

Control and Prevention-Tuberculosis

China Country Narrative Family Health International (FHI 360)

**FY2013 Annual Performance Report
(October 1, 2012 – September 30, 2013)**



CAP-TB
CONTROL AND PREVENTION
OF TUBERCULOSIS

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Acronyms

AIDS	Acquired immune-deficiency syndrome
BCC	Behavioral Change Communication
CAA	Chinese Antituberculosis Association
CAP-TB	Control and Prevention of Tuberculosis (Greater Mekong Sub-region Multidrug-Resistant Tuberculosis Prevention and Management Project)
CBO	Community-based organization
CDC	Center for Disease Control and Prevention
CHC	Community health center
DOT	Directly-observed treatment
DR	Drug resistant
DQA	Data Quality Assessment
EQA	External Quality Assessment
F&A	Finance and Administrative
FHI 360	Family Health International 360
FY	Fiscal year
Global Fund	Global Fund to Fight AIDS, Tuberculosis, and Malaria
HIV	Human Immunodeficiency Virus
IC	Infection Control
IEC	Information, Education, and Communication
IR	Intermediate Result
M&E	Monitoring and evaluation
MDR-TB	Multidrug resistant tuberculosis
MTB	<i>Mycobacterium tuberculosis</i>
NA	Not Available
NCTB	Chinese National Center for Tuberculosis Control and Prevention
NTP	National Tuberculosis Control Program
OCA	Organizational Capacity Assessment
PLHIV	Person (People) living with HIV/AIDS
PMDT	Programmatic Management of Drug-Resistant Tuberculosis
PPP	Private-public partnership
PTB	Pulmonary tuberculosis
Q	Quarter
RD	Residential District (<i>jie dao</i> 街道)
SFDA	Chinese State Food and Drug Administration
SOP	Standard operating procedures
TA	Technical Assistance
TB	Tuberculosis
YATA	Yunnan Anti-Tuberculosis Association
Yunnan TCC	Yunnan Tuberculosis Clinical Center
The Union	The International Union Against Tuberculosis and Lung Disease
USAID	United States Agency for International Development

Narrative I: Executive Summary

The following report details Family Health International (FHI) 360's progress in implementing the Control and Prevention of Tuberculosis (CAP-TB) project during the fiscal year 2013 (FY13: October 2012 through September 2013 inclusive) in Kunming, Yunnan Province (China), as part of the United States Agency for International Development's (USAID) Greater Mekong Sub-region Multidrug resistant tuberculosis (MDR-TB) Prevention and Management Project. Descriptions of progress are organized according to the CAP-TB FY13 China Work Plan.

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

Program Performance

During the reporting period, the main activities of Kunming CAP-TB project's work plan included trainings for the staff of partners, health providers, outreach workers, and the private sector, as well as for TB patients and their family members; providing education and referral for TB testing and treatment for community residents; conducting community events for mobile populations, and conducting technical assistance and M&E of the project at all levels.

In FY13, the project screened a total of 3,925 people (2,164 men and 1,961 women), of which 331 have tested positive for TB. Of those screened, 2,741 (70%) came of their own account, 27 (0.69%) were referred by community outreach workers, and 609 (16%) were referred by private clinics [CAP-TB Indicator 3]. More than 42,500 IEC materials have been distributed. The project has delivered a total of 21 trainings for project stakeholders at all levels, from the provincial level to TB patients and their family members involving more than 470 participants. The project has also conducted coordination meetings between FHI 360 and its partners and monitoring and evaluation supervision on outreach workers, private and community clinics, and pharmacies.

Finance and administrative orientation and review for new admin/finance officer and for

YATA: On January 30, the CAP-TB team conducted a financial monitoring for the Yunnan Anti-Tuberculosis Association (YATA) using the Finance and administrative (F&A) review checklist. An F&A review report was submitted, which highlighted a number of issues, including the lack of a "PAID" stamp on some payment vouchers, an instance of a lack of hotel folio for the training held in Guangxi, and no details of materials purchased for meetings. Upon submission of this report, a meeting was held between FHI 360 and YATA to address the issues raised in the report, and the organization fully rectified these issues.

Financial Management Orientation and Training for FHI 360 Kunming officers and IAs: From 25 to 28 December 2013, Ms. Hatairat Jirajariyavech (Kay), Senior Finance Officer from FHI 360 APRO, provided on-site technical assistance to the CAP-TB China project in Kunming. She gave FHI 360 Kunming Office staff a detailed orientation about FHI 360 financial policies and procedures, such as procurement, travel, and the sub-award tracking system, and conducted a pre-award financial assessment with Kunming No. 3 Hospital, which is a new implementing agency for CAP-TB for FY14. On behalf of FHI 360 Kunming Office, Kay conducted a financial management training for all the IAs under CAP-TB project on 27th September 2013. The participants included 17 financial and project management staff from YATA/Yunnan CDC, Kunming CDC, Xi Shan CDC and the three new IAs for FY14 (Kunming No. 3 Hospital, Yunnan Institute for Health Education, and Yunnan Blue Sky AIDS Center.). [CAP-TB Indicator 16] Kay gave a detailed explanation of the FHI 360 financial management regulation for IAs, and how to prepare the monthly subaward financial report appropriately. Kay also reviewed the payment vouchers and document files of the FHI 360 Kunming office.

Organizational Capacity Assessment: From January 30 to February 1, Mr. Siddhi Aryal, consultant, and FHI 360 Kunming office staff members Li Ling and Xu Zhixiang, conducted an organizational capacity assessment (OCA) for YATA. A total of 15 people participated in the assessment. Using the OCA tool, [CAP-

TB Indicator 16] YATA members identified three areas for which their organization needed improvement: external communication, human resource management, and administration. Participants developed an action plan to address these weaknesses. This plan included designed activities, measurement benchmarks, and a timeline, and delegated responsibilities to individuals to carry forward this capacity development. During the reporting period, FHI 360 has worked with YATA to improve current organizational capacity according to this plan.

IR 1: Strengthened MDR-TB Prevention

Successful control of MDR-TB involves preventing the emergence of new cases of both drug-susceptible and drug-resistant TB. Prevention is thus a key component of the CAP-TB model in China, as well as a founding pillar of the Chinese healthcare system, exemplified by the motto located at the entrance of the Yunnan Center for Disease Control and Prevention (CDC): “Prevention is the key” (yufang wei zhu, 预防为主).

Output 1.1: Mobilized communities to advocate for and use TB services

Activity 1.1.1: Develop CAP-TB strategic model for strengthening MDR-TB prevention in communities

During the reporting period, FHI 360 staff worked with partners to strengthen and implement the CAP-TB strategic model by means of different activities in the community. In order to make sure that all CAP-TB partners have a consistent understanding of their roles, FHI 360 produced a patient flow chart to clearly delineate the responsibilities of the different partners, as well as the proper referral from screening through TB treatment and follow-up care.

During FY13, FHI 360 and YATA also reviewed project progress and the challenges faced by CAP-TB China. In order to strengthen the CAP-TB Strategic Model, FHI 360 approached three new local organizations to engage them to collaborate with YATA. These are Xi Shan District Women’s Federation, a local NGO with a well-established network for community mobilization, in March 2013; Yunnan Blue Sky AIDS Center, providers of treatment and support to PLHIV, in July 2013; and Kunming No. 3 Hospital, a profit-driven public hospital with a long history of TB treatment.

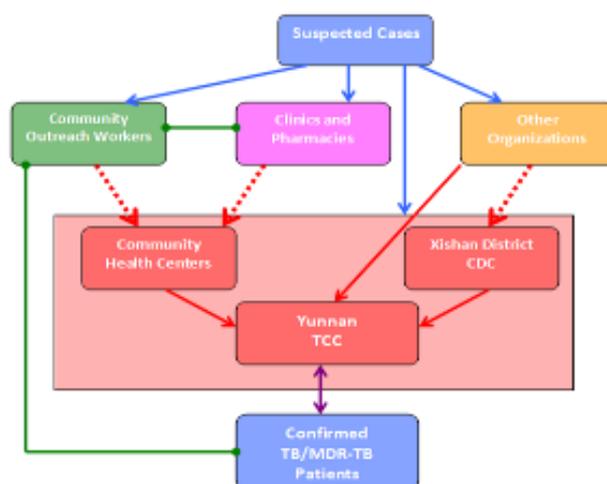


Figure 1: Patient Flow Chart

Xi Shan Women’s Federation: The Women’s Federation (WF) is a local NGO with a well-established network in China. FHI 360, YATA and Xi Shan CDC discussed community-based TB education with Xi Shan Women’s Federation in early March, with the vision to conduct community outreach for TB prevention and care through the WF community network. Activities conducted by Xi Shan’s WF include educational TB outreach in the community; TB outreach to parents through annual pre-school training, and TB patient home visits. (See IR 1.1.6.)

Yunnan Blue Sky AIDS Center: Blue Sky is a local NGO for PLHIV support and care in Kunming. Improving TB and MDR-TB case finding among PLHIV is a critical component of control/prevention, as TB in the HIV setting can be very difficult to diagnose and treat, and MDR-TB has very high early mortality rate in PLHIV. Physician leaders in the HIV community expressed their concern to the CAP-TB about the lack of knowledge and experience for diagnosing and treating TB and MDR-TB patients. In August 2013, the Blue Sky AIDS Center’s PLHIV peer educators started to screen HIV patients for TB by using standard symptom questions among PLHIV at their outpatient clinic to identify additional TB cases from the HIV population.

Kunming No. 3 Hospital: Kunming No. 3 Hospital, a public-for-profit hospital, treats many patients with TB and MDR-TB in Kunming. Kunming No. 3 Hospital and The CDC network have not historically communicated or coordinated with each other in the past. The lack of coordination between No. 3 Hospital

and the CDC network has resulted in non-standardized care of TB and MDR-TB patients, demonstrated by non-adherence to therapy and loss of follow-up. In FY13, the CAP-TB program invited No. 3 hospital to attend MDR-TB management trainings and MDR-TB case review sessions. Then on 24 May 2013, Kunming CDC organized an official coordination meeting with TB Division #2 of Kunming No. 3 Hospital. The meeting included 10 participants from Kunming CDC, Kunming No. 3 Hospital, Xishan CDC and FHI 360. The discussion began with the CAP-TB strategic model, involving the participants to offer their contributions to the cornerstones of TB/MDR-TB prevention and control. Next, the meeting covered the priorities for TB diagnosis and treatment adherence, and then closed by asking No. 3 Hospital and CDC to articulate their expectations of the other. This collaborative style fostered open communication and a true feeling of teamwork, and holds much promise for improved coordination in the future.

From that start, the CDC network, #3 Hospital, and CAP-TB team went on to draft a framework for collaboration and referral between the “private sector” and Xi Shan District, which is the current catchment area for CAP-TB. The plan was to follow a bidirectional framework for referral -- from the communities in Xi Shan district to #3 Hospital and vice versa -- the former for addressing complications during treatment and the latter for inpatients who are discharged from the hospital into the community. This referral framework will be fully implemented in FY14 in Xi Shan district.

Activity 1.1.2: Conduct community education: In FY13, YATA and Kunming-CDC, with technical support from FHI 360, developed educational materials in the form of billboards and leaflets to inform the community about recognizing TB symptoms, where to go for diagnosis, and how to prevent infection.

TB education via social media sites: In March 2013, CAP-TB China project initiated dissemination of TB messages through Chinese social media sites using Tencent QQ (http://t.qq.com/CAP_TB/mine) and Sina (<http://weibo.com/CAPTb>). Key TB knowledge and CAP-TB activities were updated on both sites daily. By 30 September 2013, there are 2,971 viewers for the posts on the Tencent site, and 2,737 on Sina.

Mapping Activity: In November 2012, community outreach workers and Xishan CDC staff conducted a mapping exercise in Fuhai and Zongshuying, the two residential districts (RDs) originally targeted under the CAP-TB project. The exercise identified private clinics and pharmacies, public health institutions (health care stations, community health centers), and community gathering spots (such as fresh food markets, mahjong parlors, parks), and guided community outreach workers’ activities. At the end of September 2013, there are 115 private-sector partners (80 private clinics and 35 pharmacies) working with the national TB control program with USAID support [USAID PMP Indicator 24/ CAP TB Indicator 26].



Information, Education, and Communication Activities: With the assistance of a local design company, the CAP-TB program designed and pre-tested a series of IEC posters (right). These were used for World TB Day activities (see IR 1.1.7) and TB education activities in Xishan District. 1,500 copies of each poster, for a total of 4,500, and 3,300 calendars were distributed, mostly after Spring Festival. In addition, 300 copies of large-sized posters were reprinted and displayed at major public places in Xishan District from March to April 2013.



Outreach Flip-Chart: In order to further support outreach workers, structure interactions with the community, and ensure concise and accurate outreach, FHI 360 developed a community outreach flip-chart tool. The flip-chart contains information to be read by the outreach worker on one side of the page, and a set of key message bullet points to be viewed by the audience on the other. The flip-chart contains information on

basic TB knowledge, risk assessment evaluation, TB diagnosis and treatment, and government and CAP-TB services. FHI 360 pre-tested the flip-chart among community outreach workers and YATA staff in March and finished production in FY13 Q3. The flip charts were shared with Yunnan TB Clinical Center, Women's Federation and Yunnan Blue Sky AIDS Center for their TB educational activities.

Activity 1.1.3: Provide information to private clinics about MDR-TB

Training curriculum development: In order to strengthen commitment and support from the private sector for referrals of TB suspects in the communities, CAP-TB China hired a local consultant who has rich experience in health education and training, to draft a training curriculum for private sector partners such as private clinics and pharmacies. The curriculum included the following key topics: The importance of TB to the private sector, TB knowledge, and CAP-TB's referral procedure for TB suspects. The training curriculum was pre-tested in late May 2013, and finalized in August. It will be used as a standard tool by Xi Shan CDC to educate and train private sector partners in a consistent manner in FY 14.

Training sessions for private clinics: On 28th and 31st May, Mr. Xia Xuejing (Xishan CDC), Mr. XU Zhixiang (FHI 360 Kunming) and Ms. Yang Huijuan (Yunnan CDC) held two half-day training sessions on TB prevention and control for private clinics in Zongshuying and Fuhai RDs. A total of 53 people were present, including two community outreach workers, one FHI 360 facilitator, and 50 clinic doctors from private clinics in two RDs. [USAID PMP Indicator 17/ CAP-TB Indicator 14]. The above-mentioned training curriculum for private sector was tested.

Activity 1.1.4: Provide information to pharmacies about MDR-TB

Training sessions for private pharmacies: In FY 13, two rounds of pharmacy training sessions were conducted. First, Xi Shan CDC and the FHI 360 Kunming office held two training sessions on November 23 to introduce the CAP-TB project, coordinate referrals, and provide information on TB and MDR-TB more generally to pharmacies in the Fuhai and Zongshuying RDs. A total of 110 pharmacies were invited, and one trainee attended from each pharmacy. On May 28 and 31, CAP-TB project staff, along with Mr. Xia Xuejing of Xishan CDC, held two half-day training sessions on TB prevention and control for pharmacies in Zongshuying and Fuhai RDs respectively. The trainings focused on promoting awareness, support and referrals of TB suspects from pharmacies at the community level. The above-mentioned training curriculum for the private sector was tested. A total of 36 people (13 men and 23 women) participated. [USAID PMP Indicator 17].

Activity 1.1.5: Train community health service center staff

It is important for community health center staff to have strong knowledge of TB as well as about the CAP-TB program, since they are the first to provide TB screening and check-up service for people, as well as being responsible for monitoring TB patients on treatment. During the reporting period, four rounds of TB training were conducted by Xi Shan district with the support from FHI 360 and YATA. These trainings were conducted on November 9, 2012; March 21, 2013 and May 28, 2013. A total of 96 participants (27 men and 69 women) completed training in TB case finding. [USAID PMP Indicator 17].

Activity 1.1.6: Conduct community outreach

Community outreach in FY13 was implemented mainly through the CAP-TB outreach team (5 outreach workers), Xi Shan Women's Federation (beginning in March 2013) and Yunnan Blue Sky AIDS Center (beginning in August 2013). FHI 360 and YATA have provided trainings for outreach workers on capacity building. Outreach teams conducted daily outreach education, community events, promoted uptake of TB services, and visited TB patients in their homes.

i. Capacity Building for Community Outreach Workers

TB Training for community outreach workers: A half-day training of 30 community outreach workers and Xishan Women's Federation was held on March 13. A total of 37 people were present, including 30 community outreach workers - women leaders in the community [USAID PMP Indicator 17]., two FHI 360 facilitators, three staff of the Xishan District CDC, and two representatives from the Women's Federation who spoke at the event. The training focused on basic tuberculosis knowledge, introduction to the FHI 360 CAP-TB project and the role of the Women's Federations under the project, proper referral to appropriate health organizations under the CAP-TB project, and introduction of M&E tools and procedures. Outreach workers who participated in the training will conduct community educational activities and promote uptake of TB services in Xishan District.

Communication Skills Training for Community Outreach Workers: In order to strengthen outreach skills of community outreach workers for TB control and prevention, FHI 360 and YATA conducted a one-day training on May 21st. The focus of this training expanded upon the first training, whereby this training expanded upon effective communication skills for outreach workers. There were 20 women participants, including 4 from CAP-TB Community Outreach Team and 16 community women leaders from 5 residential districts in Xi Shan District Women's Federation. The training focused on effective communication about TB in community outreach. [USAID PMP Indicator 17].

Home-based care training for community outreach workers: In order to ensure quality of care for home visits to TB patients by outreach workers, FHI 360 and YATA organized a one-day workshop on 23 July 2013. The key participants included 4 CAP-TB outreach workers and 13 women leaders from 13 selected communities in Xi Shan District. The training covered underlying barriers for home-based care to TB patients, major concerns among TB patients, coping with adverse drug effects, and use of a checklist to guide outreach workers for counseling with TB patients on treatment adherence support.

ii. Conduct community outreach by CAP-TB outreach workers

Daily Educational Activities: Led by an outreach team leader, four full-time community outreach workers conduct activities Monday through Friday across Fuhai and Zongshuying RDs, to spread awareness about TB symptoms, available services, and the appropriate institutions for diagnosis and treatment. During this reporting period, 5,636 people¹ (2,802 men and 2,834 women) were reached with TB prevention, testing and treatment messages through outreach and small-group activities. [USAID PMP Indicator 9]. Outreach workers distributed 9,636 pieces of anti-tuberculosis IEC materials, including tissue packages, maps with TB service locations and TB information pamphlets, eco-friendly bags, primary school notebooks, paper cups and posters.

TB Education at Zongshuying Construction Site: During the reporting period, four outreach workers and a team leader visited construction site twice for TB education with construction workers. A total of 62 construction workers participated (62 men and 8 women.) [USAID PMP Indicator 9/CAP TB Indicator 2]. The construction workers were briefly available for TB education at lunchtime. The construction site manager was friendly and welcoming, but the educational session was too short to include interactive discussion for behavior motivation. Efforts will be made to identify those gatekeeper staff that are more likely to permit CAP-TB's access to construction sites for this purpose.

Night time Community events: Although one-on-one and small-group outreach may be more effective for behavioral intervention, the CAP-TB project cannot reach everyone in the community in that way. Therefore, "edutainment" events, a popular form of community education, can scale up community coverage. With the support of Ai Yuan Se MSM group, an all-male theater troupe (formerly called Spring Rain, supported by USAID TascIII Project for HIV intervention among MSM), the CAP-TB

¹ CAP-TB China project began to track new and follow-up contacts since February. So the number of people reached for the whole reporting period is more of contacts with the people in the community. From Feb 2013 to Sept 2013, 3,378 people (1,720 men and 1,658 women) were reached by CAP-TB outreach team.

project held two community events in Chuan Fang Community, where more than 90% of the population are migrants and mobile population. All the CAP-TB partners at provincial and community levels were involved in these events. Ai Yuan Se and the CAP-TB team enacted colorful and humorous scenarios on key tuberculosis issues, from hand-washing to eschewing stigma and infection control in the community, and doctors from Fu Hai Community Health Center (CHC) and Yunnan TB Clinical Center met with the audience to give a warm face to TB clinical services. The week after the second community event, eight TB suspects from Chuan Fang Community walked into Fu Hai CHC for TB services. The two events reached more than 700 migrants. [USAID PMP Indicator 9/CAP-TB #2].

iii. Conduct community outreach by Xi Shan Women's Federation

Subcontracted outreach on special days: Xi Shan Women's Federation annually conducts community awareness campaign activities on March 8th (World Women's Day) and June 26th (the International Day Against Drug Abuse and Illicit Trafficking). In FY13, Xi Shan Women's Federation integrated TB knowledge in their educational activities in 13 communities, Xi Shan District. 537 people (233 men and 304 women) were reached through one-on-one community outreach, [USAID PMP Indicator 9] and 9,725 people (4,172 men and 5,553 women), through big-group events. [USAID PMP Indicator 9] 4,395 leaflets, 1,532 packets of tissue, 630 eco-friendly bags, 6,360 primary school notebooks and 375 copies of 2013 calendar that contain TB messages were distributed to migrants and elderly people.

Dissemination of TB information for parents: The local Education Bureau requests that parents of school-aged children attend pre-school orientation meetings conducted by the Women's Federation. From 8-16 July 2013, Xi Shan Women's Federation disseminated TB knowledge to migrants through the annual pre-school orientation meetings. Approximately 6,000 people (2,800 men and 3,200 women) received TB education with textbooks containing TB messages. Topics included TB knowledge, symptoms, prevention, services and testing. [USAID PMP Indicator 9/CAP-TB Indicator 2]

- iv. Referrals for TB screening services:** During the reporting period, a total of 728 TB suspects (362 men and 366 women) were referred to the designated health delivery centers by private clinics, the CAP-TB outreach team, and the Women's Federation. [CAP-TB Indicator 3] At the same time, they provided TB consultation and screening services to 451 patients (219 men and 232 women) who sought health services by themselves without referrals. The Yunnan Tuberculosis Clinical Center (Yunnan TCC), CAP-TB partner, which is responsible for confirmatory tests and treatment of TB, screened 1,492 patients, including 854 men (57%) and 638 women (43%). Among those screened at the TCC, 331 were tested positive for TB and, 12, for MDR-TB.
- v. Follow-up Support to TB patients in the community:** During this reporting period, both CAP-TB outreach team and Xi Shan Women's Federation organized home visits or follow-up phone calls to 64 TB patients (42 men and 22 women). Outreach workers from the above two groups were trained to support new TB patients with a focus on treatment adherence, treatment adverse effects and infection control. A home visit form was developed as a tool to guide them to deliver quality care of services. It includes medication updates, coping with adverse drug effects, psychosocial needs of patients, and household infection control.

Activity 1.1.7: Organize activities to commemorate World TB Day

Yunnan Anti Tuberculosis Association: YATA held an event in Kunming's Guandu historic area on March 22. More than 50 health workers participated in the event, including members of the Yunnan Provincial Health Bureau, the Yunnan CDC, Yunnan Province Preventive Medicine Association, YATA, and Yunnan Guangdian Media Limited. An additional 23 volunteers were recruited from Yunnan Provincial Agricultural University and Kunming Municipal Medical College. The Yunnan CDC vice-director, Dr. Yang Jun, spoke on TB's primary mode of transmission as well as socio-economic factors that are related to the epidemiology of TB in China, and reported on activities conducted under the slogan "Volunteers united towards spreading basic TB prevention and treatment knowledge." The provincial anti-tuberculosis celebrity ambassador, Mr. Luo Zhi, spoke about the importance of community involvement in preventing TB and spreading knowledge.

Approximately 2,000 people attended [USAID PMP Indicator 9], 1,100 (55%) of whom were women. IEC materials were distributed throughout the event, including 5,300 leaflets, 4,800 tissue paper packets, 2,500 primary school notebooks, 1,180 posters, 1,500 eco-friendly multi-use bags, and 90 T-shirts. A Yunnan CDC expert answered questions from participants.

Kunming CDC/Xishan CDC: On March 22, Kunming CDC and Xishan CDC organized World TB Day events with the theme: “You and I united towards eliminating the risk of TB”. Sixty-one workers were mobilized for the successful execution of the activities, which focused on spreading basic knowledge of TB prevention and treatment. Ten banners and five movable billboards were set up in a public square to draw attention to the activities. Over 6,000 pieces of IEC materials were distributed, as well as 90 t-shirts. Further, approximately 100 members of the community were provided one-on-one consultations with health workers, where they were able to ask questions on TB as well [USAID PMP Indicator 9]. FHI 360 staff and community outreach workers administered the first round of FY13 TB Trends surveys, which will assess the TB and related health-seeking behaviors, attitudes, and practices of people in the CAP-TB catchment area (see IR 3. 2). They distributed 3,500 leaflets, 120 eco-friendly bags, 300 textbooks and 360 packets of tissues and reached 70 people (including 37 women) through one-on-one community outreach.

Output 1.2: Scale-up implementation of TB infection control in communities and health facilities

Activity 1.2.1: Provide training on IC for health providers in Yunnan TCC

In FY12, Dr. Jiang Chenyuan, a consultant from the International Union against Tuberculosis and Lung Disease (The Union), was engaged by FHI 360 to identify a number of infection control challenges in the physical lay-out of the Yunnan TCC. The Yunnan Health Bureau committed RMB 100,000 (USD 15,873) for renovations to decrease the risk of secondary infections. The Health Bureau has subsequently doubled this commitment (to USD 31,746), and Yunnan TCC renovations, which included installing fans in all patient rooms, redistributing the space to keep patients and staff activities more separated, and upgrading showering facilities, were completed in early March 2013.

In Quarter 4, FY13, Ms. Yang Huijuan from the Yunnan CDC laboratory staff who had attended the Infection Control training organized by the NCTB provided a one-day training to 32 health providers from TCC. The main topics were infection control in the hospital setting, and the important of wearing mask and washing hands etc.

Activity 1.2.2: Provide training on IC for patients and families in Yunnan TCC

Since July 2012, project staff held monthly discussion groups between TB and MDR-TB in-patients, their family members, and Yunnan TCC healthcare providers. In FY 13, health providers in TCC continued to facilitate those monthly group activities with support of MDR-TB peer educator. During the reporting period, 77 individuals have participated in these discussions (42 men, 35 women). [USAID PMP Indicator 9]. Of note, the December meeting was self-organized by six MDR-TB patients, who wrote a letter to staff of the Yunnan TCC, Global Fund, and CAP-TB project to thank them for their support, and to express their desire for more individualized treatment plans. In early June, one of MDR-TB patient joined the CAP-TB program as peer supporter. (IR 2.4.1 - Education and counseling for TB/MDR-TB patients)

Activity 1.2.3: Develop IC guidelines for household and community level

During this reporting period, Yunnan TCC held regular monthly patient and family meetings at which household IC was discussed. FHI 360 developed and finalized an IC tool for the household level with the support of the local partners. The IC tool was designed in a way that can guide TB staff to assess infection control at home through key questions and provide consultation accordingly. Scale-up of this tool will be used by community outreach workers and community health center TB staff in FY14 so that they will conduct infection control assessment every 3-6 months.

IR 2: Strengthen MDR-TB management

Since September 2013, 28 patients initiated package of TB/MDR-TB services supported by USAID. Three patients dropped out due to the treatment's adverse effects. Since GFATM has supported MDR-TB patients' treatment for most of FY13, the CAP-TB contribution to patient support occurred largely during Quarter 4.

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

Activity 2.1.1: Provide training for laboratory staff in new diagnostic tools

The CAP-TB project provided one GeneXpert machine and one LED fluorescent microscope to the Yunnan CDC and Yunnan TCC respectively. Both were delivered in September 2012, and were operational as of October 2012. During this reporting period, laboratory technicians were in telephone communication with the GeneXpert technical assistants when problems occurred, with an on-site supervision visit on January 23. GeneXpert tests were administered for patients meeting certain risk criteria (described under Output 2.2). The government covered operational expenses, including the costs of the cartridges.

From October 2012 to September 2013, 165 LED samples were tested and 155 samples were assayed with the GeneXpert machine, resulting in the detection of 66 rifampicin-resistant cases, as follows:

Month	Samples tested	<i>Mycobacterium tuberculosis</i> (MTB) complex DNA		MTB not detected	Errors	Invalid Numbers
		Rifampicin Resistant	Rifampicin Sensitive			
October	1	1	0	0	0	0
November	28	7	4	17	0	0
December	34	11	12	7	3	1
January	8	3	5	0	0	0
February	1	0	0	0	1	0
March	3	3	0	0	0	0
April	10	6	1	3	0	0
May	20	10	9	0	1	0
June	18	7	8	1	2	0
July	9	3	1	4	1	0
August	16	10	3	2	1	0
September	17	5	6	6	0	0
Total	165	66	49	40	9	1

Activity 2.1.2: Strengthen capacity of laboratory staff in sputum culture and EQA through training

Preparation of ISO 15189 Application: Mrs. Janet Robinson (Global Director, Laboratory Sciences, FHI 360 Asia Pacific Regional Office) provided laboratory technical assistance (TA) focused on quality and compliance during her visit from December 3- 5. Seven laboratory technicians from the Yunnan CDC and Yunnan TCC TB laboratories participated. Mrs. Robinson also provided TA on using the GeneXpert machine, particularly in the detection of errors. Staff developed a two-year plan for FHI 360 assistance to the Yunnan CDC and Yunnan TCC TB laboratories toward ISO 15189 accreditation, with future developments contingent on final approval from CAP-TB and USAID.

Laboratory training: From March 27 to 28, Ms. Suwaneer Sungkawasee (Senior Laboratory Specialist, FHI 360 Bangkok) conducted a two-day training for laboratory staff. Ten participants from Yunnan CDC, Yunnan TCC, Kunming CDC, and Yunnan AIDS Care Center attended the training. The training covered TB laboratory diagnostic methods, TB laboratory quality management system, and biosafety. Upon conclusion of the training, Ms. Suwaneer met with Yunnan CDC and Yunnan TCC laboratory head to discuss how FHI 360 could further support the two respective laboratories in obtaining ISO 15189 accreditation.

ISO 15189 requirements training On August 5-9, 2013, Ms. Suwanee Sungkawase provided a training on requirements of ISO 15189 version 2012 for eight laboratory persons from Yunnan CDC and Yunnan TCC. During this training, she introduced the ISO 15189 version 2012 in detail, including management requirements and technical requirements. Following the training, Yunnan CDC designated Mr. Yang Xing from the Yunnan Provincial Reference TB Laboratory and Mr. Yin Kunfu from the TCC laboratory to be responsible for preparing application documents for ISO 15189 version 2012 accreditation.

Lab training: From June 17 to 20, Yunnan CDC conducted a four-day training for laboratory staff. There were 24 participants (17 men and 7 women) from Yunnan CDC, Yunnan TCC, Kunming CDC and its subordinated 14 county CDC laboratory staff. [USAID PMP Indicator 14], The training focused on the introduction of tuberculosis mycobacteria culture and EQA. All trainees used the new methods learned and operated the GeneXpert in the provincial laboratory. In addition, participants had a thorough discussion on the layouts of the TB laboratories at different administrative levels. Suggestions for improvement were put forward to those laboratories not conforming to required standards.

Output 2.2: Strengthen case finding and referral for MDR-TB

According to the NTP, priority for screening of MDR-TB should focus on the following five high-risk groups: 1) retreatment and chronic patients; 2) smear-positive TB patients who are known to have close contact with confirmed MDR-TB patients; 3) TB patients who failed initial treatment; 4) patients who relapsed or returned after defaulting; and 5) TB patients who remain smear positive at month three. The CAP-TB project follows the same protocol for prioritizing MDR-TB screening as the NTP.

TB case finding and referral among PLHIV through Yunnan Blue Sky AIDS Center: At the end of July 2013, CAP-TB China project supported Yunnan Blue Sky AIDS Center to strengthen TB case finding and referral among PLHIV who access their HIV/AIDS services. On August 8th 2013, Mr. Xu Zhixiang of FHI 360 conducted a half-day TB training to eight HIV/AIDS peer educators. A symptom screening tool and outreach flipchart FHI 360 adapted was introduced to the participants in order to guide their TB education with their HIV clients. From August to September 2013, the trained peer counselors screened 140 PLHIV for TB symptoms. 140 PLHIVs were provided TB education through one-on-one or small-group sessions.

Activity 2.2.1: Provide incentives for referrals of MDR-TB suspects and conduct regular feedback meetings among private and public sector health care providers

Color-coded carbon paper referral slips, developed by FHI 360, were distributed to community outreach workers, private clinic physicians, pharmacy staff, and clinical staff at community health centers. When a patient is referred, the referee keeps one copy of the referral slip (green), the outreach worker another (pink), and the patient is given a copy to submit upon arrival to the appropriate health center (white), which ensures a free TB check-up. Outreach workers collate patient information in an A4 referral summary sheet; if a patient does not present at the referral site within one week, outreach workers conduct follow-up tracing. Private healthcare providers are provided with a monetary incentive to participate in CAP-TB's referral system. These providers receive RMB 5 (US \$0.79) for each referral that is taken up, and an additional RMB 10 (US\$ 1.58) for each referred client who tests positive for TB.

FHI 360 and Xi Shan District CDC conducted a referral system and coordination meeting at the Fuhai RD CHC on November 9 2012, as well as during six training sessions for pharmacy and private clinics two on November 23, 2012 and four on 28th and 31st May 2013 (see IR 1.1.3 and IR 1.1.4).

Activity 2.2.2: Train TB health staff in the detection and management of MDR-TB

Three Trainings on MDR-TB detection and management conducted by Dr. Jiang Chenyan (the Union):

On February 27 and 28, Dr. Jiang Chenyan (the Union) conducted a training focused on the diagnosis and management of MDR-TB patients. A total of 44 staff (doctors and nurses) participated in this training (15 men, 29 women), of whom, one (2.3%) was from the national level; 29 (65.9%) were provincial-level staff, and 14 (31.8%) were Kunming municipal level [USAID PMP Indicator 18]. The training focused on the most recent developments in MDR-TB treatment, management of clinical treatment, and treatment side-effects, and

included a discussion of difficult MDR-TB cases, selected from among patient records at Kunming Municipal No. 3 People's Hospital.

On August 13 2013, 69 health care providers from YATA, Yunnan CDC, Yunnan Provincial Infectious Diseases Hospital, Kunming CDC, and Kunming No. 3 Hospital attended a MDR-TB management training supported by CAP-TB project. Dr. Jiang Chenyuan (the Union) updated the participants about the TB pandemic, and shared the best international practices in MDR-TB management. During the training, Jiang and Ms. Xu Lin (Director, Yunnan CDC TB Center) introduced the nine-month short regimen for MDR-TB treatment. This training successfully conveyed to the TB practitioners in Kunming the message that quality standardized treatment will contribute to prevention of MDR-TB in the long run.

On August 14, 2013, Dr. Jiang Chenyuan provided on-site TA to Yunnan TCC. Sixteen TB health staff from Yunnan CDC and Yunnan TCC attended the activity. Dr. Jiang visited and reassessed the newly renovated ward rooms for infection control. Discussion with the clinical staff resolved their confusion and uncertainty about the nine-month short regimen for MDR-TB. The TCC staff increased their confidence and prepared themselves to be part of the clinical trial for the nine-month regimen.

Training on TB/HIV diagnosis and treatment conducted by Dr. Ignacio (the Union): Yunnan province has the highest incidence of HIV in China. Concerns have been raised by many organizations regarding the low diagnosis rates of TB, TB/HIV and MDR-TB in the province. Strengthening the management of these conditions was identified as a key priority. Coordination between the TB and HIV government programs and has historically been poor, worsening the care for patients co-infected with TB and HIV. From 29 July to 3 August, Professor Jose A. Caminero Ignacio Monedero, a TB/HIV and MDR-TB consultant from the Union, conducted a field visit and an intensive clinical course of TB/HIV. He trained 35 clinical doctors from Yunnan CDC, Yunnan TCC, Yunnan AIDS Care Center and Yunnan Provincial Infectious Diseases Hospital. The course was followed by a visit to the Yunnan Province Infectious disease hospital to reinforce and contrast the knowledge acquired with real Chinese clinical cases for discussion. These and other future clinical trainings may be highly beneficial to the reduction of prevalence and mortality among highly complicated TB/HIV and MDR-TB cases. Following the training, HIV/AIDS doctors from Yunnan AIDS Care Center passed on their training to 52 of their colleagues with support of Yunnan Blue Sky AIDS Center.

Output 2.3: Strengthen human resource capacity for MDR-TB management

Activity 2.3.1: Support participation to attend National MDR-TB training conducted by NCTB

1. **National Infection Control training:** Ms. Yang Huijuan, Laboratory staff from Yunnan provincial CDC, attended the national IC training session in Guang Zhou from June 30 to July 6, 2013. The training, sponsored by Chinese Center for Disease Control and Prevention (China CDC), provided basic knowledge of TB infection control.
2. **Management of second line anti-tuberculosis drugs:** From April 14 to 19, Dr. Xu Lin (Chief, Tuberculosis Section, Yunnan CDC), attended a training course on management of second line anti-tuberculosis drugs in Kunming. Dr. Xu Lin will organize training sessions for prefecture-level medical staff on management of second line anti-tuberculosis drugs.
3. **National data analysis seminar on MDR-TB:** Mr. Qiu Yubing, program officer from Yunnan provincial CDC, attended the national data analysis seminar on MDR-TB in Kunming from May 13 to 16, 2013. The training provided an introduction about the global and national MDR-TB situation and discussion of MDR-TB indicators.
4. **TB laboratory testing training:** From May 24 to 27, Mr. Cheng Lianyong and Ms. Lei Yuan attended a 4-day conference in Kunming. The conference gave an introduction to problems and challenges in TB prevention and control, clinical laboratory work in the Twelfth Five-Year TB Plan, operational standards of sputum culture and its clinical application values, and preparedness for laboratories accreditation.
5. **National forum on nursing and care for TB:** On July 18-21 2013, Ms. Nie and Ms. Zhang Wen from Yunnan TCC attended the first-ever national forum on nursing and care for TB in Chong Qing City. In August, Ms. Zhang co-facilitated a small-group session with TB patients putting the training into action.

Activity 2.3.2: Support participants to attend an MDR-TB training conducted by The Union and WHO

NCTB-The Union TB/HIV Training: Xishan CDC Program Officer Mr. Yan Kai attended the Union-led National Center for Tuberculosis Control and Prevention (NCTB) HIV/TB co-infection training in Guiyang (Guizhou Province), from October 22 to 25, 2012. Mr. Yan presented what he learned at the FHI 360-organized HIV/TB grassroots organization capacity-strengthening training on November 19 (see IR4.2.2).

The Union Budget and Financial Management Training Course: From March 24 through 30, FHI 360 supported four people to participate in a training course on budgeting and financial management conducted by The Union in Hangzhou (Zhejiang Province). The training brought together 28 health experts from around China who work on tuberculosis or tobacco control programs. Two FHI 360 staff members attended, along with one staff member from Yunnan CDC and one from Xishan CDC.

Project Management training: The Union China office organized a training course on Project Management in Hohhot on September 9-13, 2013. Zhao Xinru, Program Officer from CAP-TB China Program, and Ms. Deng Yanhong from YIHE attended the training course. The training was conducted by Mr. Rajesh Kapoor, from Centre for Growth Alternatives. This training covered the introduction of key elements of Logframe Analysis (LFA) tool, which is used to improve the overall design of a project, including project planning, implementation, monitoring, and evaluation.

Activity 2.3.3: Support participants to attend clinical management training for clinicians from GMs in Hong Kong

On August 25-30, 2013, a team of seven people from CAP-TB China project (Mr. Xu Zhixiang from FHI 360 Kunming Office, Mr. Hou Jinglong, Mr. Chen Jin Ou, and Ms. Yang Huijuan from YATA/Yunnan CDC, Ms. Guo Yanan and Mr. Lin Rong from Yunnan TCC, and Mr. Xia Xuejing from Xi Shan District CDC) conducted a study tour to TB programs in Hong Kong. The team visited eight organizations from 26-29 August 2013, and they learned about community-based management of TB/MDR-TB, diagnosis and clinical treatment of TB/MDR-TB, as well as counseling and support for treatment adherence.

Output 2.4: Scaled-up quality treatment and community approaches for PMDT

Activity 2.4.1: Provide support to cover gaps in MDR-TB patient management

Psychological support Training: On December 11, three Yunnan TCC nurses participated in a training on HIV palliative care, TB/HIV, and psychological support, led by Ms. Lian Aizhu from the Hong Kong AIDS Foundation. The training focused on understanding patients' perspectives, especially in reframing understanding of noncompliance.

Consultation meeting with HIV/AIDS practitioners for TB counseling: Counselling, well-established in the HIV/AIDS field, remains weak for TB adherence. On April 24, CAP-TB Kunming Office organized a consultation meeting with 14 health practitioners and NGO social workers (5 men and 9 women) in Kunming who have rich experience in providing counselling services for HIV/AIDS. The participants were from Kunming No. 3 Hospital, Yunnan AIDS Care Center, AIDS Care China, Yunnan Daytop and Kunming CDC and Yunnan TCC. The meeting was intended to facilitate a process for development of a technical guideline for TB related counselling with their input. HIV/AIDS colleagues helped the doctors from the Yunnan TCC realize the importance of counseling for treatment adherence.

First TB Counseling Training: On July 4, FHI 360 organized the first ever half-day TB counselling training at Yunnan TCC. There were 23 participants from YATA, Yunnan TCC, Xishan CDC and the CAP-TB outreach team, including Mr. Huang Zhengdong, a MDR-TB patient who joined in CAP-TB as a peer counselor in June 2013. [CAP-TB indicator 16]. Through participatory sessions, the participants explored and learned how poor communication results in poor health education among TB patients.

TB Counseling Training Workshop by Oc Lin: Invited by FHI 360 and YATA, Ms. Oc Lin from Hong Kong AIDS Foundation facilitated a counseling training for 25 participants from FHI 360, Yunnan CDC,

Yunnan Institute for Health Education, Kunming CDC, Kunming No. 3 Hospital and Xishan CDC. [CAP-TB indicator 16].

Case Interviews with MDR-TB Patients: In order to better understand the lives and perspectives of MDR-TB patients for better treatment results, two local consultants (Ms. Shi Qing and Ms. Xia Donghua) were hired to interview 24 MDR-TB patients in June and July under treatment from Yunnan TCC. The two consultants drafted a report that defined the experiences and perspectives of MDR-TB patients and how they may shape their health seeking behavior and treatment adherence for TB. The findings from the case interviews are invaluable to inform counseling for TB treatment adherence. The report (in Chinese) was finalized in September 2013.

Key findings from the interviews can be summarized as follows.

1. **Self-treatment:** 46% of patients reported self-treatment when they initially had TB symptoms. This was prior to seeking care at the TB clinics/hospital /CDC.
2. **Traditional Chinese Medical Treatment:** During their TB treatment, 33% of patients chose to interrupt standard treatment of TB in favor of Traditional Chinese Medical treatment. Main reasons were due to side effects and a lack of confidence in TB treatment
3. **Economic factors:** 77% of patients stated that economic factors affect (or will affect) their adherence of MDR-TB treatment.
4. **Side effects:** 100% of patients on MDR-TB treatment for one month or greater indicated that negative side effects are another reason for lack of adherence to treatment.
5. **Peer support:** 54% of MDR-TB patients express that peer support is very helpful. Sharing the information, communication with fellow MDR-TB patients can improve their treatment adherence
6. **Medical term:** 50% of MDR-TB patients expressed that they cannot understand clearly when the doctors communicate with them, due to the use of medical terminology.
7. **Infection control:** 100% MDR-TB patients know the transmission routes of TB and how to protect other people. But in their daily behaviors, only 29% of them wear masks while at home or in public places. 14% of the patients sleep separately from their spouse/partner.

Education and counseling for TB/MDR-TB patients: Mr. Huang Zhengdong, an MDR-TB patient on treatment, expressed his willingness to work as a peer educator/counselor for CAP-TB project. Since June, he has begun to receive rounds of trainings, on-site coaching and mentoring from FHI 360 staff and HIV/AIDS counselors. At the same time, Huang conducted online TB education through two QQ groups, a popular social media platform in China, with more than 500 members/TB patients on a daily basis. Informed by experiences of TB patients online, He set up a QQ group for TB patients who received treatment at Yunnan TCC with a goal of providing accurate information, education and communication built upon mutual trust among TB/MDR-TB patients. By the end of September, 11 TB patients from Yunnan TCC were registered in this the newly built QQ group. The group discussed major concerns and healthy emotional habits for healing. During the reporting period, Huang provided close online support to around sixty MDR-TB patients. At the Yunnan TCC, Huang provided face to face TB education and support to 27 TB/MDR-TB patients and their family members. Huang also worked closely with TCC staff to facilitate small-group sessions with patients and their families.

IR 3: Improved strategic information for MDR-TB

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

A monitoring and evaluation (M&E) diagram was produced by FHI 360 to facilitate management and tracking of program data. Standard guidelines for CAP-TB partners were produced by FHI 360 so that all relevant CAP-TB M&E materials could be easily stored in one place and provide a reference for M&E focal points.

Activity 3.1.1: Conduct external review of MDR-TB management in Kunming

From December 12 to 14, the Union-China Office Director Dr. Lin Yan visited CAP-TB sites to identify TA needs from the Union for FY13. By the end of the trip, a TA plan was drafted which included training on case reviews, HIV and diabetes co-infection, and the nine-month treatment regimen.

Activity 3.1.2: Assist with the establishment of TB Working Group and conduct regular working group meetings

Regular TB Working Group activities: Since the first TB Working Group meeting in July 2012, the CAP-TB project has successfully established a coordination and communication mechanism through regular working group meetings and daily online contacts via the CAP-TB QQ Group. The working group included: YATA, Yunnan TCC, Kunming CDC, Xi Shan CDC, CHCs in Fu Hai, Zongshuying and Haikou, XI Shan. Women's Federation, Yunnan Blue Sky AIDS Center, and CAP-TB outreach team as well as the FHI 360 team. During the reporting period, eight meetings were held every one or two months.

Annual project review workshop: The last TB Working Group meeting in FY13 was conducted on 18 September 2013 - an annual project review meeting. Among the 40 participants were a few key government officials from Yunnan Province. Ms. Xu Lin, Director of Yunnan CDC TB Center, and Ms. Li Ling, FHI 360 CAP-TB China Program Manager reviewed CAP-TB activities achieved in FY13 and pinpointed the strategic direction for FY14.

Activity 3.1.3: Provide TA for site supervision

YATA/Yunnan CDC, FHI 360, Kunming CDC and Xi Shan CDC paid field visits to CAP-TB sites on a monthly basis or when needs arose.

Activity 3.1.4: Strengthen Data Quality Assurance (DQA) and data analysis to Yunnan CDC and Xishan CDC for data management

Data Quality Assessment: From March 19 to 21, Ms. Shanthi Noriega accompanied the USAID Strategic Information Team (Ms. Ravipa Vannakit and Ms. Marisa Sanguankwamdee) from Bangkok to Kunming in order to jointly conduct the first data quality assessment (DQA) for CAP-TB China. The designated M&E focal points from YATA, Yunnan CDC, Xishan CDC, Yunnan TCC, Fuhai and Zongshuying CHCs, and the community outreach workers and team leader attended the DQA interview led by Ms. Noriega on Day One. Ms. Fei Yiju, M&E focal point for Xishan Women's Federation, also attended as an observer. Through the DQA interview, it was concluded that CAP-TB China program has an overall solid M&E system, particularly in the establishment of M&E focal persons, clear roles and responsibilities of the different partners, and documentation tools in both English and Chinese.

On Day Two, a data validation exercise was conducted to examine three USAID indicators chosen for DQA: 1) number of people reached with TB prevention and treatment messages; 2) number of private sector partners working with NTP with USAID support; and 3) number of newly diagnosed MDR-TB patients initiated on treatment. While data validation found that M&E forms are correctly completed the majority of the time, the following key issues were identified for data collected by outreach workers: 1) Not all source documents were available for DQA, 2) 228 records for the last two weeks of December 2012 were missing from the database (one outreach worker had not submitted her forms), and 3) 27 clients reached by community outreach workers were not reported in the final database. After the DQA activity, the community outreach team worked with FHI 360 to verify data and identified the problems that led to underreporting.

Based on the DQA results and recommendations, FHI 360 Kunming undertook specific actions to improve the CAP-TB M&E system. Since the DQA activity in March 2013, the CAP-TB team enforced strict review procedures to ensure data quality, especially for routine activities such as outreach and education. The CAP-TB outreach team leader conducted data verification and entry into computer on a monthly basis with FHI 360 Program Officer conducting double entry for one quarter.

Improvements on the information system for MDR-TB management: Dr. Jiang Chenyuan (the Union) assessed the information system for MDR-TB management at the Kunming CDC on August 14 2013. He identified the information gaps and discussed solutions with the Yunnan CDC and Kunming CDC. The National web-based information system contained information on diagnosis of MDR-TB, including number of drug-resistant TB suspects, number with sputum culture (stratified by solid and liquid culture), results of

culture (positive, negative, contamination, results not yet available), identification (*M. tuberculosis*, non-tuberculosis mycobacterium), and DST results (pattern of resistance, and results not yet available). Although the information found in the system was quite extensive, it was not always readily organized or accessible by patient cohorts, thus making it more difficult for health care providers to access the information while treating their patients. This was discussed with the CDC to identify potential solutions and next steps.

Output 3.2: Increased TB research activity

Nine-Month MDR-TB Regimen: FY13 saw rounds of internal consultation, preparation of protocol, and discussion within CAP-TB China team and with the Union, NCTB and WHO about the nine-month short regimen which was shown to have superior treatment success rates (87.9%) for MDR-TB in Bangladesh. During Dr. Jiang Chenyuan's TA trip to CAP-TB China sites in August, he discussed in detail with the local CAP-TB partners about the flowcharts for patient treatment and management, procurement of second-line drugs for MDR-TB, a supportive information system for MDR-TB management, and standard operating procedures. The Union Beijing office helped to organized two meetings with the NCTB and WHO to discuss this nine-month regimen in Beijing. The National China TB Bureau has now indicated their support for the 9-month regimen and will take the lead in presenting the protocol to the MOH for their approval. The CAP-TB team will provide technical support in monitoring and study implementation for the nine-month regimen. The protocol was finalized at the end of September and shared with NCTB and WHO for their further action.

DM/TB bi-directional screening: With the support of the Union, CAP-TB China initiated a six-month implementation of DM/TB bi-directional screening in Kunming. i.e. testing for TB in diabetes patients in routine community health services at ten community health clinics in Xi Shan District, and checking blood sugar levels to test for diabetes among TB patients at Yunnan TCC. Standardized monthly reports and daily patient records have been used to track number of people screened for DM/TB. In order to ensure consistency in quality of services and data, YATA and the Union paid monitoring visits to all the sites three times from June to August 2013 and provided on-site training when needed. Data will be analyzed after completion at the end of March 2014. By the end of September 2013, a total of 1,250 D/M patients were screened for TB and 236 TB patients, for DM. 56 TB suspects were identified among DM patients, two of whom were confirmed. 14 DM patients were identified among TB patients, two of whom were newly confirmed.

Activity 3.2.1: Disseminate gender assessment findings among partners in Xishan District TB Trends Module

FHI 360 adapted, tested and conducted a community survey to assess local knowledge, attitudes, and beliefs about TB (TB Trends module) in FY13. By the end of FY13 Q2, 442 surveys were completed. Overall, respondents tended to have a secondary school educational level (44%), were employed (64%) and married (86%). Among the 442 participants interviewed, 149 (33.7%) had never heard of TB before with a significant gender difference between males (41%) and females (26%) (p-value 0.0012). In addition, participants demonstrated poor TB knowledge, with approximately half (52%) of those surveyed aware that cough with blood was a symptom of TB, and only 19% aware that weight loss was also a TB symptom. Lack of knowledge was also found in how TB is cured, with 48% of the participants reporting that Chinese medicine could cure TB.

IR 4: Strengthened enabling environment for MDR-TB prevention and control

The CAP-TB project aims to provide a holistic strategy to further improve the current system of TB control and prevention by coordinating key stakeholders from government, civil society, and the private sector. In Kunming, the CAP-TB working group is the cornerstone of this approach.

Output 4.2: Strengthened partnerships for quality TB care include the private sector

Activity 4.2.1: Conduct regular referral coordination meetings with private and public sector

Xishan District Government-led Coordination Meeting: On December 14, 2012 a coordination meeting was held in Xishan District to discuss referral of clients with suspected TB infection. Deputy Director Jin Wen (Kunming Municipal Food and Drug Administration Bureau) attended the meeting, providing governmental

leadership and support for the involvement of pharmacies in TB and MDR-TB case-finding. There were more than 20 participants, including six pharmacy representatives.

Coordination meeting with Xi Shan Food and Drug Administration Bureau (FDA): In order to make pharmacies participated actively in CAP-TB program. Xishan CDC organized a coordination meeting with the FDA on Sep, 26, 2013. A total of 30 people attended this activity (13 men, 17 women). During the meeting, YATA and Xi Shan District CDC presented what has been done on TB prevention and education for pharmacies, including: community health worker visits to pharmacies to advocate for TB education, building trust-worthy relations, and follow-up on proper referral practices etc. The FDA showed a great interest in the CAP-TB program, and joint collaboration in FY 14 was discussed in this meeting.

National-level Commendation for CAP-TB: In keeping with Chinese laws governing the operation of foreign non-governmental organization (NGOs), on November 29 the Yunnan Anti-TB Association, as a CAP-TB partner, met with the National Ministry of Civil Affairs' Bureau of NGO Management and the Yunnan Provincial Department of Civil Affairs' Unit of NGO Management to review the FHI 360 CAP-TB project. The review found that CAP-TB is in complete accordance with national guidelines and, most encouragingly, deemed the project's model for comprehensive collaboration to be worthy of replication by other Sino-foreign NGO partnerships.

Coordination meetings with Kunming No. 3 Hospital for MDR-TB prevention: Kunming CDC organized two coordination meetings with Kunming No. 3 Hospital, one on 24 May, and the other on 11 July 2013. FHI 360 facilitated the discussion between Kunming No. 3 Hospital and Kunming CDC/Xi Shan District CDC. Major outputs of the meetings were increased understanding between clinical doctors at Kunming No. 3 Hospital and public health doctors in the CDC system and a clearly defined patient flow chart for a reliable referral network with stronger community-based support for those patients from Xi Shan District receiving TB treatment in Kunming No. 3 Hospital.

Activity 4.2.2: Conduct private/public sector experience sharing meeting

HIV/TB Collaborative Activities: In collaboration with CAP-TB partners, and with Global Fund to Fight AIDS, TB, and Malaria (Global Fund) funding, FHI 360 coordinated China's first capacity strengthening training for HIV/TB grassroots organizations. Thirty-five participants from 22 HIV community-based organizations (CBOs) across Yunnan participated in the training, held on November 19-23, which served as a platform for government TB experts, CAP-TB outreach workers, and HIV CBO staff to share experiences and discuss the next steps for TB prevention and control.

After the training, CAP-TB staff selected three HIV CBOs to disseminate TB information among their constituents. Selection criteria included willingness to collaborate with CAP-TB and previous health-related work experience (i.e., HIV prevention and TB screening among HIV patients). These CBOs have incorporated TB awareness activities into 31 of their group activities, and referred nine individuals with TB symptoms for screening, one of whom took up the referral.

Meeting with NCTB: From May 15 to 16, CAP-TB China project conducted the first official meeting with NCTB to present the project, its strategic model, and its priorities for FY13. Also present in this meeting was CAP-TB partner YATA, GFATM, WHO, and IUATLD. In addition to presenting the project's priorities, there was also important discussion among the group on the 9-month MDR-TB "short regimen". Many details were preliminarily discussed, including financial support for the 9-month regimen and second-line drug procurement. Close coordination with the NCTB, CAP-TB partner IUATLD, and the YATA will continue over FY14 to advocate for piloting the short regimen in China. The NCTB has now taken the lead in submitting the protocol through the MOH for approval, which is the best strategy for sustainability but will likely delay implementation of the short regimen.

Challenges Encountered during FY 13

Despite the many activities undertaken during the reporting period, several important challenges were also encountered, which have the potential to influence future project implementation. Three of these challenges are highlighted below.

1. **Proper intervention on migrant/mobile populations:** Reaching the migrant/mobile population in their communities is challenging, particularly exposure to the male population who work during the day. Trainings for construction workers scheduled by CAP-TB have been subject to changes, including time, location, and number of participants; cancellations have also occurred. Moving forward, several strategic approaches to enhance proper interventions on migrant workers could include: 1) mapping activities in order to identify the precise location where migrants work and live within the CAP-TB catchment area, as well as where migrant children attend school; 2) short semi-structured questionnaires in order to better understand migrants' TB knowledge, as well as times and places where appropriate trainings could take place; 3) the identification of relevant government departments towards the incorporation of TB training sessions into the routine supervision and management of mobile workers; 4) continued contact with large construction companies to ensure that on-site, high-quality TB training sessions are available to mobile workers.
2. **Proper referrals through Private-Public Partnership (PPP):** During the reporting period, FHI 360 Kunming CAP-TB project has strongly engaged the private sector with limited success. Proper referrals continue to be a challenge. Referrals initiated from outreach workers remain suboptimal, despite sustained efforts Monday through Friday across the CAP-TB catchment area. From the side of private sector, clinics have initiated successful referrals while pharmacies have yet to do so. A consultation with private clinics and pharmacies conducted in April revealed confusion about proper referral under CAP-TB, demonstrating inconsistencies and mistakes in responses for proper referral sites. Further challenges from the private sector include: high-staff turnover, minimal understanding of CAP-TB program by floor staff (as opposed to managers and higher-level staff), not using CAP-TB referral cards, and patients being charged for free TB services.
3. **Quality counseling and care for TB patients is critical:** As revealed from the case interviews with MDR-TB patients, poor quality of TB education resulted in poor treatment adherence among patients who are struggling with their real everyday lives. The doctors at Yunnan TCC realized that they can promote good treatment adherence among TB patients through quality counseling and care in close partnership with peer educators. Promoting clear doctor-patient relationships and building trust will continue to be an emphasis of CAP-TB's advocacy and education for FY14.

Narrative III: Success Stories

Doctors and Patients Working Together to Fight Tuberculosis

Since the launch of the CAP-TB China program in July 2012, FHI 360 and its partners have coordinated with experts and consultants on technical issues and fostered dialogue at high administrative levels. But we always strive to maintain a strong focus on what really matters: tuberculosis patients. If we maintain that as a starting point, the other priorities will benefit in turn. For that reason, CAP-TB has directed a substantial effort towards strong support at the patient level.

At the Yunnan Province Tuberculosis Clinical Center, the effects have been profound. For Ms. Guo, an administrator, the result is that she no longer sees her work as merely a job. "After participating in these training sessions, I have a stronger connection to patients. I see now that these patients are disadvantaged and that I can provide the help they need." Dr. Yu mirrors this sentiment: "Before it was simple; one solely had to treat the physical symptoms and be done. Now we understand there are also psychological needs, which help patients adhere to difficult drug regimens and ultimately improve treatment outcomes."

These activities are also giving a voice to tuberculosis patients. A monthly support group provides a venue for patients to share experiences and express their concerns to the Center's staff. Since June 2013, Mr. Huang Zhengdong, who is currently being treated for MDR-TB, has joined the CAP-TB team as a peer educator. His participation in trainings has provided doctors and nurses with pivotal insight on the patient



Photo: First TB/MDR-TB adherence counseling training (MDR-TB patient Mr. Huang Zhengdong and health provider: Mr. Hou Jinglong)

perspective. Mr. Huang has further used the knowledge garnered through CAP-TB to reach out to tuberculosis patients across China using the popular social media chat platform, QQ. We hope that empowering tuberculosis patients, and refocusing the attitudes of specialists towards a more patient-centered approach, may support the effectiveness of the other treatment methods. A patient's healing may be easier when given greater understanding and engagement in one's own treatment.

Annex I: Method used to estimate total number of individuals reached (Narrative)

When CAP-TB China project was officially launched in July 2012, simple M&E forms were used to collect number of people reached through outreach and TB clinical services in case. With support of MS. Shanthi Noriega from FHI 360 APRO, FHI 360 Kunming Office strengthened the M&E system for CAP-TB Project during her TA trip in December 2012. FHI 360 designed a series of data collection forms which are used to collect relevant information (i.e., date of service, age, gender, target group, new or follow-up, last contact time, etc.) from each *individual* reached by CAP-TB project. The forms went through several rounds of feedback and revision between APRO and Kunming Office before being used by the IA and local partners in February 2013. Before February, information distinguishing individuals on being new or follow-up had not added to the form. Thus, the number reached through outreach prior to February 2013 represents the number of encounters rather than number of individuals.

Under CAP-TB, different partners have different roles for provision of services. The number of people reached through clinical service or home-based care for patients can be tracked by specific information such as client names and age. For large-group activities such as community events and World TB Day campaign, the number of people reached was an estimation of the total number of the participants through direct observation.

Annex II: Adjustment factor to calculate for potential overlap among different partners and other USG (Narrative)

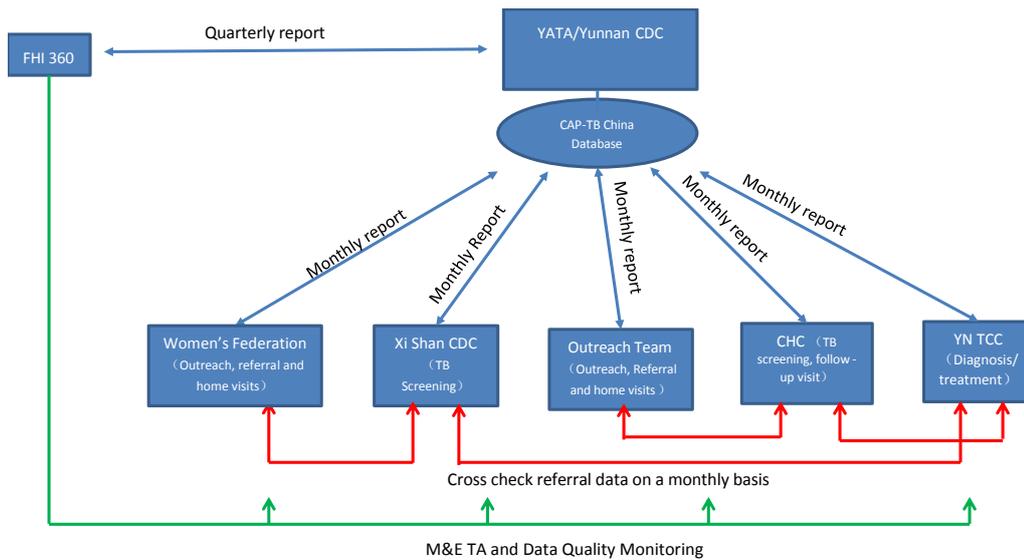
USG funded partners: Population Services International (PSI) -China received USG funding through CAP-3D, working in the same geographic area of CAP-TB. Their program was on PPM (Private Public Mix) – DOTs. Given that the CAP-3D scope of work was distinct from CAP-TB, no overlap in programming between USG partners occurred. The CAP-3D project has now closed in Kunming, thus there is no risk for overlap now.

Through the CAP-TB working group, the project coordinated among its implementing partners to keep clear the different roles for service delivery in order to avoid overlap.

Partners funded by other donors: CAP-TB project has been programmed in close coordination with NTP through YATA/Yunnan CDC, the implementing agency which leads the CAP-TB work in China. Through regular meetings with the health officials and CDC leaders responsible for TB work in Kunming and in Yunnan, CAP-TB project made the scope of work clear to other TB programs funded or supported by the Chinese government. Yunnan CDC manages the GFATM funded TB program in Yunnan. Through coordination, CAP-TB project filled in the gap by providing package of services (nutrition and transportation) to the TB/MDR-TB patients supported by GFATM which didn't have budget to cover it since June 2013.

Annex III: Processes carried out to ensure data quality

FHI 360 developed a data flow chart that included all the involved local partners with components, flow of reporting, feedback mechanism and responsibilities of related staff. The data management process of CAP TB project was explained to program and M&E staff of each local partner through CAP-TB bi-monthly meetings and field visits to each service site. Through the CAP-TB Working Group via QQ, a social media site in China, all the M&E staff are connected conveniently for instant communication and feedback about M&E issues on a daily basis.



The CAP TB DQA checklist and assessment documents had been developed based on the *Data Quality Assessment Standard Operating Procedure of USAID RDMA Performance Management Plan by APRO*. It serves as a guideline for DQA practices in the country. FHI 360 APRO and USAID Strategic Information Team jointly conducted the first data quality assessment in March 2013. FHI 360, together with all the CAP-TB partners, took actions to address all the recommendations and issues from the DQA (for details, please see Activity 3.1.4). All the local partners have prepared and reviewed their M&E data carefully on a monthly basis to ensure quality of data to be submitted to YATA. The second DQA activity, which was scheduled to take place in September 2013, was postponed to October 2013 as most of the IAs and their M&E staff were not able to commit their time to the original DQA schedule. FHI 360 program officers will interview M&E staff and check records during their field visits to each site, using CAP-TB DQA guidance and checklist.

Annex IV: Summary of accomplishments against the work plan and targets

Please reference Annex III, Project Narrative, and CAP-TB Data Collection Form

