: Success stories**

Treatment adherence is one of the biggest challenges facing MDR-TB patients and their health care providers. This is the story of a patient who was cared for by Yai Da Subdistrict Health Promotion Hospital, and it illustrates the critical role of coordination within the TB network and involvement of the community to promote treatment compliance and successful completion.

On a fruit farm in Yai Da subdistrict of Rayong Province, a 44 year old woman struggled with tuberculosis (TB) and multi-drug resistant tuberculosis (MDR-TB) dating back to December 2010. Originally diagnosed with drug-sensitive TB, she was entrusted to take her medications on her own, since she herself was a village health volunteer with experience in counseling others on various diseases. However, health care providers—whether volunteer or formally trained--- can also be non-compliant with medications, since knowledge does not always result in behavior change. After struggling through 1.5 years on TB treatment with variable compliance, she was diagnosed with MDR-TB. She had great difficulty with many of her medications, with daily vomiting and weight loss and was very discouraged after months on MDR-TB treatment. Her Yai Da subdistrict health staff consulted with the Rayong provincial-level pharmacist to determine the best strategy for supporting the patient. All health care providers at Yai Da subdistrict staff were also informed of their roles in this patient's care, to ensure that she received accountability and support each day, regardless of who was staffing the sub-district hospital. Supported by home visits from the Rayong multi-disciplinary team and great commitment from the subdistrict health staff in Yai Da, this patient is now cured of MDR-TB.



Photo: MDR-TB patient with her sub-district health staff, on her fruit farm in Yai Da

**Table 1-1 – 1-7: Program level monitoring results (Please fill in separate excel sheet)**

## **Annex I: Method used to estimate total number of individuals reached and adjustment factor to calculate for potential overlap among different partners and other USG (Narrative)**

The number of people who received TB/MDR-TB information and knowledge through activities organized on World TB Day in Muang and Klaeng is a visual estimation from the participants attending the events.

Rayong Province receives funding from the Global Fund, however, CAP-TB activities and support are completely distinct from Global Fund support, which focuses on patient incentives and provider incentives for DOT. CAP-TB's focus on technical capacity building, case conferences, and TB network strengthening do not overlap with the Global Fund activities in Rayong.

## **Annex II: Processes carried out to ensure data quality**

The Rayong PHO Field Manager is responsible for the review and verification of data submitted from the six hospitals. The CAP-TB Thailand Country Program Manager reviewed data submitted by Rayong PHO, and further verification and confirmation of the reported data was requested as necessary to ensure data accuracy.

The project worked closely with Rayong PHO in reviewing referrals of patients reported by the primary hospitals in the project reporting forms. The CAP-TB project staff verified the number of patients referred and coordinated with Rayong PHO for further verification with the reporting hospitals if needed.

Throughout FY15, the project had ongoing discussions with Rayong PHO and primary hospitals about patient referral tracking and reporting. The referral success rate in the first six month of the fiscal year was 38%. The project discussed with the project partners to identify factors that may affect referral success rate namely 1) complicated reporting forms, 2) under-reporting of number of patients who have taken up services and 3) actual lost-to-follow up patients. The following actions were taken in response to each factor identified.

1. The project held a meeting for staff who are responsible for filling in the project reporting forms and explained CAP-TB reporting forms 3.2 and 4.4 to ensure mutual understanding about the forms and information required.
2. It was agreed that the primary hospitals would send copies of TB 09 (the BTB's referral form) to Rayong PHO for referral and service-uptake verification, comparing with data reported in forms 3.2 and 4.4.
3. The project traced and tracked referrals reported in forms 3.2 and 4.4 in quarter 3 and 4 more precisely and coordinated with Rayong PHO to confirm service uptake.

In reviewing information reported in forms 3.2 and 4.4 during April – September 2015, it was noted that there was a possibility of duplication of referrals reported for the same patient on the same date in both forms which thus resulted in double counting of referrals for the first six month of FY15. This may have led to the low proportion of patients “received” who had been referred (i.e., a doubling of the denominator). Therefore, for the second half of FY15, the project only counted referrals reported in form 3.2. A total of 120 patients were referred for TB and MDR-TB related services. Of these, 112 are TB patients (34 females, 78 males); 7 MDR-TB patients (all males) and one TB close contact (male). One hundred and twelve patients referred took up services which account for 93% referral success.

**Annex III: Summary of accomplishments against the work plan and targets** (*Please see separate excel sheet as well as data table in Regional Summary Annex I*).