



**Challenge TB
Year 1
Performance Monitoring Report
April 1 - June 30, 2015**



USAID
FROM THE AMERICAN PEOPLE

CHALLENGE TB

August 14th 2015

Challenge TB Partners:

American Thoracic Society (ATS)

FHI 360

Interactive Research & Development (IRD)

International Union Against Tuberculosis and Lung Disease
(The Union)

Japan Anti-Tuberculosis Association (JATA)

KNCV Tuberculosis Foundation (KNCV)

Management Sciences for Health (MSH)

PATH

World Health Organization (WHO)

Cover photo:

"If I can be cured of drug-resistant TB, everyone should too."

(Credit: Moh. Roni, Winner of the CTB-Indonesia Photo Contest at International Meeting Week, May 2015)

This photo is of a multidrug-resistant TB (MDR-TB) patient who has successfully completed his 20-month course of treatment (June 2013 to September 2014). While on treatment, he still worked as a garbage man in a residential complex. His motivation to complete the treatment was triggered by knowing that MDR-TB is curable, even in patients in a worse state than he.

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Disclaimer

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.



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Abbreviations

ACF	Active case-finding
AFB	Acid-fast bacilli
ART	Antiretroviral therapy
CB-DOTS	Community-Based DOTS
CCM	Country Coordination Mechanism
C/DST	Culture/drug susceptibility testing
CEM	Cohort event monitoring
CN	Concept note
CoE	Center of Excellence
CPLT	Provincial TB and Leprosy Coordination Departments
cPMDT	Community-based programmatic management of drug-resistant TB
CTB	Challenge TB
CXR	Chest x-ray
DF	Damien Foundation
DM	Diabetes mellitus
DOT	Directly observed therapy
DOTS	Directly observed therapy, short course
DQA	Data quality assessment
DRC	Democratic Republic of the Congo
DRS	Drug resistance survey
DR-TB	Drug-resistant tuberculosis
DST	Drug susceptibility testing
ECH	Empowerment Community for Health
ECSA	East, Central and Southern Africa Health Community
EQA	External quality assurance
FDC	Foundation for Community Development
GF	Global Fund to Fight AIDS, Tuberculosis and Malaria
HC	Health center
HIPA	Health Information, Policy and Advocacy
IC	Infection control
IDP	Internally displaced persons
IPAC	Portuguese Institute of Accreditation
IMNCI	Integrated Management of Newborn and Childhood Illness
INH	Isoniazid
IPT	Isoniazid preventive therapy
JATA	Japan Anti-Tuberculosis Association
LED-FM	Light-emitting diode fluorescent microscopy
LTBI	Latent TB infection
KNCV	KNCV Tuberculosis Foundation
MDR-TB	Multidrug-resistant tuberculosis
M&E	Monitoring and evaluation
MoH	Ministry of Health
MSH	Management Sciences for Health
MTB+	Mycobacterium tuberculosis detected (Xpert)
NAP	National AIDS Program
NSP	National strategic plan
NTP	National TB Program
NRL	National Reference Laboratory
OR	Operations research
PCA	Patient-centered approach
PLHIV	People Living with HIV
PMD	Cambodia Preventive Medicine Department
PMDT	Programmatic management of drug-resistant tuberculosis
PMU	Project Management Unit
POC	Protection of Civilians
PPM	Public private mix
PR	Principal recipient
PV	Pharmacovigilance
RH	Regional hospital, referral hospital
RIF	Rifampicin
RR-TB	Rifampicin-resistant tuberculosis
SLD	Second-line drug
SNNPR	Southern Nations and Nationalities Region (Ethiopia)
SNRL	Supranational Reference Laboratory
SOP	Standard operating procedures
SR	Sub Recipient
TA	Technical assistance
TB	Tuberculosis
TB IC	TB infection control
TB CAP	Tuberculosis Control Assistance Program
TBMU	TB Management Unit
TBPS	TB prevalence survey
TRAC	TB Research Annual Conference
TRP	Technical review panel
TOT	Training of trainers
UCDC	Ukrainian Center for Socially Dangerous Disease Control
URC	Ukrainian Red Cross Society
USAID	United States Agency for International Development
VHSG	Village Health Support Group
WHO	World Health Organization
WTD	World TB Day
XDR-TB	Extensively drug-resistant tuberculosis
Xpert	GeneXpert MTB/RIF



Executive Summary

Challenge TB (CTB) is the global flagship mechanism of the United States Agency for International Development (USAID) to prevent and control tuberculosis (TB). Nine months into the project (launched October 1, 2014), CTB already has notable results and achievements to highlight from its East Africa Region project and 17 country projects. This performance monitoring report summarizes program progress, achievements and challenges between April and June 2015. The program's most significant achievements from the reporting period and challenges for the next quarter are highlighted below.

Main Achievements:

- **Afghanistan** - During the quarter, about 6,970 individuals were registered as having close contact with TB patients, which comprises 64% of the estimated 10,935 contacts to bacteriologically confirmed (bac+) TB patients. Of these contacts, 1,470 (21%) were identified as presumptive TB and screened for TB. Among them, 119 (8%) were diagnosed as having TB (all forms), which demonstrates a 37% improvement in the case notification among household contacts in comparison to last quarter.
- **Cambodia** - CTB supported the NTP to conduct active case finding (ACF) among inmates and prison staff in six prisons. There were 4,429 inmates screened by chest x-ray (CXR) in June. Among those, 13% (563) had abnormal CXR, 36% (203) of which were identified as presumptive TB. Of those, 27% (55) were diagnosed with TB and are getting TB treatment.
- **Democratic Republic of the Congo (DRC)** - Laboratory supervisory visits carried out in seven provinces enabled CTB to identify an imminent stock-out of laboratory reagents due to delays in Global Fund (GF) procurements. An urgent request was made to USAID for local procurement of laboratory reagents for one quarter. This emergency supply was delivered in July and interruption of TB laboratory services was averted.
- **Ethiopia** - The operations research (OR) study, Cross Sectional Study Evaluating Routine Contact Investigation in Addis Ababa, Ethiopia: A Missed Opportunity to Prevent Tuberculosis in Children, conducted under TB CARE I, was published in the international peer-reviewed journal PLoS One on June 17, 2015 (<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0129135>).
- **India** - The Ministry of Health (MoH), in partnership with USAID, The Union and WHO, launched the Call to Action for a TB-Free India - an initiative supported by CTB - on April 23, 2015 in New Delhi. Around 250 people attended the launch; guests expressed their support by signing on the 'Wall of Commitment'.
- **Indonesia** - With technical support from CTB, mandatory notification of TB has been included in a final draft Decree of the Minister of Health. This means TB will be a notifiable disease and all health providers delivering TB services will be obliged to report cases to the NTP. Through regulation enforcement on mandatory notification, it is expected that large numbers of diagnosed TB patients in the private sector will be captured by the surveillance system.
- **South Sudan** - CTB continued to support partners implementing TB services in internally displaced persons (IDP) camps. In just two IDP camps this quarter, 128 presumptive TB cases were identified from which 23% (30) were diagnosed with bacteriologically confirmed TB.
- **Ukraine** - CTB finalized a comprehensive training curriculum on MDR-TB case management this quarter. The versatile and easily-tailored curriculum reflects the newest WHO guidelines and recommendations as well as the latest Ukrainian TB protocol approved in 2014.
- **Zimbabwe** - A full day postgraduate course, Making sense and use of routine TB data for management, has been accepted to the 46th Union World Conference on Lung Health (December in Cape Town, South Africa). The course focuses on data collection, analysis and use based on the Zimbabwe experience.

Main Challenges:

- Several country projects have had difficulty finding qualified technical staff for the project (i.e. local Laboratory Advisors in Burma and Cambodia, Country Director in Malawi). The projects are prioritizing recruitment efforts and the Program Management Unit (PMU) will support efforts where necessary.
- Several CTB countries - Bangladesh, Burma, DRC, India, Malawi, Tanzania, and Ukraine - are not transitioning from TB CARE I to CTB, but are new to the coalition. The PMU continues to work closely with the project teams to ensure a smooth and rapid start of these projects given the additional effort required to initiate activities (office set up, staffing, relationship building, etc.).
- With the exception of the transmission study (approved in July), the core projects are still under development due to their long-term nature, size and methodologic complexity. Special attention is given to detail, ensuring that realistic and methodologically sound work plans are developed, and in turn, rapid start-up takes place once work plans are approved.

Introduction

Challenge TB is USAID's flagship global mechanism for implementing the United States Government (USG) TB strategy as well as contributing to TB/HIV activities under the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). Launched on October 1, 2014, this five-year cooperative agreement (2014-2019) builds and expands upon previous USAID global programs, namely TB CARE I (2010-2015), the Tuberculosis Control Assistance Program (TB CAP, 2005-2010) and Tuberculosis Control Technical Assistance (TBCTA, 2000-2005). KNCV Tuberculosis Foundation (KNCV), which also led the aforementioned programs, leads a unique and experienced coalition of nine partners implementing CTB. The coalition partners are: American Thoracic Society (ATS), FHI 360, Interactive Research and Development (IRD), International Union Against Tuberculosis and Lung Disease (The Union), Japan Anti-Tuberculosis Association (JATA), Management Sciences for Health (MSH), PATH and World Health Organization (WHO).

Working closely with Ministries of Health, USAID, Global Fund, the STOP TB Partnership and other key stakeholders at a global, regional, national and community level, Challenge TB contributes to the WHO End TB Strategy targets:

Vision: A world free of TB

Goal: To end the global TB epidemic

By 2025: A 75% reduction in TB deaths (compared with 2015) and less than 50 cases per 100,000 population.

Aligned with the USG strategy to prevent and control TB, Challenge TB has three objectives, each with several focus areas for interventions:

Objective 1: Improved access to high-quality patient-centered TB, DR-TB & TB/HIV services by:

- Improving the enabling environment
- Ensuring a comprehensive, high quality diagnostic network
- Strengthening patient-centered care and treatment

Objective 2: Prevent transmission and disease progression by:

- Targeted screening for active TB
- Implementing infection control measures
- Managing latent TB infection

Objective 3: Strengthen TB service delivery platforms by:

- Enhancing political commitment and leadership
- Strengthening drug and commodity management systems
- Ensuring quality data, surveillance and monitoring & evaluation
- Supporting human resource development
- Building comprehensive partnerships and informed community engagement.

CTB implements projects at the country, regional and international/global level with the majority of the program's work being done through country-specific projects. As of June 30, 2015, 17 countries had approved Year 1 CTB work plans, seven of which were newly approved this quarter (Afghanistan, Burma, Kyrgyzstan, Malawi, South Sudan, Tajikistan and Tanzania). Updates for these projects are provided in the country project section on page 12. When accounting for the four additional country projects with work plans under development (Botswana, Namibia, Nigeria and Uzbekistan), there are 21 total country projects anticipated in Year 1 under CTB. Many of these forthcoming work plans will run through September 2016 (Year 2).

At the regional level, CTB launched a project in the East African Region this quarter, which builds upon the successes of the previous individual regional projects under TB CARE I while leveraging those partnerships for greater reach and results. More information on this project is available on page 28.

CTB is also working on priority projects that have implications for TB prevention and control globally. 'Core' project plans that were under development during the reporting period included:

1. Prevention: A randomized open-label trial to evaluate the efficacy of periodic high dose rifapentine and isoniazid (INH) for three months compared to continuous INH preventive therapy in HIV-infected and TB-infected adults
2. Transmission: Quantifying the effect of interventions on transmission of Mycobacterium tuberculosis (MTB) - approved in July 2015
3. Measurement of:
 - a. Stigma,
 - b. Catastrophic costs to patients,
 - c. Quality of and access to diagnosis, treatment and care.

Program Management Unit (PMU)

A major focus this quarter was on the five-day workshop for all CTB Country Directors (CD) held in The Hague, Netherlands from June 1-5, 2015. Representatives (including a few Deputy Directors and Technical Advisors) from 19 countries attended the interactive event, which covered multi-year strategic development, project management, M&E, key technical topics and the launch of the Year 2 work planning process. Partner Project Officers (5) also attended the workshop as well as a concurrent training on CTB project and financial management procedures.

In addition, an M&E workshop for 11 CTB country M&E Officers ran synchronously with the CD meeting. The workshop included trainings on key M&E principles, extensive discussions on CTB mandatory indicators and information/experience exchange between countries. Participants joined the CD meeting when sessions were applicable to M&E Officers.

Knowledge Exchange:

The Challenge TB website (www.challengegetb.org) was officially launched on June 1, 2015 and contains news, information, country plans, tools, vacancies and more. Data on website usage during the month of June can be found below. The top five countries of visitor origin are: Russia, Netherlands, USA, Nigeria and India.

Summary of visitors to the CTB website in June 2015

Number of Visitors	809
Number of Countries Visitors Came From	69
Number of Pages Viewed	2,136
Total Number of Downloaded Documents	117

Top 10 most popular downloads [Number of downloads]:

1. Understanding and Using Tuberculosis Data (WHO 2014) [11]
2. Recommendations for Investigating Contacts of Persons with Infectious Tuberculosis in Low- and Middle-income Countries: Adaptation and Implementation Guide (WHO 2015) [8]
3. A Guide to Monitoring and Evaluation for Collaborative TB/HIV Activities (WHO 2015) [7]
4. A Compendium of Indicators for Monitoring and Evaluating National TB Programs (WHO 2004) [6]
5. Manual on use of routine data quality assessment (RDQA) tool for TB monitoring (WHO 2011) [6]
6. GeneXpert Training Materials with Guides (KNCV 2015) [6]
7. Innovations in TB Data Quality: An M&E Workshop Facilitators Guide (KNCV 2015) [5]
8. TB Recording and Reporting Forms and Registers (WHO 2013) [4]
9. Assessing Tuberculosis Under-reporting Through Inventory Studies (WHO 2012) [3]
10. Electronic Recording and Reporting for Tuberculosis Care and Control (WHO 2012) [3]



Country Directors Meeting Participants, The Netherlands (Photo: Tristan Bayly)

Although Challenge TB's involvement with and support to The Global Fund to Fight AIDS, Tuberculosis and Malaria (GF) varies from country to country, there is a common theme of collaboration, information sharing, leveraging of resources and technical support across CTB projects. A snapshot of CTB's support to and collaboration with GF efforts this quarter is below:

Afghanistan - The CTB Country Director is the chairperson for the country coordination mechanism (CCM). Therefore CTB assisted the principal recipients (PRs), United Nations Development Program (UNDP) and the MoH/NTP to select sub-recipients (SR). The project team also facilitated communication between the PR, SR, GF and MoH/NTP.

Cambodia - CTB has been helping the NTP (PR) to respond to several GF requests and inquiries. CTB investigated the reasons for the steep fall in MDR-TB case finding (mainly the mechanism for reimbursing sputum transport costs is not working) and suggested an alternative approach (use the strong Health Equity Fund mechanism rather than a parallel mechanism), which the NTP is considering. CTB has also supported the development of a GF-requested plan detailing how the government will take over human resource costs after 2017. Other GF requests that CTB has helped to respond to include a protocol for enhanced case finding, a draft expansion plan for GeneXpert MTB/RIF (Xpert) and a draft national M&E plan for the NTP. The project, via partner WHO, is in regular communication with the GF team, having met with the GF officers once a month during the last quarter.

DRC - Laboratory supervisory visits carried out in seven provinces enabled CTB to identify an imminent stock-out of laboratory reagents due to delays in GF procurement. An urgent request was made to USAID for local procurement of laboratory reagents for one quarter. This emergency supply was delivered in July 2015 and interruption of TB laboratory services was averted.

Ethiopia - CTB has been proposed as a member of the CCM to support the implementation of GF.

Indonesia - The GF Technical Review Panel (TRP) has accepted Indonesia's joint concept note (CN) for TB and HIV. The CN was developed by the CCM Indonesia, and supported by the MoH, CTB, Gadjah Mada University and several external consultants. The TRP has recommended that the TB/HIV CN proceed to grant-making with some issues needing to be addressed by the TRP and the CCM. GF has awarded the full requested allocation amount of US\$ 132.2 million plus US\$ 27 million in incentive funding. Overall the TRP considers the CN to be technically sound, strategically focused and well-integrated considering the country's epidemiological context, geographic variability of the two diseases, and current funding landscape and limitations; the TRP stated that the CN utilizes the lessons learned from programs supported by GF and other development partners to prioritize evidence-based and high impact interventions for key populations. CTB has assisted the CCM to address TRP's questions and clarifications.

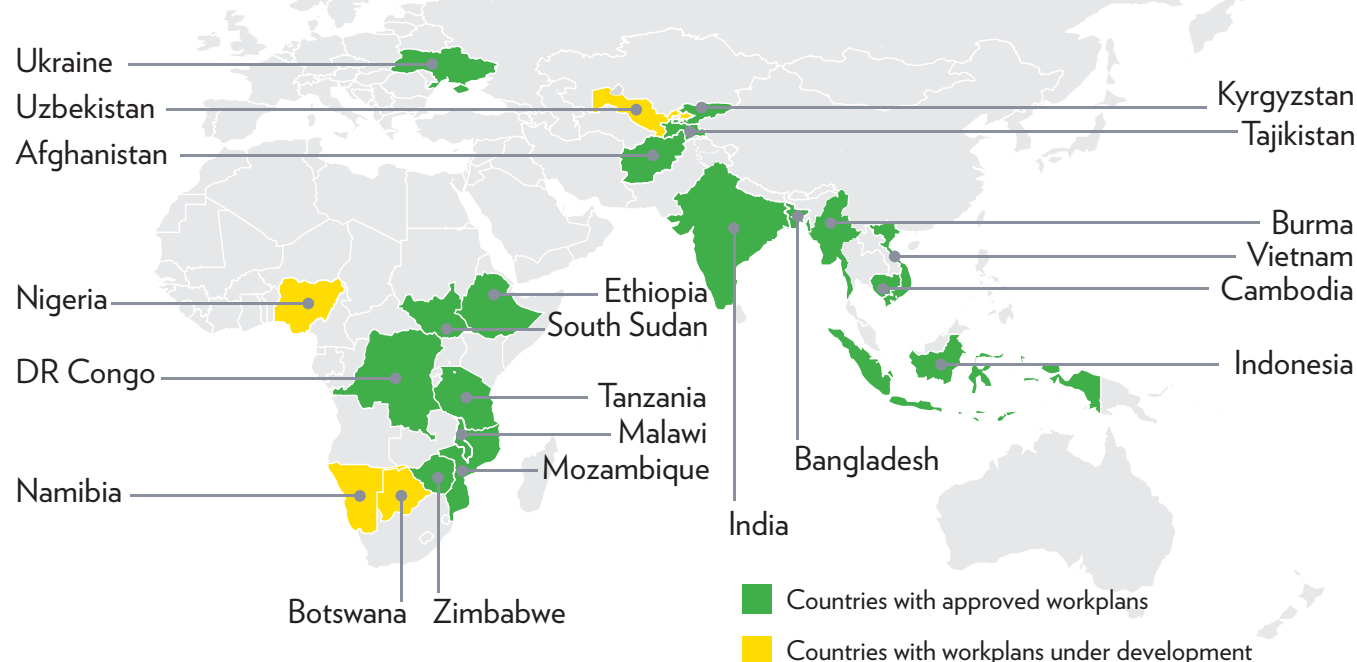
Kyrgyzstan - CTB has been supporting the NTP to finalize the CN for resubmission in August. CTB met with the GF Portfolio Manager in June to introduce the project goals and activities. GF/UNDP fully supports the introduction of shorter, more effective regimens for XDR-TB patients. As a result, NTP and partners agreed to treat 100 DR-TB patients with short regimens under OR conditions and 20 patients with new drugs. GF/UNDP agreed to procure the necessary drugs for short regimens and XDR-TB cases (such as linezolid and clofazimine). It will be included in the CN, and CTB will provide TA for implementation of the new drugs and short regimens.

Mozambique - CTB worked with GF to finalize preparations for a national training of trainers (TOT) on MDR-TB in July, which will be cost-shared between GF and CTB. CTB will cover facilitation and meeting costs, while GF will cover the venue fee and participants' costs (travel and per diems).

South Sudan - CTB is involved in the Technical Working Group that developed the GF work plan, which included target setting for the SRs. The project also helped to select the GF-supported consultant tasked with revising the national TB guidelines.

Ukraine - CTB works closely with the Ukrainian Center for Socially Dangerous Disease Control (UCDC), the GF PR, to ensure coordination of project activities and to avoid duplication of effort. In response to a UCDC formal request, the project developed a curriculum for GF trainings, which is awaiting approval. At the regional level, the project monitored support provided to drug-sensitive TB patients by regional GF-supported people living with HIV (PLHIV) network organizations. CTB noted gaps in the quality and reach of support and shared this concern with UCDC. Finally, the project team worked closely with the Ukrainian Red Cross regional units and local TB services on the selection of MDR-TB patients to receive socio-economic support. Thorough selection of patients is conducted and monitored to avoid duplication with the GF-supported patients.

Zimbabwe - Due to late disbursement of funds, implementation of GF-supported activities is delayed. The NTP and CTB are developing acceleration plans to ensure all GF activities are implemented before the end of the year. CTB also helped to interview candidates for the GF-supported NTP positions that are being filled.



Challenge TB countries, as of 30th June, 2015, with the status of work plan development

Country Projects

As of June 30, 2015, 17 CTB country projects had approved Year 1 work plans (see above). Seven of these country projects were newly approved between April and June (Afghanistan, Burma, Kyrgyzstan, Malawi, South Sudan, Tajikistan and Tanzania). Botswana has an interim two-month work plan approved, but is still developing a longer term work plan covering Year 1 and Year 2. Three additional country projects (Namibia, Nigeria and Uzbekistan) have work plans under development. The table below summarizes the technical reach of the approved Year 1 CTB country work plans.

CTB country projects approved before June 30, 2015 and the technical areas covered by the Year 1 work plan

Technical Areas	Challenge TB Countries																	# Countries working in technical area
	AF	BA	BU	CA	DRC	ET	India	Indo	KR	MA	MO	SS	TN	TJ	UK	VT	ZM	
1. Enabling Environment	X	X	X	X	X	X	X	X		X	X	X	X		X	X		14
2. Comprehensive, high quality diagnostic network		X	X	X	X	X	X	X		X	X	X	X			X	X	13
3. Patient-centered care & treatment	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	16
4. Targeted screening for active TB		X		X		X		X		X			X				X	7
5. Infection Control	X	X	X	X	X	X		X		X	X		X		X	X		12
6. Management of latent TB infection				X	X	X		X		X	X						X	7
7. Political commitment & leadership	X	X	X		X	X	X	X		X	X	X	X		X	X	X	14
8. Comprehensive partnerships and informed community involvement						X		X					X			X	X	5
9. Drug and commodity management systems		X				X		X						X				4
10. Quality data, surveillance and M&E	X	X		X	X	X		X		X	X		X			X	X	11
11. Human resource development		X		X	X	X				X	X		X		X	X	X	10

Programmatic Management of Drug-Resistant TB

CTB is monitoring MDR-TB diagnosis and treatment data quarterly to track progress in PMDT scale up and to inform project activities at a country or global level. The program relies on data reported officially to WHO for historical data (i.e. before 2013), but gathering data directly from NTPs for the most recent quarters has been valuable for identifying potential problems and getting a general picture of PMDT in each country today. The table below summarizes the number of MDR-TB (including Rifampicin-resistant TB, RR-TB) patients diagnosed and the number of patients (unconfirmed and confirmed) started on treatment from 2010 through the first half of 2015. The totals per year are then summarized in the figure below to capture the overall trend across CTB countries.

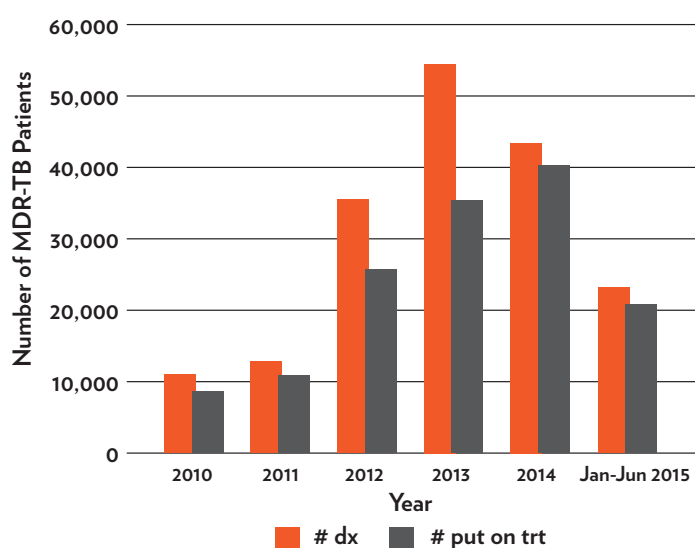
Diagnosis of confirmed RR-TB and MDR-TB (Xpert and C/DST) as well as treatment initiation for unconfirmed and confirmed MDR-TB, January 2010-June 2015, in 15 active CTB countries

(2010-2013: WHO Global TB Report 2014; 2014-2015 data reported from the NTP via CTB; data that are not yet available have been extrapolated and appear in orange; Malawi and Tajikistan data are not included as MDR-TB reporting via CTB had not yet started this quarter.)

Countries	WHO data								NTP data via CTB							
	2010		2011		2012		2013		2014		Jan-Mar 2015		Apr-May 2015		Jan-Jun 2015	
	#dx	# put on trt	#dx	# put on trt	#dx	# put on trt	#dx	# put on trt	#dx	# put on trt	#dx	# put on trt	#dx	# put on trt	#dx	# put on trt
Afghanistan	19	0	20	21	38	38	73	49	31	31	13	13	13	13	26	26
Bangladesh	351	339	519	390	901	513	1,024	684	994	945	237	229	230	244	467	473
Burma	192	192	690	163	1,037	442	1,984	667	2,067	1,537	644	467	644	467	1,288	934
Cambodia	32	38	61	57	156	110	121	121	121	110	20	17	21	19	41	36
DRC	88	191	140	128	110	262	272	147	405	436	82	82	71	71	153	153
Ethiopia	142	120	216	1993	294	289	558	413	577	598	715	450	715	450	1,430	900
India	2,967	2,967	4,237	3,384	21,498	14,143	35,385	20,763	25,652	24,073	6,413	6,018	6,413	6,018	12,826	12,037
Indonesia	190	142	408	260	649	426	912	809	1,759	1,219	449	362	475	257	924	619
Kyrgyzstan	575	566	928	492	1,755	775	1,191	1,064	1,219	1,125	328	323	328	323	656	646
Mozambique	175	87	303	146	292	213	444	313	482	482	121	121	121	121	241	241
S. Sudan			7	0	3	0	1	0	1	0	2	0	4	0	6	0
Tanzania	41	17	68	68	83	44	279	93	144	134	63	30	74	23	137	53
Ukraine*	6,055	3,870	4,530	4,957	7,615	7,672	10,585	9,000	7,855	7,540	1,964	1,885	1,964	1,885	3,928	3,770
Vietnam	101	101	610	578	769	713	1,204	948	1,702	1,562	426	370	426	370	851	740
Zimbabwe	40	27	136	64	258	105	433	351	412	390	88	88	88	88	176	176
Total	10,968	8,657	12,864	10,907	35,458	25,745	54,466	35,422	43,430	40,254	11,564	10,455	11,586	10,349	23,150	20,804

Number of confirmed RR-TB and MDR-TB patients (Xpert and C/DST) diagnosed, and number of unconfirmed and confirmed MDR-TB patients started on treatment, 2010-June 2015 in 15 CTB countries

*Cases lower in 2014 as data from Crimea and parts of Donetsk and Lugansk are not included.



The rapid increase in diagnosis (4 fold increase) and treatment initiation (3 fold increase) are notable from 2010-2013. Data for 2014 and the first half of 2015 need to be interpreted with caution. For nine countries 2015 data are based on projections of equal level 2014 numbers diagnosed and started on treatment. In addition Ukraine shows a significant drop in reported numbers in 2014 as data from Crimea and parts of Donetsk and Lugansk are not included due to the ongoing civil conflict in the country. The apparent drop in cases reported in 2014 in India may be a result of reporting a backlog of cases in 2013 or the non-inclusion of RR-TB in the 2014 total. This will be clarified next quarter when 2014 data are released by WHO (as CTB is not supporting PMDT efforts in India, these data are only being reported annually to CTB). When Ukraine and India are removed from the annual CTB totals, increases in diagnosis (17%) and treatment initiation (53%) are still seen from 2013 to 2014. Initial reporting (and extrapolating) for CTB countries in the first half of 2015 (India and Ukraine excluded) project a continuing increase in diagnosis (29%) and treatment initiation (16%) from 2014 to 2015 as well. Technical assistance under TB CARE I in Cambodia, Ethiopia, Indonesia, Mozambique, Vietnam and Zimbabwe likely contributed to these pre-CTB successes.

Progress and achievements from April through June 2015 are summarized for the 17 active CTB country projects on the following pages.

Afghanistan

CTB-Afghanistan, led by MSH and with KNCV as a collaborating partner, aims to assist the NTP to reach its strategic objective of increasing TB case notifications by at least 6% annually through provision of quality TB services to all communities. The project works in 13 of the country's 34 provinces.

Contacts investigated and treated - CTB sustained the implementation of contact investigation across the intervention provinces that were initiated during the TB CARE I project. During this quarter, about 6,970 individuals were registered as having close contact to TB patients, which comprises 64% of the estimated 10,935 contacts to bac+ TB patients. This is a 2.5% increase compared to the previous quarter. Of these contacts, 1,470 (21%) were identified as presumptive TB and screened for TB. Among them, 119 (8%) were diagnosed as having TB (all forms), which demonstrates a 37% improvement in the case notification among household contacts in comparison to last quarter. Moreover, 1,128 children under the age of five were notified as contacts to TB patients and of them 1,036 (92%) were put on isoniazid preventive therapy (IPT). A total of 749 (72%) children who had started IPT during the third quarter of 2014 completed their treatment this quarter.

Urban DOTS expanded to new cities - Based on the significant achievements of the Urban DOTS implementation in Kabul City under TB CARE I, the NTP proposed CTB to expand this approach to additional cities with similar settings. Thus, during June 2015, this approach was sustained in Kabul and expanded to three additional cities: Jalalabad, Kandahar and Herat. The joint NTP and CTB teams conducted assessments of TB program implementation in these cities. They also assessed 41 private and 6 public health facilities including one regional hospital, and developed micro plans for each of the cities.

Urban DOTS in Kabul expanded - Urban DOTS expanded to an additional private hospital, National Children's Hospital, and a Bagram prison in Kabul City during the quarter. The total Urban DOTS coverage reached 85 (76%) public and private health facilities in Kabul. CTB is also working to expand DOTS and TB screening to the two largest diabetic centers in Kabul City by next quarter, which would increase access to approximately 80,000 registered diabetic patients.

Community-based DOTS (CB-DOTS) assessed and organized - The CB-DOTS approach has assisted the NTP and implementing partners to extend access to TB services. Between April and June 2015, CTB conducted an assessment of CB-DOTS implementation in Kabul, Nangerhar, Herat, Kandahar, and Balkh provinces, which informed work plan development and microplanning for each province. In light of this, the activities were harmonized with NGOs and duplication avoided. CB-DOTS will be sub-contracted with nine NGOs: Agency for Assistance & Development of Afghanistan, Bakhter Development Network, Organization for Health Promotion & Management, Solidarity of Afghan Families, Care of Afghan Family, Bu Ali Rehabilitation and Aid Network, Organization for Research and Community Development, MOVE Welfare Organization and Medical Refresher Courses for Afghanistan. These NGOs will cover the following provinces Kabul, Nangerhar, Herat, Kandahar, Faryab, Jawzjan, Balkh, Khost, Pakiya, Ghazni, Paktika, Bamyan, Baghlan, Takhar and Badakshan.

TB Infection Control (TB IC) strengthened - During the quarter, 17 health facilities were assessed for TB IC and the assessment results were used for planning. Seventeen TB IC committees were established to monitor the implementation of the TB IC plans. On-the-job training was conducted for 45 healthcare staff in Khost and Kandahar provinces. The health care staff visited DOTS excellence centers to learn best practices in TB IC, case finding, recording and reporting, and follow-up of TB patients. Also, following a literature review, a protocol was developed for screening health care staff annually for TB infection and disease.

Abstracts accepted - CTB assisted the NTP to write and submit eight abstracts to the 46th Union World Conference on Lung Health. As a result, one abstract was accepted for oral presentation and three abstracts for poster presentation.



Lab technicians from private hospitals practicing sputum smear microscopy slide making techniques in Jalaabad City (Photo: Delaqa Safi)

Bangladesh

Bangladesh is being led by MSH in close collaboration with KNCV. The project aims to improve access to quality patient-centered care for TB, TB/HIV and MDR-TB services, strengthen the PMDT system, strengthen the laboratory network, and support operations research. All key staff for CTB-Bangladesh were hired or identified this quarter. The Senior Technical Advisor, MDR-TB Advisor, Laboratory Advisor, M&E Advisor, and PPM & Risk Groups Advisor began their activities, while Dr. Andre Daniel Villanueva will begin as Country Director at the end of July.

National TB Laboratory Strategic Plan developed - A workshop to develop the National TB Laboratory Strategic Plan was conducted in late May for 20 participants from the government and key NGO partners. The final strategic plan is anticipated to address the following objectives: 1) Increase access to quality-assured acid-fast bacilli (AFB) microscopy with effective EQA; 2) Improve the diagnosis of TB of AFB negative patients, especially among people living with HIV; 3) Increase access to rapid and conventional laboratory diagnosis of drug-resistant TB; and 4) Establish laboratory quality management systems. A draft plan is expected next quarter.

cPMDT strengthened - The NTP, WHO and CTB conducted a 3-day training for health care providers on community-based PMDT (cPMDT) in Barisal, one of the more remote divisions of Bangladesh. Key aspects of the training included 1) Global & national TB/DR-TB burden in Bangladesh; 2) Case finding strategy; 3) Treatment, and monitoring of treatment; 4) Adverse drug reactions; 5) Second-line drug management; and 6) Roles and responsibilities of the team.

TB in prisons examined - A desk review on the status of TB in prisons was conducted to inform future work planning. TB activities in prisons are done by NGOs, with nearly complete coverage country wide. The main NGOs involved in prison TB control are the International Centre for Diarrheal Disease Research, Bangladesh doing pre-entry screening under an OR model, as well as BRAC and Damien Foundation (DF) supporting diagnostic services and providing TB drugs to prison medical assistants who provide directly observed therapy (DOT). In most prisons there are no medical services and there is only passive case finding. A prevalence survey of TB in prisons (conducted by DF in 2003) showed a prevalence of 152/100,000 (compared to 79 in the general population).

Burma

CTB-Burma was launched this quarter with the approval of the Year 1 work plan in early May. Led by FHI 360 and with KNCV as a collaborating partner, this project prioritizes reaching key populations, strengthening the laboratory network and strengthening NTP in analysis of and strategic planning for novel intervention strategies. With the exception of the Laboratory Technical Officer, all project staff members have been hired including the Technical Officers for PPM and Special Populations, M&E and Strategic Information, as well as Prevention & Care.

National Strategic Plan drafted - CTB supported the development of the National Strategic Plan (NSP) for Burma (2016-2020). A CTB consultant worked closely with the NTP, WHO, and other partners to initiate the NSP process. A draft NSP is available and is undergoing review before a formal national level review planned for August. Final completion and approval of the NSP is expected in 2016.

PMDT supported - CTB has supported several trainings to strengthen and expand PMDT in the country. Working closely with the regional USAID-funded project CAP-TB and local partners funded through the Three Millennium Development Goal Fund, CTB provided trainers to support the expansion of outpatient treatment into the Yangon Region of Burma. CTB technical staff also provided TA to the NTP for PMDT scale-up in Yangon by contributing to a TOT for NTP and Yangon City health staff who are rolling out the CAP-TB outpatient treatment model. In addition, CTB staff supported training activities for community volunteers from local partners providing evening DOT for MDR-TB patients. The scope of training included: DOT for MDR-TB patients; monitoring side effects and timely referral; health education on TB and MDR-TB including training on infection control measures for patients and family members; contact screening; psychological support and counseling.



Led by FHI 360 and with KNCV, MSH and WHO as collaborating partners, CTB-Cambodia team will provide TA to the NTP to develop strategies for TB control in rural and urban settings with the primary goal to improve case detection and to close the “diagnosis gap” by targeting specific risk groups. The rural strategy focuses on comprehensive community-based DOTS (CB-DOTS), to include key populations such as children and the elderly. The urban strategy prioritizes engagement of large hospitals, public private mix, and prisons. The project continues to search for a Laboratory Advisor.

Semi-active case finding implemented - To address the increased TB prevalence and mortality among older Cambodians, semi-active case finding (or enhanced case finding) was conducted among elderly Cambodians visiting three pagodas in the province of Kampong Speu. Health Center (HC) staff and Village Health Support Groups (VHSG) went together early in the morning to pagodas on holy days to screen the elderly and monks for TB. Rather than refer elderly individuals to distant TB screening centers, sputum samples were collected on-site and transported for Xpert testing or smear microscopy when Xpert was not available. In June alone, approximately 184 elderly were screened for TB symptoms, of which 71% (124/184) had at least one symptom suggestive of TB. Even among this initial small screening sample, two cases of active TB were identified (2%) with bacteriologically confirmed TB. Others with symptoms suggestive of TB (but not sputum smear positive) were referred to referral hospitals (RHs) for further evaluation; results are pending for these patients.

Referral hospitals assessed - In collaboration with the NTP and the Cambodia Preventive Medicine Department (PMD), CTB conducted an assessment of five referral hospitals (Sampov Meas, Battambang, Moung Rusey, Kampong Speu and Korng Pisey RH). The objectives of this assessment were to observe the current practice of TB screening among presumptive TB cases, inter-departmental referral system, diagnosis and treatment practice and to find key obstacles and areas for improvement. TB knowledge among health care providers outside the TB department was found to be poor and, in fact, most could not recall all four common TB symptoms. In June, 635 (4%) of the total 14,607 patients presenting to the outpatient and inpatient departments in the five hospitals had at least one TB symptom and were referred to the TB unit of the hospitals. Of those, 218 (34%) were diagnosed with TB and all received TB treatment. Further assessment findings are available in the CTB-Cambodia Quarterly Monitoring Report.

Active case-finding (ACF) in prisons implemented - CTB supported the NTP as they conducted ACF among inmates and prison staff in six prisons. The algorithm used by the NTP started with CXR screening of all prisoners regardless of TB symptoms. When there was an abnormal CXR, sputum was taken for Xpert testing. There were 4,429 inmates screened by CXR in June. Among those 13% (563) had abnormal CXR, 36% (203) of which were identified as presumptive TB. Of those, 27% (55) were diagnosed with TB and are getting TB treatment - 45% (25) were bacteriologically confirmed TB patients. Based on the findings, the case notification rate for TB (all forms) among inmates in the six prisons is estimated at 1,241 per 100,000 - three times higher than the case notification rate in the general population (400/100,000 in 2013). This methodology is imperfect as it represents a minimum estimate of TB prevalence because individuals with symptoms (but normal CXRs) were not sputum tested, and because of the limitations on sensitivity using the current Xpert cartridges.

CTB-supported e-TB manager being expanded for drug susceptible TB - After several months of consideration, the NTP has decided to expand e-TB manager, an electronic recording and reporting system currently being deployed for MDR-TB management, for use with drug susceptible TB patients as well. Health Information, Policy and Advocacy (HIPA), a USAID-funded project through Futures Group, has a mandate to take over and further customize the system for the recording and reporting of both drug susceptible and MDR-TB starting in October 2015. CTB will work with the NTP and HIPA to ensure a smooth transition.

Childhood TB situation being addressed

- The quality of diagnosis of childhood TB has been a concern in Cambodia. The proportion of TB among children was high, over 27% of all cases in some provinces, leading to speculation that there is over-diagnosis and over-treatment in some cases, alongside missed cases in other situations. CTB conducted monitoring visits to 10 referral hospitals to identify the problem and the reasons for low quality of diagnosis. The assessment revealed that health care provider clinical knowledge on childhood TB and the treatment algorithm is low; there is also poor completion of patient clinical record forms. To address that issue, CTB team conducted trainings and on-site coaching for health care providers at the 10 sites to ensure TB diagnosis is correctly performed.



Semi-active case finding among the elderly, Cambodia (Photo: Ngo Menghak)

Actions taken to improve recording of cause of death - Mortality rate due to TB has become a critical outcome indicator for GF. It was presumed that TB patients are more likely to die at the hospital. However, recent analyses show that health care providers are not using international formats for medical certification of cause of death and in addition, community councils do not classify mortality data by cause. Through WHO, CTB is supporting an effort to improve this situation by drafting a concept note with the NTP and GF to strengthen the accuracy of recorded cause of death and subsequent data analysis.

Democratic Republic of the Congo (DRC)

The Union is leading the CTB project in DRC while working closely with MSH as a collaborating partner. This project is supporting TB control activities in seven Provincial Coordinating Facilities Against Tuberculosis (CPLT): Kasai Occidental Ouest, Sud Kivu, Maniema, Kasai Occidental Est, Kasai Oriental Sud, Sankuru, and Equateur Est. In addition, CTB is supporting TB/HIV services in 54 Health Zones in three PEPFAR-supported provinces: Katanga, Kinshasa, and Orientale. National level assistance includes PMDT, scale-up of pediatric TB interventions, laboratory strategic planning, operational guideline development and OR.

TB patients found via door-to-door ACF initiatives - CTB supports active TB case-finding efforts through several local partners. One partner in South Kivu, ALTB (Les Ambassadeurs de Lutte Contre la Tuberculose au Sud Kivu), made up of current or former TB patients, conducts door-to-door visits among hard-to-reach impoverished populations. This quarter, 7,239 persons with symptoms suggestive of TB (mainly chronic cough) were identified by ALTB members and were referred to TB diagnostic and treatment centers; 73% (5,319) of these referrals arrived at the centers. Among those, 364 (7%) bacteriologically confirmed TB cases were diagnosed. All patients were started on treatment.

Private healthcare providers engaged - A comprehensive PPM approach for TB control is being rolled-out in DRC and 62 private facilities and 120 TB/HIV sites were selected for this initiative. The facilities signed an agreement with the NTP to follow the guidelines of the NTP and report data based on the NTP information system.



CTB is led by KNCV in Ethiopia with WHO and MSH as collaborating partners. The work plan touches upon every CTB technical area with the greatest emphasis on patient-centered care especially targeting MDR-TB, community TB, and TB/HIV services. Strengthening data quality and M&E also is a cornerstone of the work plan. Shifting from the national focus of TB CARE I, the new project is concentrating efforts at the regional level, in Southern Nations and Nationalities (SNNPR) and Tigray regions; CTB has opened offices in these regions this quarter and finalized recruitment of qualified technical teams for these offices. National-level TA is targeting only specific technical areas while support for Urban TB activities is focused in Addis Ababa, Dire Dawa and Harari.

Regional CTB activities launched - In May, regional CTB project introduction meetings were conducted in Hawassa, SNNPR Region and Mekelle, Tigray Region. The main objectives of the meetings were to introduce the CTB project in these two regions, discuss major regional programmatic gaps to assist in refining the planned CTB support areas and to create consensus on the way forward.

Regional priorities assessed - CTB is conducting a comprehensive assessment in the two target regions to have a complete picture of TB control (including laboratory and drug supply management) at all levels of the health system within the regions. By the end of June 2015, data collection was complete in Tigray region and only one zone in SNNPR was remaining. Data analysis and report writing is expected to be completed in September 2015. This assessment will guide the development of a priority implementation plan for each of the two regions by identifying major gaps for future interventions. Moreover, it will be used as baseline information to measure progress over the course of the CTB project.

Study published - The operations research study, Cross Sectional Study Evaluating Routine Contact Investigation in Addis Ababa, Ethiopia: A Missed Opportunity to Prevent Tuberculosis in Children, conducted under TB CARE I, was published in the international peer reviewed journal PLoS One on June 17, 2015 (<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0129135>); the publication was shared with NTP, USAID and other key stakeholders. Lessons learned will be further discussed in the Childhood TB Task Force and the proposed action plan incorporated in the planning for future CTB work plans.



The Union is leading CTB efforts in India with close collaboration from KNCV. The project will contribute to TB control efforts in India primarily through a Call to Action for a TB-Free India. This advocacy campaign aims to mobilize a wide range of stakeholders to demand and sustain high-level domestic commitment to end TB in India. Kavita Ayyagari started as the new CTB Country Director this quarter.

Call to Action for a TB-Free India launched - The MoH, in partnership with USAID, The Union and WHO, launched the Call to Action for a TB-Free India - an initiative of CTB - on April 23, 2015 in New Delhi. Mr J.P Nadda, Honorable Union Minister of Health and Family Welfare (MoHFW), Government of India was the chief guest along with other Government officials, US Embassy officials, academics, members of industries and corporate sector, civil society, media, and international and national TB leaders/experts. Around 250 people attended the launch. The logo for the Call to Action was unveiled and guests expressed their support by signing on the 'Wall of Commitment'. Besides the Minister and other senior officials from the MoH, other signatories included senior officials from the US Embassy, WHO, GF, The Bill & Melinda Gates Foundation, US-CDC, Stop TB Partnership, The Union, TB Association of India, World Bank, National Forum on TB, business associations, and NGOs. Patient advocates and prominent journalists also signed on. This high-profile event demonstrates the commitment of the government at the outset, thereby creating an enabling environment to garner and leverage support from existing collaborators and potential new partners.

Corporate sector targeted for the Call to Action - Corporate engagement is one of the key priorities of the Call to Action. The Union worked with the MoHFW to jointly define and agree on the corporate engagement strategy. The team also met with several corporate houses and organizations to better understand their perspective and possible areas for collaboration. Informed by these discussions, the key objectives for this part of the campaign are to sensitize and increase corporate sector engagement in TB prevention and care through different models of engagement, to engage trade unions and business associations for advocacy, and to create an enabling environment for TB patients. In terms of targeting, a list of industries is being developed prioritizing industries with employees at risk for TB (e.g., mining), those related to the health care industry, foundations supporting health initiatives, organizations that can amplify and increase visibility for TB (e.g., media), and those with high rank based how their corporate social responsibility funds are used.

Pediatric TB cases being diagnosed and treated - FIND is completing a study on accelerating access to quality TB diagnosis for pediatric cases in four major cities in India. The pilot project was successful in delivering up front Xpert tests to presumptive pediatric TB cases by reaching out to more than 10,000 patients within one year of its implementation. Efforts are being made to document this initial success of the pilot project for the benefit of a larger audience. This quarter, 4,153 presumptive pediatric TB and DR-TB pediatric cases were tested with Xpert. As a result, 399 (10%) pediatric TB cases were diagnosed- 358 (90%) Rif-sensitive and 41 (10%) RR-TB. Of the 399 cases diagnosed with Xpert, only 110 (28%) were also positive on smear microscopy. Of the 358 Rif-sensitive TB patients, treatment information was only available for 220 (62%) patients, while treatment information for 36% of the cases is still being tracked (the majority of these were diagnosed in June 2015). Of the 41 RR-TB patients, 30 (70%) were initiated on second-line anti-TB treatment during the reporting period. Of the remaining 11 RR-TB cases, treatment information is being tracked.



Led by KNCV and in collaboration with WHO, FHI 360, MSH and ATS, CTB-Indonesia is currently the largest CTB project. The Year 1 work plan covers all intervention areas with the exception of human resource development. The largest investment is in patient-centered care and treatment (specifically for MDR-TB and TB/HIV).

TB mandated as a notifiable disease - With technical support from CTB, mandatory notification of TB has been included in a final draft Decree of the Minister of Health. This means TB will be a notifiable disease and all health providers delivering TB services will be obliged to report cases to the NTP. Through regulation enforcement on mandatory notification, it is expected that large numbers of diagnosed TB patients in the private sector will be captured by the surveillance system.

Peer educator group engaged - A new peer educator group for MDR-TB patients was established, bringing the total number from six patient groups in five provinces (DKI, West Java, Central Java, East Java and South Sulawesi) to seven patient groups in six provinces. There are now 102 total peer educators. This new patient group is called PEJABAT (Pejuang Sehat Bermanfaat), which translates as 'Healthy and Helpful Warrior' in Medan City, North Sumatra.

LED microscopy introduced - CTB has introduced another innovative technology, LED microscopy (Light-Emitting Diode Fluorescence Microscopy/ LED FM) in Indonesia. Three LED FM's were procured and sent to the National Reference Lab (NRL) Microscopy (BLK Bandung) in June 2015. The final draft of the Standard Operation Procedures (SOP) for LED FM's has been developed. Piloting of LED utilization is being conducted in BLK Bandung, Rotinsulu Hospital and Hasan Sadikin Hospital to inform the SOPs, the EQA system and technical guideline finalization. The pilot test will be completed in September 2015 and roll-out will be supported during Year 2 of CTB.

TB covered by national health insurance - Services for TB patients are now covered under the national health insurance system following the official approval of the National Health Insurance System (Jaminan Kesehatan Nasional/JKN) Guideline for TB Services by the MoH. This is an important step in the process for establishing sustainability of the TB control program in Indonesia. This guideline is for health service providers and explains the SOPs for receiving compensation for TB services.

Standardized training targets healthcare provider communication skills - Motiv8, introduced by TB CARE I in 2014, has now been adopted by the NTP as the national standard training package for the improvement of communication skills of service providers dealing with TB/MDR-TB patients. It is hoped that this will improve patient enrolment and compliance to treatment. A faith-based organization, LKNU (Lembaga Kesehatan Nadhlatul Ulama) through CEPAT (Community Empowerment of People Against Tuberculosis), a community-based TB project funded by USAID, has also adopted Motiv8 to improve the communication skills of nurses and volunteers.

Bedaquiline being introduced - NTP is now ready to introduce Bedaquiline into the TB control program. The Cohort Event Monitoring (CEM) Pharmacovigilance (PV) Guideline and training materials were finalized during this quarter. Three hospitals (Persahabatan Hospital DKI Jakarta, Hasan Sadikin Hospital West Java, and Soetomo Hospital East Java) have also now been trained on the CEM PV Guideline, as well as PV recording and reporting in e-TB Manager.

TB and HIV services being mapped - The source data for GIS (Geographical Information System) of TB/HIV services in health facilities and linkage in ten CTB districts was completed. It is expected that the tool will facilitate CTB planning to map TB DOTS services that do not have access to HIV testing and ART services, as well as hospitals providing ART services that do not implement TB DOTS. This information will be used to plan expansion of TB/HIV linkages.

IPT for PLHIV expanded - IPT for PLHIV is now being scaled up after the successful piloting during TB CARE I. Nine out of 42 ART hospitals in 10 CTB districts are now appointed as IPT sites. In North Sumatra, IPT policy has been well-accepted in nine districts where it will be rolled out.



PEJABAT patient support group in North Sumatra, Indonesia (Photo: Tassya Sinaga)

Kyrgyzstan

CTB-Kyrgyzstan was launched this quarter with the Year 1 work plan approved on April 2, 2015. Led by KNCV, this project is mainly focused on strengthening patient-centered care & treatment.

M/XDR-TB situation analysis conducted - The project team conducted an M/XDR-TB situation analysis by using the standardized assessment tool to assess the NTP readiness for implementation of new drugs and regimens. Results were presented and discussed at a partners' meeting. Despite the NTP's interest in the introduction of new drugs and new regimens in Kyrgyzstan, there was some resistance from the MoH due to regulatory requirements in relation to the use of the new medicines. In order to overcome this challenge, intensive consultations were conducted with the MoH; furthermore, recommendations were provided for amending Kyrgyzstan law on drugs to support introduction of the new anti-TB drugs. As a result, it is expected that MoH will approve introduction and use of Bedaquiline and Delamanid in clinical practice in the near future.

Participation in the international GDI/GLI meeting - The CTB-Kyrgyzstan Country Director participated in the international Global Drug-resistant TB Initiative (GDI) and Global Laboratory Initiative (GLI) meeting held in April 2015 in Geneva. A summary of the meeting was presented to national (NTP, MoH, penitentiary sector) and international partners (USAID, Defeat TB, MSF, UNDP) during the partner's meeting in June 2015.

Childhood TB policies and practice assessed - In June, KNCV's *Benchmarking Tool for Childhood TB Policies and Practice* was applied in Kyrgyzstan in collaboration with leading pediatric TB experts (using TB CARE I core funds). The assessment found that the country's childhood TB guidelines are in accordance with the latest WHO recommendations, most pediatric TB specialists have been trained with updated childhood TB training modules, and pediatric doses of TB drugs are available for drug-sensitive TB cases. Despite these positive developments, diagnosis of TB in children (i.e. over diagnosis and sample collection from children) is still a challenge, data on treatment outcomes for MDR-TB in children is not disaggregated, there is no follow-up data on IPT administration, and excessive hospitalization of children is a major concern. The data will be used as a baseline for childhood TB initiatives in the country and will guide the planning of potential childhood TB-related activities in coming CTB project years.

Malawi

KNCV is the sole implementer in Malawi. The project's primary focus is on increasing case detection through intensified case-finding in all health facilities, targeted active case-finding (e.g. mobile teams and digital CXR screening), and contact investigation. Another key focus of the project is on strengthening the NTP leadership at central, zonal and district level. The Year 1 work plan was only approved in mid-June so activities had not yet started during the reporting period. The CTB office is being established in country and all project staff, including the Country Director, are being recruited.



Mozambique

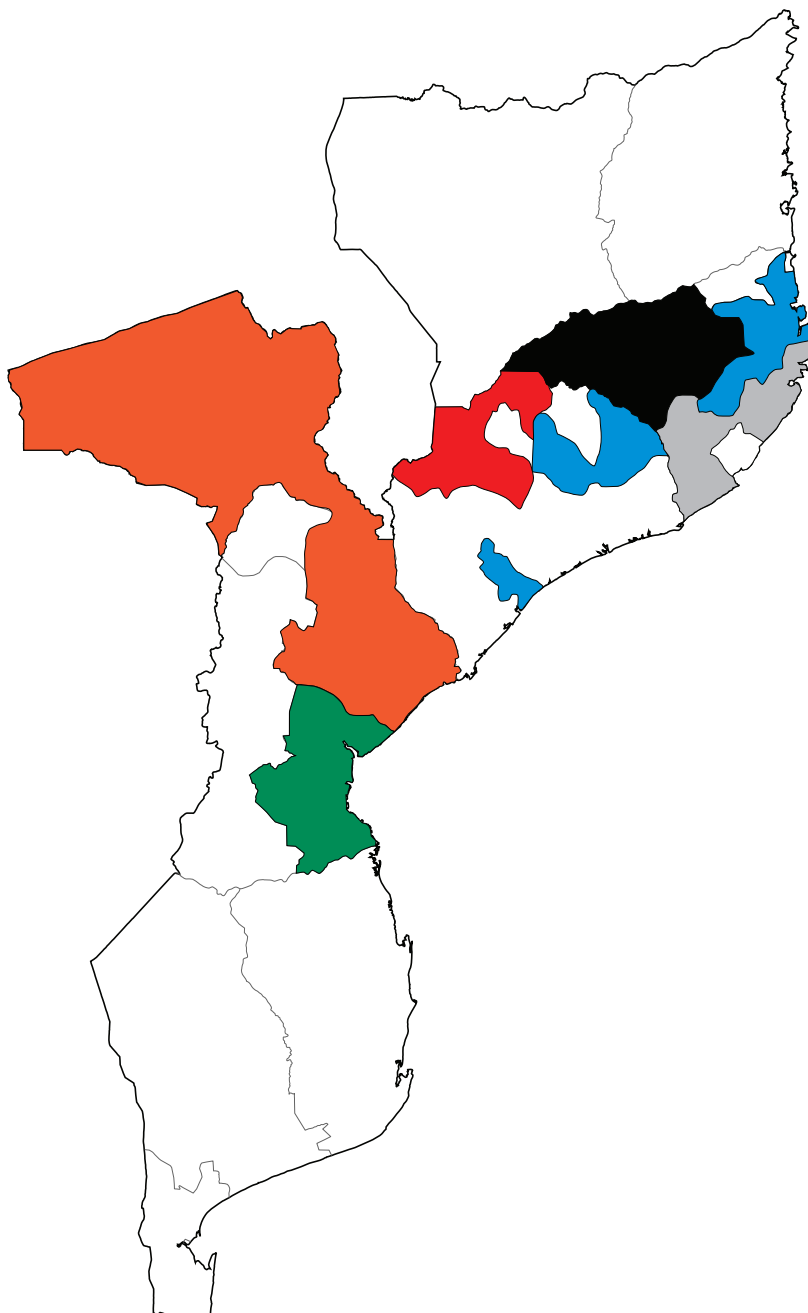
CTB-Mozambique is led by FHI 360 and has KNCV as the sole collaborating partner. The work plan prioritizes the following areas of work: improving case detection (community engagement, quality assured lab network expansion), improving quality of care for all categories of patients (TB, TB/HIV, MDR-TB and childhood TB), strengthening the TB surveillance system with a view to have an electronic individual TB register in place that is interoperable with other health information systems (MoH and HIV), and conducting the first TB prevalence and national drug resistance surveys. Following work plan approval in April, CTB-Mozambique was officially launched in all four target provinces this quarter in close coordination with the NTP.

CB-DOTS expanding - Following a rigorous selection process, six partners were selected to implement CB-DOTS activities across 64 districts in four provinces: ADPP (Agencia para Desenvolvimento de Povo para Povo), DPS (Direção Provincial de Saúde), DFB (Damien Foundation Belgium), OLIPA ODES, AMODEFA (Associação Moçambicana para Desenvolvimento da Família), and ComuSanas. The provinces are located in the northern and central regions of the country and are also the most populated (see map). The CTB CB-DOTS district coverage is 42% (64/151) of all country districts and 53% (13,988,164/26,000,000) of the country's population.

Map of CTB implementing partners for CB-DOTS by district/province

Legend

	ADPP
	DPS
	DFB
	OLIPA ODES
	AMODEFA
	ComuSanas



Microscopy and Xpert coverage mapped - CTB mapped microscopy laboratories in all CTB target provinces in close coordination with NTP. The objective of the exercise was to increase laboratory diagnosis of TB by identifying priority health facilities that need microscopy services. Coverage ranged from one microscopy center for a population of 463,759 in the Milange District of Zambezia Province to 1/282,331 population in Sofala Province. In Tete province, although there was at least one microscopy center per district, the majority of patients seeking laboratory services have to walk a long distance to access the services (e.g., 60 km in Tsangano District). In Year 2, CTB plans to expand the peripheral microscopic lab network by conducting minor rehabilitations and equipping eight peripheral lab units with microscopes provided under the GF grant. In terms of GeneXpert, 16 units have been installed by different partners supporting NTP and are functional in the four target provinces. Based on the acceptable Xpert coverage of 1/500,000 inhabitants, three CTB provinces are insufficiently covered. This information will be considered when developing the Year 2 work plan.

Specimen transportation system assessed - The transportation of specimens from peripheral health facilities to the District or Provincial level is a major challenge countrywide. As a result, CTB conducted an exercise to identify possible transport systems that would efficiently and effectively transport samples from remote areas. CTB completed the assessment and one courier service was identified, but with prohibitively high costs (~US\$100,000 per district per year). Therefore, in Year 2 CTB will take a different approach. In close coordination with DPS Tete and Damien Foundation, CTB will pilot a model of integrating a sample transportation system with existing CB-DOTS services and sample transportation services for HIV care.

MSH is the lead and sole CTB implementer in South Sudan. The Year 1 work plan (approved May 12th) focuses on the following sub-objectives: enabling environment; comprehensive, high quality diagnostic network; patient-centered care and treatment; and political commitment and leadership. CTB works both at the national level and in three out of ten states: Central, Western and Eastern Equatoria states.

TB services provided for IDPs - CTB continued to support partners implementing TB services in internally displaced camps. In Mingkaman IDP camp, 16 clinicians/nurses were trained on TB case management, five laboratory technicians were trained on sputum smear microscopy and 20 community health workers were trained on the basics of TB (identification and referral of presumptive TB cases, contact investigation and follow up of TB patients on treatment). The participants were drawn from four partners implementing primary health care in the camp. During the quarter, 92 presumptive TB patients were sent for sputum smear microscopy of which 22 (24%) were diagnosed with bacteriologically confirmed TB. In total, 31 patients were enrolled on treatment, which included the 22 new bac+, four clinically diagnosed, two extrapulmonary and three relapse cases. In the Juba Protection of Civilian (POC) site, 36 patients were sent for sputum smear microscopy, out of which 8 (22%) were bac+. The number of TB patients enrolled for treatment in the POC was 17, which included six bac+, seven clinically diagnosed and four extrapulmonary patients. This is the baseline and progress will be measured in subsequent quarters.

Access to quality treatment and care ensured - CTB supported the quarterly review meetings for TB community mobilizers in Yei and Morobo counties. The 35 meeting participants reviewed community mobilizer activities for the first two quarters of 2015 and were retrained on TB screening and referral practices. Reports were provided by community mobilizers, achievements and challenges shared, and an action plan was developed that will be monitored during supervisory visits. Tools were introduced and baseline collected for monitoring the community-based TB services including contact investigations. During the reporting quarter, 93 health education sessions were conducted, 13,091 people were sensitized on TB, and 318 suspects were referred for sputum smear microscopy. Despite 101 TB cases being notified in Yei and Morobo, it was difficult to determine the number of cases referred by the community mobilizers since the information was missing in the TB Management Units (TBMU) register. This gap was discussed, concerned staff were mentored and referral forms were provided to community mobilizers. Monitoring will be done during support visits to these locations by CTB staff.

EQA network for lab diagnostics and services functioning - From December 2014 to April 2015 the EQA network expanded from 21 to 28 TB laboratories. 86% (24/28) of the labs demonstrated an acceptable level of performance under the current EQA evaluations. Four TB laboratories were not accessible during the period under review because of heavy rain. These facilities will be included during the next EQA visit when the rains have subsided.

Samples transported for Xpert testing - Two Xpert machines are now available at the Central Reference Laboratory in Juba through support from the Korean Foundation for International Healthcare (KOFIH). With CTB support, sputum samples from previously treated patients and PLHIV are being referred for Xpert testing. The focus for the reporting period was on ART sites and TBMs in Juba. Since January, a low number of only 44 samples have been transported to the Xpert site of which 17 (39%) were MTB+ and of them four (24%) were RR-TB. The underutilization of Xpert machines will be addressed through outsourcing sputum sample transportation services to increase coverage of the health facilities in Juba. A major concern is that patients diagnosed with MDR-TB have not been put on treatment because there is no PMDT available in South Sudan. The Green Light Committee mission conducted in early July 2015 has recommended that the treatment of MDR-TB commence immediately after the drugs are made available. Through GF, the NTP will procure drugs to treat 15 patients.



CTB-Tajikistan, implemented by KNCV, aims to improve quality of care for patients with M/XDR-TB by building the NTP's capacity to manage and implement a shortened treatment regimen and regimens containing new TB drugs. In line with this, CTB will also build the NTP's drug management capacity and support the implementation of an early warning system (QuanTB) for all supply chain levels. The Year 1 work plan was approved in mid-June so project activities will be reported on next quarter.

Tanzania

Led by KNCV, with collaborating partners PATH and ATS, CTB-Tanzania is focused on all CTB technical areas apart from the management of LTBI, and drug/commodity management systems. Five staff (Country Director, Finance Manager, M&E Officer, Laboratory Technical Officer and Project Assistant) have been hired to implement the CTB project in six regions (Dar es Salaam, Pwani, Arusha, Kilimanjaro, Mwanza and Zanzibar (Unguja and Pemba)). All remaining staff are expected to be hired next quarter.

GeneXpert scale-up supported - A total of six Xpert machines (out of seven procured) were distributed and successfully installed in six hospitals in CTB areas (Mawenzi, Morogoro, Mt. Meru, Sengerema, Sinza, and Tumbi Hospitals). Twelve laboratory personnel from the hospitals participated in a 5-day training on the use of Xpert. Regular monitoring and mentoring on the use and functionality of the machines will be done quarterly. The remaining machine will be installed in a non-CTB supported area after a site assessment planned for next quarter. Countrywide, there are now 66 Xpert machines of which 14 are in CTB geographical areas. This is expected to provide access to rapid testing to about 1,596,000 people in the geographical areas where the aforementioned facilities are located.

TB OR committee established - The project conducted a 2-day TB OR meeting to establish the national TB OR committee and to set up a national TB OR agenda. Participants came from the NTP, regional TB and leprosy programs, the National Institute for Medical Research (NIMR), research institutes, academia, implementing partners, and a community-based organization. The meeting selected an OR committee and ten priority research questions for the next year. These OR initiatives are meant to inform NTP policy and protocol.



PATH is the lead partner in Ukraine, working closely with KNCV. The Year 1 work plan aims to provide support to the NTP and oblast TB programs on PMDT. In addition, the project is providing support and TA at the oblast level to incorporate a patient-centered ambulatory health care approach into the oblasts' routine MDR-TB case management system.

CTB launched in two oblasts - CTB project was launched in Poltavka and Mykolayivska Oblasts in April. Officials from the national and oblast level as well as providers and managers from local TB and primary care facilities participated in the oblast launch meetings and acknowledged the high importance of the CTB project strategy and activities for supporting TB control priorities in Ukraine. The Protocol on Project Collaboration (i.e., Memorandum of Understanding) between regional health officials and CTB/PATH was signed during these meetings.

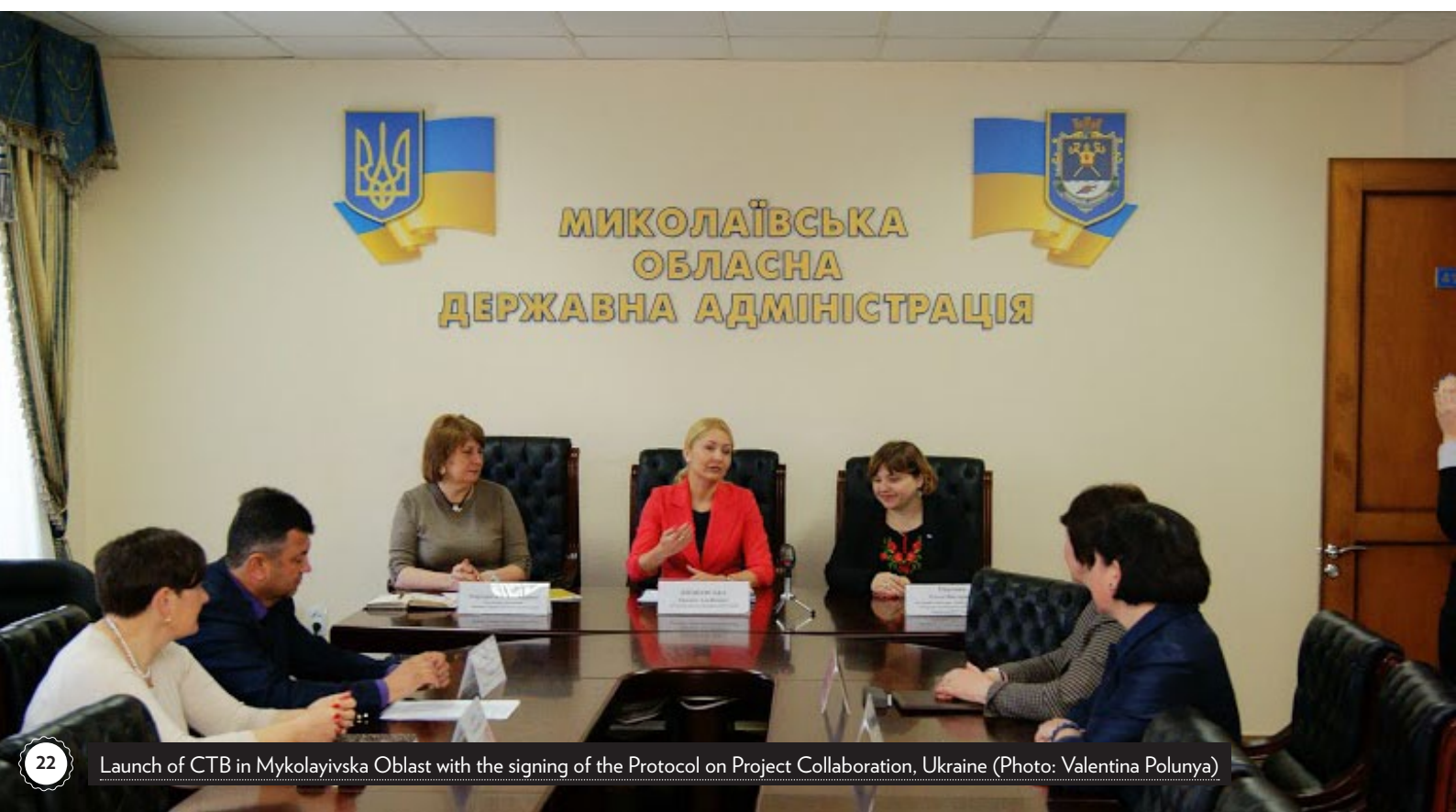
Comprehensive training curriculum on MDR-TB case management finalized - CTB finalized a comprehensive training curriculum on MDR-TB case management this quarter. The curriculum reflects the newest WHO guidelines and recommendations as well as the latest Ukrainian TB protocol approved in 2014 (Order #620). Training materials include a training agenda, a set of training modules, curriculum methodology, training presentations, case studies, role-plays, individual tasks, and group exercises. The curriculum addresses all areas of TB, MDR/XDR-TB, TB/HIV diagnosis and case management, side effects management, infection control, and M&E, with special attention given to the ambulatory stage of care. It is versatile and can be tailored to the needs of particular audiences within the project components, including TB providers, infection specialists working in AIDS centers, primary health care providers, nurses in TB hospitals, DOT office staff, and Ukrainian Red Cross (URC) nurses.

MDR-TB outpatient management algorithm drafted - The draft MDR-TB outpatient management algorithm was developed and pretested in Poltavka Oblast. Two roundtables were conducted to discuss and adjust the algorithm and identify barriers that need to be addressed before the algorithm is introduced in practice. During the roundtable, participants emphasized a need to develop concrete patient pathways at the district/community level based on a patient-centered approach to ensure a continuum of care among all health and community organizations involved and to help ensure treatment completion under DOT. In Mykolayivska Oblast, a working group for algorithm development was formally established and discussed key barriers and opportunities for effective implementation of the algorithm in the oblast. The draft algorithm will be finalized next quarter.

Advocacy and community-based patient support initiative launched - A sub-award was signed and a joint plan of action was developed with the National Committee of the URC to bolster advocacy and community involvement to provide support to MDR-TB patients during the ambulatory stage of treatment. Under this sub-award, the URC will carry out collaborative activities with TB medical facilities to provide DOT services to patients who choose to receive follow-up MDR-TB treatment as outpatients. Furthermore, the URC will work with TB patients who have interrupted their treatment to identify and address the reasons for interruption in order to convince them to complete treatment. The URC will also inform local authorities on the project results and advocate for necessary funding to be allocated from local budget funds to sustain program implementation.

Oblast IC plans developed - CTB assisted the targeted oblasts to develop oblast IC plans and to revise oblast TB hospitals' IC plans. The IC plans will be endorsed and become available in oblast TB hospitals during the next reporting period.

Childhood TB policies and practice assessed - In June, KNCV's *Benchmarking Tool for Childhood TB Policies and Practice* was applied in Kyrgyzstan in collaboration with leading pediatric TB experts (using TB CARE I core funds). The exercise revealed that an important limitation in achieving proper pediatric TB care is a lack of awareness in Ukraine about the global pediatric TB strategy. There is no national childhood TB working group, the approach to childhood TB care implemented throughout the country is often outdated and not properly funded, and primary pediatricians are neither involved in services nor knowledgeable about TB care. Case finding is not well-defined and is poorly implemented. The data will be used as a baseline for childhood TB initiatives in the country and will guide the planning of potential childhood TB-related activities in coming CTB project years.



Launch of CTB in Mykolayivska Oblast with the signing of the Protocol on Project Collaboration, Ukraine (Photo: Valentina Polunya)

CTB-Vietnam is led by KNCV and works closely with WHO as a collaborating partner. The overall strategy of CTB in Vietnam is to develop, pilot and evaluate TB control innovations that are planned under the NSP (2015-2020), in close collaboration with the NTP, the USAID mission and partners. The project works in all CTB technical areas with the exception of targeted screening for active TB, management of LTBI, and drug/commodity management systems.

Roll-out of Xpert supported - Following the successful introduction and roll-out of Xpert under TB CARE I, CTB continued providing technical support to NTP to scale-up Xpert usage in 41 PMDT provinces including the forecast and distribution of Xpert cartridges. Currently there is PMDT coverage in 41 out of 63 total provinces (65%). The roll-out of PMDT to all provinces is scheduled to be completed in 2018 per the NSP.

Strengthening TB/HIV collaborative activities - CTB consultants supported the NTP and the Vietnam Administration for AIDS Control to identify the current barriers to HIV/TB collaboration and care. Following site visits to five high HIV burden provinces, a stakeholders' workshop was organized to discuss the assessment results and identify the most appropriate interventions for planning under the current GF grant and Year 2 of CTB.

Pharmacovigilance protocol including SOPs finalized - CTB supported the Vietnam PV team to finalize the PV protocol including SOPs. CTB has prepared a training for next quarter on PV for bedaquiline. Staff from the three sites where bedaquiline-containing regimens will be introduced, the NTP and the National Drug Information & Adverse Drug Reaction Center will participate.

Second national TB prevalence survey (TBPS) protocol developed - CTB consultants supported the NTP to develop the second national TBPS protocol and data management plan in collaboration with the prevalence survey coordinator, data manager and other stakeholders. The outline of the protocol and estimated budget for the TBPS will be ready in early August for submission to the GF.

Zimbabwe

The Union is leading the project in Zimbabwe with collaboration from IRD, KNCV and WHO. The Year 1 work plan prioritizes the following areas: increasing case finding, integrated TB/HIV care, PMDT and M&E/surveillance.

CTB strategy developed - A planning workshop was held in June 2015 with key partners to deliberate on a strategic document to guide implementation of CTB-funded activities in the next four years. The CTB country strategic document is aligned to the Zimbabwe NSP objectives and conforms to the USG Global TB plan priorities. The outcome of the workshop was a draft document with well-defined gaps and a list of key priority five year strategies, as well as detailed interventions for Year 1 and Year 2.

Specimen transport system functioning - A total of 41,083 specimens (TB and non-TB related) were transported between April and May, compared to 32,008 between January and February, 2015 showing an increase of 9,075 (28%). Of these specimens, 9,949 (24%) were TB specimens, compared to 6,597 (21%) between January and February. The substantial proportion of non-TB related specimens illustrates the importance of the CTB-supported system to overall health systems strengthening.

Drug resistance survey (DRS) piloted - The implementation of the pilot DRS was successfully carried out. All 10 DRS pilot sites were supported by provincial teams. A follow-up review meeting was conducted and the main finding was that there were very few smear positive TB clients eligible for recruitment into the survey due to the major national shift from microscopy to Xpert for TB diagnosis. This led to the recommendation to change the algorithm to perform smear microscopy on all presumptive TB cases, including those that will be examined by Xpert. This has resulted in the revision of the study protocol to accommodate the proposed algorithm.

Postgraduate course and abstracts accepted

Results from two initiatives that were implemented with CTB and TB CARE I support have been approved for presentation at the 46th Union World Conference on Lung Health. An oral and abstract presentation on the specimen transport system was accepted as well as a full-day postgraduate course, Making sense and use of routine TB data for management. The course focuses on data collection, analysis and use based on the Zimbabwe experience.



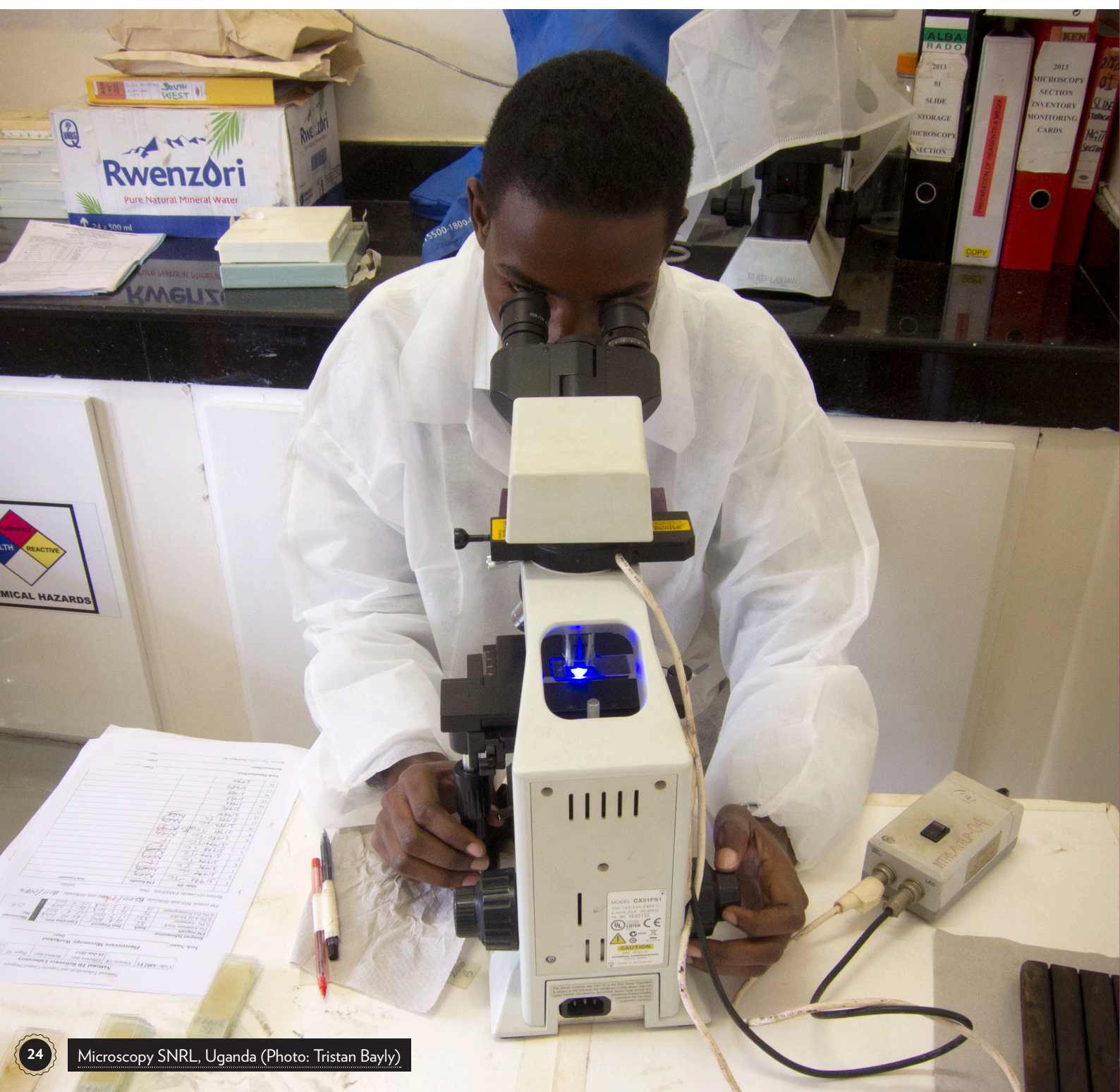
National data driven support supervision, Zimbabwe (Photo: Nqobile Mlilo)

East Africa Region Project

Historically under TB CARE I, there were several Regional projects that were conducted independently of each other. Under CTB, one regional project for East Africa has been developed, which builds upon the successes of the previous TB CARE I regional projects while also leveraging those partnerships for greater reach and results. The project's first work plan (May 2015-February 2016) was approved in late May 2015. Sub-agreements with implementing partners (Supra National TB Reference Laboratory - Uganda (SNRL), Center for Excellence - Rwanda (CoE), and the East, Central and Southern African Health Community (ECSA)) have been developed and are awaiting approval. A project initiation meeting is planned for July 2015 with stakeholders from the region and the USAID regional platform.

CoE action plan developed - The CoE in Kigali, Rwanda is a regional training hub providing training and field visits on PMDT, TB IC and laboratory methods for MDR-TB. An action plan for CoE has been developed, which outlines the need for accreditation, commits human resources, and stresses the importance of a business plan to increase sustainability. This action plan will be implemented once the sub-agreement is signed.

Cross-border TB initiative designed - ECSA is a regional inter-governmental health organization based in Arusha, Tanzania that fosters and promotes regional cooperation in health among member states. ECSA will work with CTB to address cross-border challenges in TB control. This quarter, the CTB-East Africa Regional Director worked with ECSA to develop a detailed scope of work, which will be implemented once the sub-agreement with ECSA is finalized. The main deliverable will be a detailed cross-border strategy with clear vision, mission, goals and strategies. The project will also work to roll out an inter-country cross-referral tool, implement cross-border TB planning and referral, operationalize the regional TB medicines database, launch an M/XDR-TB palliative care pilot site, and pilot a TB nursing curriculum in one institution.



We would like to acknowledge all the people across the world who make Challenge TB possible; our gratitude and thanks go out to all our partners and everyone in the field.

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E-mail
Website
Twitter

pmu@challengetb.org
www.challengetb.org
[#challengetb](https://twitter.com/challengetb)

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