CHALLENGE TB - YEAR 3

PERFORMANCE MONITORING REPORT JAN - MAR 2017

Challenge TB is USAID's flagship TB care and prevention project. It is implemented by a unique coalition of nine international organizations:

Led and managed by:
KNCV Tuberculosis Foundation

Coalition 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)
Management Sciences for Health (MSH)
PATH
World Health Organization (WHO)

Cover photo:
Mother with MDR-TB visiting a health facility for contact investigation of her child, Ethiopia - Photo: Berhan Teklehaimanot.

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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
ACSM	Advocacy, communication and social mobilization
aDSM	active TB Drug-Safety Monitoring and Management
AFB	Acid-fast bacilli
ART	Antiretroviral Therapy
BAIS	Botswana AIDS Impact Survey
CB-DOTS	Community-Based DOTS
CCM	Country Coordinating Mechanism
CDC	Centers for Disease Control and Prevention
CHW	Community Health Worker
CI	Contact Investigation
C/DST	Culture/Drug Susceptibility Testing
CPLT	Provincial TB and Leprosy Coordination Departments
CSCP	Community Sputum Collection Points
CTB	Challenge TB
DHIS2	District Health Information Software Version 2
DM	Diabetes Mellitus
DOT	Directly Observed Treatment
DOTS	Directly Observed Treatment Short Course
DQA	Data Quality Assessment
DRC	Democratic Republic of the Congo
DR-TB	Drug-Resistant TB
DST	Drug Susceptibility Testing
ECSA	East, Central and Southern African Health Community
ERR	Electronic Recording and Reporting
EQA	External Quality Assurance
FLD	First Line Drug
GDF	Global Drug Facility
GF	The Global Fund to fight AIDS, Tuberculosis and Malaria
GLC	Green Light Committee
GLI	Global Laboratory Initiative
HC	Health Center
HCW	Health Care Worker
HF	Health Facility
IC	Infection Control
IDP	Internally Displaced Persons
IT	Information Technology
IPC	Infection Prevention Committee
IPT	Isoniazid Preventive Therapy
JATA	Japan Anti Tuberculosis Association
LED	Light Emitting Diode
LMIS	Logistic Management Information System
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 (GeneXpert MTB/RIF)
NFM	New Funding Model
NGO	Non-Governmental Organization
UNSE	United Nations Special Envoy
NSP	National Strategic Plan
NTP	National TB Program
NRL	National Reference Laboratory
NTRL	National TB Reference Laboratory
OR	Operations Research
PEPFAR	President's Emergency Plan for AIDS Relief
PIH	Partners in Health
PLHIV	People Living with HIV
PMDT	Programmatic Management of Drug-resistant Tuberculosis
PMV	Patent Medicine Vendors
PMU	Project Management Unit
PPM	Private Public Mix
PR	Principal Recipient
PV	Pharmacovigilance
RIF	Rifampicin
RR-TB	Rifampicin-resistant TB
SLD	Second-Line Drug
SOP	Standard Operating Procedure
SR	Sub-Recipient
TA	Technical Assistance
TB	Tuberculosis
TB-IC	TB Infection Control
TB CAP	Tuberculosis Control Assistance Program
ToR	Terms of reference
ToT	Training of Trainers
TSR	Treatment Success Rate
UNDP	United Nations Development Program
USAID	United States Agency for International Development
WHO	World Health Organization
XDR-TB	Extensively-Drug Resistant Tuberculosis
Xpert	Xpert MTB/RIF

EXECUTIVE SUMMARY

Challenge TB (CTB) is the flagship global mechanism of the United States Agency for International Development (USAID) to prevent and control tuberculosis (TB). This performance monitoring report summarizes project progress, achievements and challenges during the second quarter of Year 3, January-March 2017, across the 22 country projects, the East Africa Regional project, and seven approved core projects. The total obligated amount as of December 31, 2016 is $204 million, which is 39% of the ceiling amount of $525 million.

Thanks to CTB support six countries submitted Global Fund (GF) applications in the first window of March 20 as planned, and an additional 13 countries are on track to submit in the second window of May 23. As of the end of March 2017, a total of 16 countries offered bedaquiline (BDQ)-containing regimens treating 1,018 individuals from 2016 to present, and eight offered shorter treatment regimens (STR) treating 825 individuals. The project's most significant achievements from the reporting period, as well as challenges for the next quarter are highlighted below.

Afghanistan - CB-DOTS was implemented in 572 health facilities across 197 districts in 15 provinces. A total of 9,802 presumptive TB patients were referred by the community (a 19% increase compared with Year 2 Quarter 2); out of which 741 patients were diagnosed with bacteriologically confirmed TB (a 25% increase compared with Year 2 Quarter 2); 886 TB patients started receiving treatment from community health workers/community members (a 22% increase compared with Year 2 Quarter 2).

Bangladesh - The number of people with presumptive TB tested by GeneXpert reached 14,358 this quarter, with 4,198 (29%) patients with confirmed TB, of which 214 (5%) were diagnosed with RR-TB; 213 (99%) of the confirmed TB patients started and adhered to second-line treatment. One of the reasons for the high adherence is the close monitoring through mHealth used for electronic directly observed treatment (eDOT), the coverage of which will increase by translating the application into Bangla and expanding it to NGO partners.

DR Congo - CTB-supported local NGOs screened a total of 112,171 people for TB; among them, 9,960 (9%) presumptive TB patients were referred for further diagnosis, and 9,889 (99%) were tested through smear examination; 1,135 (11%) patients were diagnosed with TB; 958 (10%) were bacteriologically confirmed, 86 (1%) were clinically confirmed, and 91 (1%) were extra-pulmonary TB cases; all the diagnosed patients were put on treatment.

Ethiopia - CTB is actively supporting the national TB program (NTP) in rolling-out the use of Xpert for all TB presumptive cases. This quarter, a total of 12,793 tests were done in 52 Xpert sites; 1,537 (12%) were found MTB positive, of which 89 (6%) were RR-TB; all (100%) were put on treatment. CTB assisted the national reference laboratory (NRL) with the introduction and expansion of second-line Line Probe Assay (SL-LPA) in ten culture labs in the country. Currently six of the regional laboratories have started the service, with a total of 97 tests done, of which seven patients were pre-XDR and one XDR-TB.

India - CTB provided communication support to the Ministry of Health (MoH) Central TB Division in the active case finding (ACF) drive launched from January 15-30, 2017 in 50 districts across 17 states. CTB developed the ACF communication campaign with awareness raising messages about TB symptoms in Hindi and five regional languages disseminated through media channels across a population of nearly 9.2 million people. Sputum examinations were carried out on 48,291 people and 2,513 (5%) were diagnosed with TB.

Indonesia - Wajib Notifikasi (WiFi-Mandatory Notification) is a mobile application for primary clinics and private practitioners to notify TB cases to the NTP, which was officially launched on April 1, 2017. This mobile application will support the mandatory notification implementation for private practitioners by providing a user-friendly reporting system. This application is free of charge and available at Google Play Store under the name "Wajib Notifikasi TB" since February 23, 2017, with more than 100 downloads so far.

Kyrgyzstan - Since February 2017, the first patients have been enrolled on shorter treatment regimens (STR) and individualized regimens with Bedaquiline (BDQ). In total, 53 patients were enrolled on STR and 26 on BDQ by March 31st, 2017. Within two months of treatment, 16 out of 24 smear positive patients on BDQ had negative smear results, three patients had negative culture results, and four out of the 19 smear positive patients on STR had smear negative results.

Mozambique – A sputum transportation system (STS) is currently being implemented in six districts across two provinces. Between October 2016-March 2017, 1,501 sputum samples were transported, out of which 345 (23%) were bacteriologically confirmed (BC) TB cases. The STS contributed 53% (345/657) to the overall number of TB BC cases in the period of implementation. Results of the STS also included an improvement in the turnaround time for microscopy, from an average of seven days to 48 hours.

Nigeria - The implementation of contact investigation (CI) was continued and scaled-up in 13 CTB-supported states. Visits were paid to the homes of 2,412 BC TB patients and 8,481 household contacts were screened for TB; out of

these, 2,120 (25%) presumptive TB cases were identified; of which 2,078 (98%) were tested for TB; and 294 (14% of tested cases, and 3.5% of all those screened) TB cases were diagnosed and put on treatment.

Tajikistan - Patient enrolment onto new drugs and regimens (ND&R) started in December 2016. By March 31 2017, a total of 43 patients were enrolled on treatment: 24 on individual regimens with BDQ and 19 on STR. Out of 43 enrolled patients, 24 (56%) patients started treatment in the National TB Center (Machiton) and 19 (44%) patients started treatment in ambulatory centers.

Tanzania - CTB supported the first ever national childhood TB technical working group meeting, bringing together key stakeholders from the government and non-state actors. In addition, a total of 209 health care workers (HCWs) from 140 high volume sites received a comprehensive 5-day training on childhood TB. Pediatric notification rose from 604 (10% of all notified cases) cases in Quarter 1 to 877 (14% of all notified cases) in Quarter 2.

CORE PROJECTS

GF Hub - CTB GF Hub's attention has been on supporting countries to develop and coordinate TA workplans for the 2017-2019 funding cycle. This quarter, 13 mini-workplans were developed and approved covering GF application related TA, stakeholder workshops and other activities like National Strategic Plan (NSP) development and joint monitoring missions. Six CTB countries (Bangladesh, DRC, Kyrgyzstan, Malawi, Uzbekistan and Zimbabwe) planned to submit their applications in the first window of March 20 and all were successful in doing so. An additional 13 countries are planning to submit by the second window of May 23, and to date all are on track - Afghanistan, Cambodia, Ethiopia, India, Indonesia, Mozambique, Namibia, Nigeria, South Sudan, Tajikistan, Tanzania, Vietnam and Zambia.

Bedaquiline (BDQ) - This project facilitates the introduction of ND&R in 22 CTB countries and also in Kazakhstan. As of the end of March 2017, a total of 16[1] countries offered BDQ-containing regimens treating 1,018 individuals from 2016 to present[2]; eight offered DLM-containing regimens treating 111 individuals and eight offered STR treating 825 individuals. ND&R are not introduced yet in six CTB countries.[3] During the reporting period, Afghanistan and Kyrgyzstan introduced new drugs and regimens for DR-TB patients (STR, and individualized regimen [IR] containing BDQ, respectively) Seven countries (Burma, Cambodia, Ethiopia, India, Malawi, Nigeria and Tanzania) plan to introduce the STR in the coming months and three countries (Nigeria, Ukraine and Zambia) BDQ-containing regimens.

Catastrophic costs - The CTB-supported Catastrophic Costs core project is implemented in Vietnam with the objective of field testing the WHO generic protocol and instrument for measuring the proportion of TB patients (and their households) experiencing catastrophic costs in one country. With other donor support, surveys have also completed in Burma, Philippines, Solomon Islands and Timor Leste, and are ongoing in Uganda, China and Mongolia. WHO organized a global consultation - a draft handbook and draft changes to the survey methodology and instrument were circulated to meeting participants prior to the consultation. Countries that had completed or started a patient cost survey presented their findings, implementation experiences, and suggested changes to the survey methodology. WHO also presented a draft roadmap for roll-out of patient cost surveys in all 30 high-burden countries.

TB prevention - This quarter the third version of the study protocol was approved by the South Africa Medicines Control Council (MCC), the South Africa Institutional review Board (IRB), and the London School of Hygiene and Tropical Medicine (LSHTM). It has been submitted for approval to the Ethiopian and Mozambique authorities. All the sites involved in the study in the three countries will be enrolling by mid-May 2017, with around 200 participants enrolled per week by June.

1 Botswana is included in this figure, enrolling patients on ND&R in 2014 and 2015.
2 A handful of patients are on regimens that contain both BDQ and DLM but for the purposes of this report have been counted under BDQ only.
3 Not yet introduced in Malawi, Nigeria, South Sudan, Ukraine, and Zambia; preparations are being done for introduction of ND&R in all these countries except for South Sudan.

MAIN CHALLENGES

Some issues were identified for individual countries for which immediate action is required:

Delay submission of sub-awards from six countries (Burma, Ethiopia, Indonesia, DR Congo, Mozambique, South Sudan) accounting for high pipeline.

Eight countries (Burma, DR Congo, Indonesia, Kyrgyzstan, Nigeria, Tanzania, Vietnam and Zambia) have a consistent gap of >10% between the number of MDR-TB patients diagnosed and put on treatment. This has a variety of reasons, e.g., treatment refusal or reporting problems in-country, that need urgent mitigation.

For the upcoming implementation quarters, PMU will address the following technical issues and engage these countries in collaboration with coalition partners on a weekly/monthly basis:

- Accelerating sub awards
- Effective follow-up and technical support to CTB countries in closing the gap between diagnosis and treatment initiation as well as in producing and using quality Programmatic Management of Drug-Resistant TB (PMDT) data in a timely fashion.
- Effective and quality monitoring of implementation/introduction of BDQ and ND&R in countries like DRC, India, Nigeria, Mozambique and Zambia.
- Discuss using the country team and technical partner representative strategies to ensure the better utilization of GeneXpert machines.
- In May 2017, discuss with partners and country directors the factors responsible for low uptake of STTA and mechanism to ensure completion within the appropriate time while ensuring quality.
- Discuss with individual countries the technical challenges identified during this reporting cycle (e.g., difficulties with collecting data on presumptive DR-TB cases in Bangladesh; slow progress on case finding in hard-to-reach areas in Burma; increasing EQA efforts and accelerating ACF approaches in Tanzania, etc.).

Mother and daughter - Nigeria (Photo: Tristan Bayly)

INTRODUCTION

Challenge TB (CTB) 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 the 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 country, regional and international/global level with the majority of the program's work being done through country-specific projects. As of March 31, 2017, 22 countries were implementing CTB. At the regional level, CTB continued implementation of the East African Region project (more information available on page 33), and also continued the implementation of six core projects this quarter (see pages 6 and 34 for more details).

GLOBAL FUND

As of April 2017, CTB is operating in 23 countries with a total of 37 signed grants. Among these 37 grants, the average disbursement performance is 75%, which is about the same as the first quarter of Year 3, with a disbursement performance of 76%. Several countries still have disbursement performance scores greater than 100% suggesting high absorption rates when taking the implementation time into consideration. However, many countries are still facing challenges with absorption.

Three priority CTB and GF countries: Indonesia, Mozambique, and Nigeria, have grants that are under-performing in terms of absorption and are in danger of having their new allocations significantly reduced at the end of this year if no major changes occur. Compared to last quarter there was a minimal increase in funding disbursed to Mozambique but not enough to show acceleration. This is also the case with Indonesia, suggesting the acceleration from the second half of last year seems to be slowing down. No new funds were disbursed for one of the grants in Nigeria, suggesting a stagnation of activity implementation. According to the data retrieved from the GF website, there was minimal to no funding disbursement increases in a total of nine grants in seven CTB countries (Botswana, India, Indonesia, Malawi, Nigeria, Uzbekistan and Zimbabwe). In these countries, the disbursement performance is going down rather than going up, as should be case in the final phase of most of these grants before they reach their end date of December 2017. All of these seven countries are performing at under 70% of signed funds disbursed, with less than a year remaining. However, it should be noted that Botswana has an additional year for implementation with an end date of December 2018.[4] The GF Hub will communicate with CTB country directors in the seven respective countries to understand if there are any bottlenecks that can be addressed with support from CTB. Furthermore, as most of the grants in CTB countries will end in December 2017 the GF Hub will continue to closely monitor disbursement performance. See the table on page 10 for a detailed view of all 37 grants.

Global Fund 2017-2019 funding cycle—submission windows 1 and 2:

During this second quarter of Year 3, much of the GF Hub's attention has been on supporting countries to develop and coordinate TA workplans for the 2017-2019 funding cycle. This quarter, 13 mini-workplans were developed and approved covering GF application related TA, stakeholder workshops and other activities such as NSP development and joint monitoring missions. Furthermore, 22 TA visits were planned to take place to support two joint monitoring missions in Ethiopia and Indonesia, NSP development in Zambia, the Epi Assessment in Tanzania and GF application development in Cambodia, DR Congo, Malawi, Mozambique, Uganda, Uzbekistan and Vietnam.

As reported in previous quarter, the total amount allocated for TB in CTB countries was USD $1.07 billion, which is about 60% of the GF TB investment in the 2017-2019 cycle. Six CTB countries planned to submit their applications in the first window of March 20 and all were successful in doing so; Bangladesh, DR Congo, Kyrgyzstan, Malawi, Uzbekistan and Zimbabwe. An additional 13 countries are planning to submit by the second window of May 23, and to date all are on track - Afghanistan, Cambodia, Ethiopia, India, Indonesia, Mozambique, Namibia, Nigeria, South Sudan, Tajikistan, Tanzania, Vietnam and Zambia. Ethiopia and Nigeria have experienced challenges in finalizing their TA plans. However, after interference of the respective CCMs, both countries have been able to finalize their TA plans for submission by the May 23 window.

Country highlights:

Malawi - CTB continued to provide TA to the NTP on procurement and supply chain management (PSM), through a seconded PSM Technical Advisor. About a year after the start of the process, seven mobile vans with digital X-ray, and 12 fixed digital X-ray machines procured through the GF NFM grant (estimated at around $5.3 Million altogether) are about to arrive in country for ACF activities. All contractual arrangements have been fulfilled for the mobile X-ray vans to be delivered by June-July 2017, while quotations are being reviewed for the 12 fixed digital X-ray machines (expected to be delivered by August 2017).

Vietnam - The GF approved the budget of USD $1,123,028 for the second national TB prevalence survey (TBPS). The procurement budget of USD $1.2m was also approved, however the procurement process must be completed by end of 2017. The GF Hub will also provide support for the specific TA needs of the TBPS. The second TBPS protocol finalized in Quarter 1 is ready for translation into Vietnamese and to be submitted to the MoH for scientific and ethical approval.

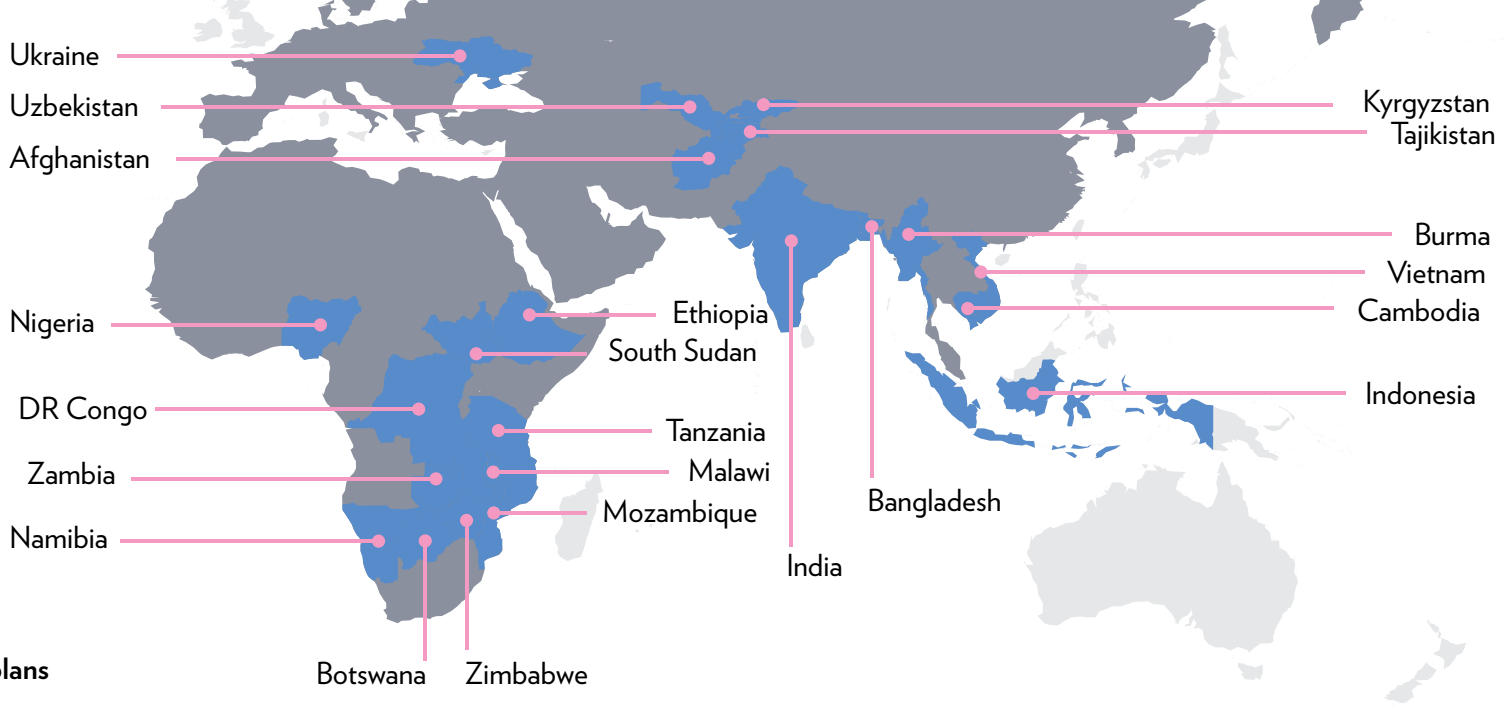
Zimbabwe - Through CTB support, with co-funding from GF, the country has rolled out targeted screening for TB among the high-risk communities after the successful pilot in Year 2. The intervention uses trucks equipped with digital X-ray equipment and integrates HIV and diabetes screening. Screening activities are being carried out in 18 prioritized districts. This quarter, 3,513 clients were screened for TB in the first two districts using both symptoms and chest X-ray. Among these, 839 (24%) were presumptive TB cases of whom 55 (7%) were diagnosed with active TB and started on the appropriate treatment.

4 The disbursement performance score is reached by looking at the amount of signed grant funds disbursed to the country and the months remaining for implementation.

Score card of CTB countries GF grant disbursement performance

CTB Countries	Grant Name	NFM Start Date	NFM End Date	Signed Amount	Disbursement Performance %				
					May-16	Jul-16	Oct-16	Jan-17	Apr-17
Afghanistan	AFG-T-UNDP	Apr-15	Dec-17	11,002,846	104	90	82	90	78
Afghanistan	AFG-T-MOPH	Jan-15	Dec-17	2,230,197	75	65	88	77	77
Bangladesh	BGD-T-BRAC	Jul-15	Dec-17	45,638,447	132	110	84	70	87
Bangladesh	BGD-T-NTP	Jul-15	Dec-17	31,745,708	120	100	80	84	92
Botswana	BWA-C-BMOH	Jan-16	Dec-18	10,244,837	59	39	26	50	40
Botswana	BWA-C-ACHAP	Jan-16	Dec-18	16,798,970	155	103	69	72	95
Burma	MYN-T-UNOPS	Jan-13	Dec-16	80,633,776	82	72	67	n/a	n/a
Burma	MYN-T-SCF	Jan-13	Dec-16	18,914,228	59	83	77	n/a	n/a
Cambodia	KHM-T-CENAT	Jan-15	Dec-17	15,664,272	56	82	70	85	88
DR Congo	COD-T-CARITAS	Jul-15	Dec-17	38,964,682	67	56	87	85	86
DR Congo	COD-T-MOH	Jul-15	Dec-17	13,831,917	102	85	98	82	96
Ethiopia	ETH-T-FMOH	Jul-15	Dec-17	58,177,462	76	63	51	42	87
India	IDA-T-WVI	Oct-15	Dec-17	6,904,741	82	82	71	93	77
India	IDA-T-CTD	Oct-15	Dec-17	207,785,667	47	36	56	87	72
India	IDA-T-IUATLD	Oct-15	Dec-17	23,152,396	48	79	79	84	70
Indonesia	IDN-T-MOH	Jan-16	Dec-17	70,392,709	53	106	70	91	69
Indonesia	IDN-T-AISYIYA	Jan-16	Dec-17	21,200,718	41	60	50	48	38
Kyrgyzstan	KGZ-C-UNDP	Jul-16	Dec-17	18,617,455	-166	n/a	110	118	78
Malawi	MWI-C-AA	Jan-16	Dec-17	29,287,078	93	n/a	41	58	63
Malawi	MWI-C-MOH	Jan-16	Dec-17	285,215,022	228	13	63	47	38
Mozambique	MOZ-C-FDC	Jul-15	Dec-17	22,026,026	48	40	69	68	72
Mozambique	MOZ-T-MOH	Jul-15	Dec-17	40,618,490	44	38	33	49	52
Namibia	NMB-T-MOHSS	Oct-13	Dec-17	22,491,960	78	79	67	46	63
Nigeria	NGA-T-IHVN	Jul-15	Dec-17	60,691,288	45	n/a	30	25	36
Nigeria	NGA-T-ARFH	Jul-15	Dec-17	85,096,981	21	18	14	40	35
South Sudan	SSD-T-UNDP	Jul-15	Dec-17	15,512,452	110	92	85	71	77
Tajikistan	Tjk-T-HOPE	Jan-16	May-18	13,249,973	21	42	9	38	59
Tajikistan	Tjk-T-RCTC	Jan-16	May-18	4,666,695	49	n/a	22	35	53
Tanzania	TZA-T-MOH	Jul-15	Dec-17	21,377,285	77	83	51	90	77
Tanzania	TZA-C-STC	Jul-15	Dec-17	13,059,126	28	67	18	71	72
Ukraine	UKR-C-AUN	Jan-15	Dec-17	63,279,884	122	109	105	116	108
Ukraine	UKR-C-AUA	Jan-15	Dec-17	66,268,901	101	90	116	110	107
Ukraine	UKR-C-UCDC	Jan-15	Dec-17	3,373,393	46	73	102	89	79
Uzbekistan	UZB-T-RDC	Jul-16	Jul-18	17,948,240	-64	n/a	43	100	67
Vietnam	VNM-T-NTP	Jul-15	Dec-17	36,979,032	100	83	66	94	86
Zambia	ZMB-B-MOH	Jul-15	Dec-17	100,702,951	n/a	n/a	n/a	67	66
Zambia	ZMB-C-CHAZ	Jul-15	Dec-17	53,837,477	n/a	n/a	n/a	76	83
Zimbabwe	ZWE-T-MOHCC	Jan-15	Dec-17	38,789,240	67	59	51	70	64
Total				1,686,372,522					

COUNTRY PROJECTS



As of March 31st, 2017, 22 countries were implementing CTB. The table below summarizes the technical reach of the approved Year 3 CTB country work plans.

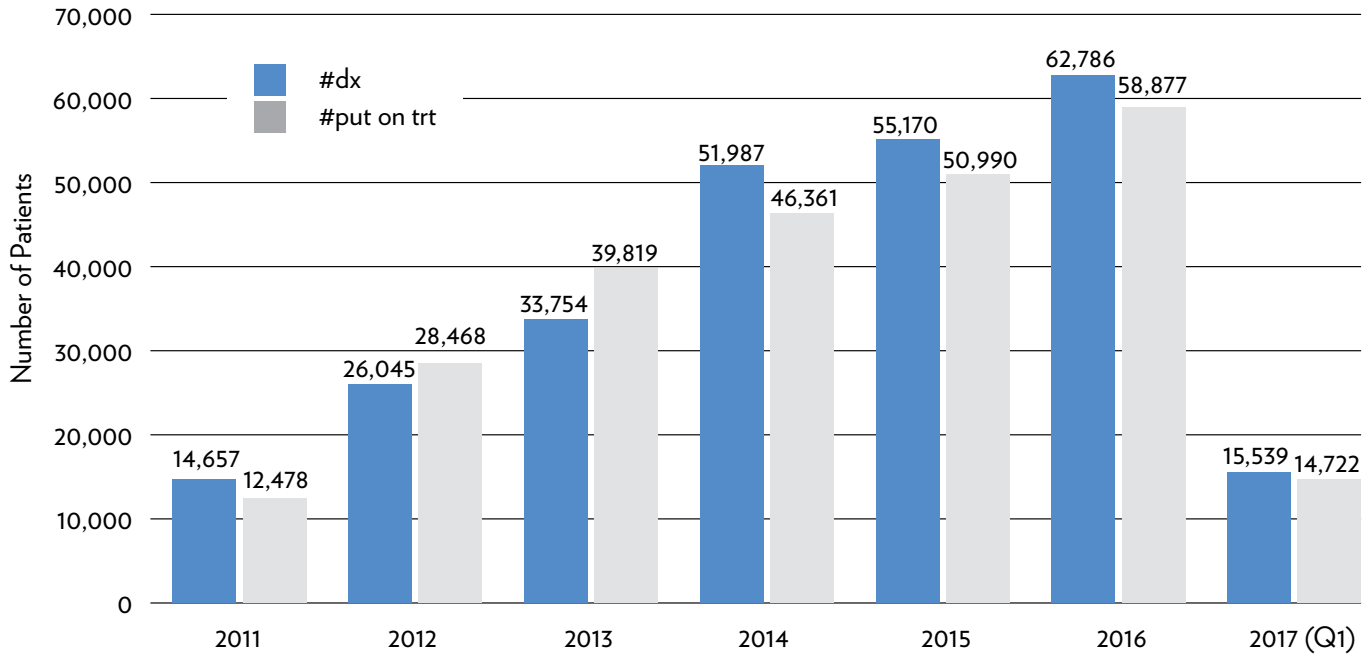
CTB sub-objectives covered in Year 3 country work plans

Technical Areas	Challenge TB Countries																					# Countries working in technical area
	AF	BA	BO	BU	CA	DRC	ET	India	Indo	KR	MA	MO	NA	NI	SS	TJ	TN	UKR	UZB	VT	ZA	ZM	
1. Enabling Environment		X		X	X		X		X	X	X	X		X	X		X	X				X	13
2. Comprehensive, high quality diagnostic network	X	X	X	X	X	X	X	X	X		X	X		X	X	X	X	X	X	X		X	19
3. Patient-centered care & treatment	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		X	20
4. Targeted screening for active TB		X		X			X				X	X		X				X				X	9
5. Infection Control	X	X		X	X	X	X		X		X	X	X		X		X	X		X			14
6. Management of latent TB infection		X				X			X						X								5
7. Political commitment & leadership	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	X		X				X	X	X	X	X	X				X	15
9. Drug and commodity management systems				X	X	X	X			X	X		X	X		X		X	X				10
10. Quality data, surveillance and M&E	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X			X		X	17
11. Human resource development		X	X	X	X	X	X		X	X		X	X	X	X		X	X				X	16

PMDT

CTB is supporting the implementation of PMDT and the project is monitoring MDR-TB diagnosis and treatment data quarterly to track progress in PMDT scale-up and to inform project activities at the country and global levels. CTB relies on data reported officially to WHO (before 2016), and also gathers data directly from NTPs for the most recent quarters in each country. The table on page 13 summarizes the number of MDR-TB including RR-TB patients diagnosed and the number of patients (unconfirmed and confirmed) started on treatment from 2011 thru March 2017. In the figure below the totals per year are summarized to capture the overall trend across CTB countries.

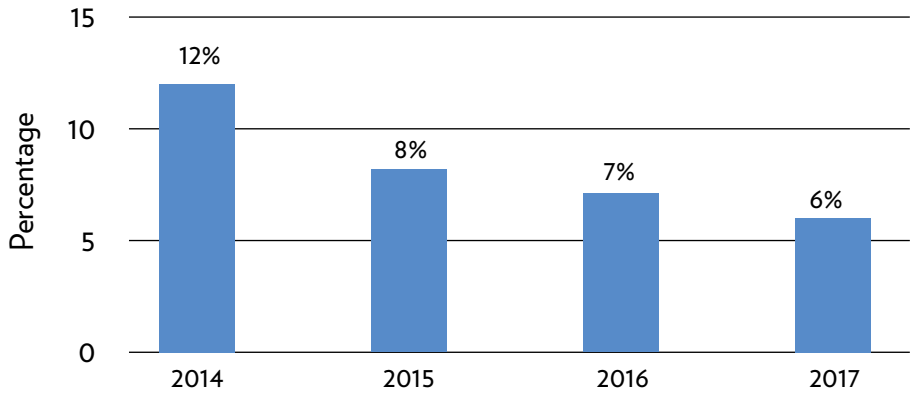
Number of confirmed RR-/MDR-TB patients (Xpert and C/DST) diagnosed, and number of unconfirmed and confirmed RR-/MDR-TB patients started on treatment, 2011-2017 (2011-2015: WHO Global TB Database; 2016-2017 data reported from the NTP via CTB), 22 CTB countries



Data from 13 countries are based on projections of (equal level) 2015 or 2016 data

The data for 2016 and 2017 need to be interpreted with some caution as these data are reported by NTPs via CTB and may be different when after validation, they are reported to WHO for the Global TB Report 2017. Based on these data, a 21% and 27% increase was recorded in diagnosis and treatment initiation respectively, from 2014 (CTB baseline) to 2016 in all 22 CTB countries. Again, based on this 2016 data, more pronounced increases over this period are noted in Botswana (166% in #dx and 49% in #trt), Nigeria (84% and 192%, respectively), Indonesia (70% and 51%, respectively), Mozambique (67% and 89%, respectively), Afghanistan (61% in both), DR Congo (59% and 41%, respectively), Ethiopia (46% and 32%, respectively), and India (31% and 36%, respectively). The approximate gap between diagnosis and treatment initiation has decreased from 12% in 2014 (CTB baseline) to 7% in 2016 (see below). Based on 2016 data, the biggest gaps are observed in Indonesia (58%), Burma (27%), and Nigeria (19%).

Gap between diagnosis and treatment initiation, 2014-2017 in 22 CTB countries



Data from 13 countries are based on projections of (equal level) 2015 or incomplete 2016 data; Zambia data not included.

Diagnosis of confirmed RR-/MDR-TB (Xpert and C/DST) as well as treatment initiation for unconfirmed and confirmed RR-/MDR-TB, 2011-2017 in 22 CTB countries (2011-2015: WHO Global TB Database; 2016-2017 data reported from the NTP via CTB; data that are not yet available have been extrapolated based on available data and appear in red)

Countries	WHO Data										NTP data via CTB			
	2011		2012		2013		2014		2015		2016		Jan - Mar 2017	
	#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	21	31	38	49	49	88	88	81	81	142	142	37	37
Bangladesh	509	390	513	513	544	684	994	945	954	880	971	918	214	213
Botswana	46	46	53	58	62	99	41	73	57	61	109	109	23	23
Burma	690	163	778	442	1,602	667	3,495	1,537	2,793	2,207	3,213	2,537	803	634
Cambodia	56	57	60	110	9	121	110	110	77	75	101	101	33	32
DR Congo	121	128	81	262	54	147	442	436	499	413	703	614	179	146
Ethiopia	212	199	284	289	522	413	503	557	597	597	733	733	183	182
India	4,237	3,378	12,343	14,117	15,010	21,093	25,748	24,073	28,876	26,966	33,820	32,682	8,455	8,171
Indonesia	383	260	428	426	502	809	1,812	1,284	2,135	1,519	3,076	1,942	631	545
Kyrgyzstan	806	492	958	775	1,160	1,064	1,267	1,157	1,116	1,158	1,267	1,130	317	283
Malawi	26	16	27	26	23	21	106	64	93	65	66	62	17	16
Mozambique	184	146	266	213	359	313	544	482	646	646	911	911	228	228
Namibia	192	242	206	288	180	170	350	327	320	308	370	351	74	74
Nigeria	95	38	107	125	115	426	798	423	1,241	656	1,468	1,236	367	390
South Sudan	-	-	3	-	1	-	3	-	20	0	10	0	3	3
Tajikistan	604	380	694	535	448	625	902	804	675	636	748	743	187	206
Tanzania	68	68	49	44	55	93	516	143	178	123	185	162	53	45
Ukraine	4,305	4,957	6,934	7,672	9,650	9,000	7,735	8,201	9,397	9,787	9,345	9,322	2,336	2,331
Uzbekistan	1,385	855	1,728	1,491	3,030	2,647	3,844	3,665	2,149	2,149	2,149	2,149	537	537
Vietnam	601	578	273	713	207	948	2,198	1,523	2,602	2,131	2,693	2,450	673	562
Zambia	-	-	80	97	79	79	-	-	196	99	196	99	61	25
Zimbabwe	118	64	149	234	93	351	412	381	468	433	510	484	128	121
Total	**14,657**	**12,478**	**26,045**	**28,468**	**33,754**	**39,819**	**51,908**	**46,282**	**55,170**	**50,990**	**60,786**	**58,877**	**15,539**	**14,722**

Data from 13 countries are based on projections of (equal level) 2015 or 2016 data

New drugs and novel regimens (ND&R)

By end of March 2017, eligible patients[5] have been started on ND&R in 18 countries (16 have BDQ, eight include DLM, and seven include shorter treatment regimens [STR]). In total, 273 patients were started on BDQ, 39 patients were started on DLM, and 276 patients were started on STR in 18 CTB countries as well as in Kazakhstan during Jan-Mar 2017 (see below).

Number of eligible patients started on BDQ, DLM or STR (national data) in CTB countries in 2016 and 2017

Country	# eligible patients started on BDQ		# eligible patients started on DLM		RR-/MDR-TB cases started on STR		# of BDQ or DLM treatment initiation sites	
	2016	2017 (Q1)	2016	2017 (Q1)	2016	2017 (Q1)	2016	2017 (Q1)
Afghanistan	n/a	n/a	n/a	n/a	n/a	6	n/a	n/a
Bangladesh	38	17	5	27	n/a	2	1	1
Botswana	0	0	n/a	n/a	n/a	n/a	1	1
Burma	11	n/r	8	n/r	n/a	n/a	1	1
Cambodia	n/a	2	n/a	n/a	n/a	n/a	n/a	2
DR Congo	13	4	n/a	n/a	442	136	2	2
Ethiopia	10	4	5	5	n/a	n/a	n/r	1
India	226	151	n/a	n/a	n/a	n/a	6	6
Indonesia	45	14	n/a	n/a	n/a	n/a	4	5
Kazakhstan	157	n/r	49	n/a	n/a	n/a	n/r	n/r
Kyrgyzstan	n/a	26	n/a	n/a	n/a	53	n/a	2
Mozambique	1	12	n/a	5	0	63	1	1
Namibia	14	9	1	0	n/a	n/a	2	2
Tajikistan	24	20	4	0	3	16	3	4
Tanzania	1	0	n/a	n/a	n/a	n/a	n/r	n/r
Uzbekistan	120	0	n/a	n/a	n/a	n/a	2	2
Vietnam	85	14	n/a	n/a	104	0	3	3
Zimbabwe	n/a	n/a	n/a	2	n/a	n/a	n/a	n/r
Total patients	745	273	72	39	549	276	26	33
Total Countries/Sites	**14**	**16**	**6**	**8**	**4**	**7**	**11**	**17**

BDQ, DLM and STR not yet introduced in Malawi, Nigeria, South Sudan, Ukraine, and Zambia (There is no CTB country project in Kazakhstan)
n/a - not applicable; n/r - not reported

5 Eligibility varies by country but should follow WHO/NTP criteria, which usually entails pre-XDR, XDR-TB and MDR-TB patients with adverse drug reactions and/or poor tolerance to standard second line drugs.

XDR-TB patient on a Bedaquiline containing regimen with her daughter - Tajikistan (Photo: KNCV)

By end of March 2017, a total of ten CTB countries reported BDQ/DLM/STR-related severe adverse events (SAEs). In total, 55 patients were reported with BDQ-related SAEs; ten patients were reported with BDQ-related SAEs leading to death; only one patient was reported with STR-related SAEs during Jan-Mar 2017 (see below).

BDQ/DLM/STR-related SAEs and SAEs leading to death (national data) in 10 CTB countries in 2016 and 2017

Country	BDQ- Total # of reported SAEs		BDQ- Total # of reported SAEs led to a death		DLM- Total # of reported SAEs		DLM- Total # of reported SAEs led to a death		STR- Total # of reported SAEs		STR- Total # of reported SAEs led to a death	
	2016	2017 (Q1)	2016	2017 (Q1)	2016	2017 (Q1)	2016	2017 (Q1)	2016	2017 (Q1)	2016	2017 (Q1)
Bangladesh	2	1	1	1	0	0	0	0	0	0	0	0
Burma	6	4	0	0	n/r	n/r	n/r	n/r	n/a	n/a	n/a	n/a
DR Congo	6	5	6	5	n/a	n/a	n/a	n/a	0	0	0	0
Ethiopia	3	0	0	0	1	0	1	0	n/a	n/a	n/a	n/a
India	24	37	5	4	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Indonesia	18	3	0	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Kyrgyzstan	n/a	5	n/a	0	n/a	n/a	n/a	n/a	0	1	0	0
Namibia	1	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a
Tajikistan	0	0	0	0	n/r	n/r	n/r	n/r	0	0	0	0
Vietnam	0	0	0	0	n/a	n/a	n/a	n/a	n/r	n/r	n/r	n/r
Total events	60	55	12	10	1	0	1	0	0	1	0	0
Total countries	9	10	9	10	5	5	5	5	5	5	5	5

By end of March 2017 aDSM monitoring for ND&R has only been introduced in these ten CTB countries

XDR-TB patient - Tajikistan (Photo: KNCV)

MOST SIGNIFICANT ACHIEVEMENTS

The progress and achievements from January to March 2017 for the 22 CTB country projects active during the quarter, are summarized on the following pages. A notable event this quarter was the commemoration of World TB Day (March 24) across all CTB countries. CTB's involvement varied from country to country, but CTB-supported activities included large advocacy events attended by high-level governmental officials and celebrities (e.g., India, Zimbabwe), public awareness/mass media campaigns (e.g., India, Bangladesh, Burma), celebration of important milestone of providing access to treatment at CTB supported sites (Namibia), a TB screening campaign among targeted groups (Zimbabwe).

Children - Nigeria (Photo: Tristan Bayly)

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 the provision of quality TB services to all communities. The project works in 15 of the country's 34 provinces.

Urban DOTS implementation - Urban DOTS was implemented in 133 health facilities (100 [49% of total 209] public and 33 [44% of total 75] private) in Kabul; and 83 health facilities (40 [56% of 70] public and 43 [48% of 90] private) in four other cities. In Kabul, there was a 16% increase in TB case notification during this quarter (1,450 cases) compared to the same quarter in 2016 (1,250 cases). The private sector notified 205 (15%) of all forms TB cases during this quarter. In the four other cities, notified TB cases all forms reached 1,732 (422 [24%] notified by private health facilities), which reflects a 14% increase in TB case notification this quarter compared to the same quarter in 2016 (1,518 cases).

Contact investigation - CTB sustained its CI efforts and helped the NTP and frontline health care staff to conduct CI in urban DOTS sites in Kabul and other four provinces. A total of 662 index TB cases were investigated; 3,739 household members were registered as contacts, and all (100%) were screened for TB; 580 (16%) household contacts were found to be presumptive for TB and were examined for AFB; 54 (9%) were diagnosed as BC TB cases and all were put on standard treatment regimens; 632 children under the age of five were identified as contacts of index TB cases and were put on isoniazid preventive therapy (IPT).

Community Based DOTS (CB-DOTS) implementation - CB-DOTS was implemented in 572 health facilities in 197 districts (15 provinces). This quarter, 9,802 presumptive TB patients were referred by the community (19% increase compared with Jan-Mar 2016); out of which 741 patients were diagnosed with BC TB (25% increase compared with Jan-Mar 2016); 886 TB patients started receiving treatment from community health workers/community members (22% increase compared with Jan-Mar 2016).

Community health workers trained to fight TB in Ander district of Ghazni province - Afghanistan (Photo: MSH)

BANGLADESH

CTB-Bangladesh is led by MSH in close collaboration with KNCV. CTB is supporting the NSP 2020 targets: (1) Increase annual case detection of all forms of TB to 230,000 (from baseline of 184,507 in 2013); (2) Ensure universal access to DST; (3) Treat 100% of detected MDR-TB cases and achieve a TSR of at least 75% in detected MDR-TB cases; and (4) Decrease TB mortality from 51/100,000 to 40/100,000.

MDR-TB diagnosis and treatment - The number of people with presumptive TB tested by GeneXpert reached 14,358 this quarter, with 4,198 (29%) patients with confirmed TB, of which 214 (5%) were diagnosed with RR-TB; 213 (99%) of confirmed TB patients started and adhered to second-line treatment. One of the reasons for the high adherence was close monitoring through mHealth used for electronic directly observed treatment (eDOT), the coverage of which will increase by translating the application into Bangla and expanding it to NGO partners.

Active case finding (ACF) among children - CTB set up active screening for child TB at the outpatient departments of three tertiary care health facilities in Dhaka. A total of 14,455 children were screened; 521 (4%) presumptive TB patients were identified and referred to further examination, of which 179 (33%) were verified as presumptive and tested for TB; 14 (8%) confirmed child TB cases were identified; and all (100%) were initiated on treatment.

Piloting of CI - CTB supported the NTP to develop CI standard operating procedures (SOPs) and reporting formats. The piloting started in two districts in January 2017 and will continue for six months. A total of 309 district level managers and HCWs were oriented on the proposed CI implementation strategy and related reporting system. This quarter, a total of 2,635 contacts of 599 index TB patients were identified; of which 327 (12%) were identified as symptomatic through screening and tested for TB; of which 13 (4%) were diagnosed and put on treatment.

MDR-TB patient Siddique Mollik gets back to work after 3 months of treatment - Bangladesh (Photo: Md. Shahadat Hossain)

BOTSWANA

CTB-Botswana led by KNCV, aims to assist the NTP in strengthening laboratory services and planning for novel intervention strategies by providing regular and routine support through long-term TA both at the NTP and the NRL.

Introduction of ND&R - A national workshop was organized to adjust national DR-TB guidelines for the introduction of ND&R containing new drugs BDQ and DLM. CTB facilitated this workshop, which was attended by 25 participants representing the NTP, MDR-TB treatment initiation sites, the NRL, etc. The plan of action for the introduction of ND&R will be finalized next quarter.

Active drug safety monitoring (aDSM) and pharmacovigilance (PV) - CTB project staff participated in the meeting organized and hosted by CDC-Botswana on aDSM and PV for ART drugs and new TB drugs to align reporting forms and procedures, and joint causality assessment for adverse drug reactions for patients receiving concomitant ART and anti-TB treatment.

New CTB Lab Advisor - The new CTB Laboratory Advisor resumed his position at the NRL on January 9, 2017. He has started providing TA to the NRL, which resumed operation in the previous quarter. He has also started with on-site visits to GeneXpert sites to provide mentorship, supervision and on-the-job trainings together with the NRL team.

BURMA

CTB-Burma led by FHI 360 and with KNCV as a collaborating partner prioritizes reaching key populations, strengthening the laboratory network, strengthening TB-IC, and helping the NTP in the analysis of and strategic planning for novel intervention strategies.

Strengthening TB diagnostics - CTB provided training in biosafety cabinets (BSC) certification and maintenance for 35 laboratory technicians from Rangoon, Mandalay, and Taunggyi TB laboratories. Participants learned how BSCs function, how to maintain them, and how to use them safely. BSCs in all three laboratories were certified for one year, ensuring the protection of personnel, products, samples and environments.

Expanding TB case finding - In order to increase case detection, CTB contracted Population Services International (PSI) to expand TB case finding through drug vendor activities in 15 selected townships in Bago Region. By the end of Year 3, PSI expects the drug vendors to refer more than 3,700 presumptive TB patients; more than 460 of these are expected to be diagnosed with TB and undergo treatment.

Strengthening TB drug aDSM and PV - CTB conducted a workshop on TB aDSM, attended by 32 participants from the NTP, FDA, WHO, MSF-Holland, UNOPS, and CTB. This is particularly important for the introduction of new TB drugs BDQ and DLM as well as STR - which is being piloted by the End TB project and also discussed by CTB. A follow-up workshop to finalize SOPs on aDSM is scheduled for June 2017.

Laboratory personnel working at their recently certified BSC workstations, in the Rangoon NTRL - Burma (Photo: FHI 360)

CAMBODIA

Led by FHI 360 and with KNCV and WHO as collaborating partners, CTB-Cambodia provides TA to the NTP to develop strategies for TB care and prevention 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 CB-DOTS, to include key populations such as children and the elderly. The urban strategy prioritizes the engagement of large hospitals, public-private mix and prisons. Based upon the USAID Cambodia decision, CTB-Cambodia will be implemented over the next two years, and will be closed at the end of Year 4.

Updated PMDT guidelines - CTB together with the NTP conducted a workshop to revise the PMDT guidelines, SOPs, and related documents in preparation for introduction of the ND&R. Twenty participants from the NTP and partners reviewed the adapted programmatic and clinical guides, a flowchart for RR-/MDR-TB patient triage, and the diagnostic work up algorithm. The document will be finalized next quarter.

CI in remote and difficult to access areas - CTB conducted CI among household members and close contacts of TB patients in two health centers located in very remote and difficult to access areas. Three CI sessions were organized for 16 bacteriologically confirmed TB cases, for which 409 TB close contacts were identified. Among those, 147 (36%) presumptive TB patients were identified; 37 (25%) TB cases were diagnosed and initiated TB treatment, and six children began preventive therapy.

Chief of Veal Ang Popel HC being screened for TB as part of CI in Tbong Boeng village - Cambodia (Photo: Ngo Menghak)

DEMOCRATIC REPUBLIC OF THE CONGO

The Union is leading the CTB project in DR Congo while working closely with MSH (conducting TB/HIV activities in PEPFAR-supported provinces) and KNCV. The project focuses on increased TB case finding, expanded PMDT, integrated TB/HIV care, and increasing the capacity of the NTP, HCWs and community workers.

Improved RR-TB case detection - The number of RR-TB cases increased from 53 in Jan-Mar 2016 to 114 cases in Jan-Mar 2017 (the total number of RR-TB cases detected in 2016 was 145). The specimens tested on Xpert also increased from 267 to 1,160. Among the 114 RR-TB cases detected this quarter, 89% (102/114) started on second-line treatment.

Strengthening ACF - CTB-supported local NGOs screened a total of 112,171 persons for TB; among them, 9,960 (9%) presumptive TB patients were referred to further diagnosis, and 9,889 (99%) were tested through smear examination; 1,135 (11%) patients were diagnosed with TB; 958 (10%) were bacteriologically confirmed, 86 (1%) were clinically confirmed, and 91 (1%) were extra-pulmonary TB cases; all diagnosed patients were put on treatment.

Xpert machine utilization at the Kongo Central Kinkanda Provincial Hospital - DR Congo (Photo: Stephane Mbuyi)

ETHIOPIA

CTB is led by KNCV in Ethiopia with WHO and MSH as close collaborating partners. The new 18-month (Apr 2016-Sept 2017) expanded CTB 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 is also a cornerstone of the work plan. The project is concentrating efforts at the regional level, in the Southern Nations and Nationalities (SNNPR) and Tigray regions as well as seven new regions. National-level TA is targeting only specific technical areas, while support for Urban TB activities is focused in Addis Ababa, Dire Dawa, and Harari.

Improving the quality of laboratory services - CTB is actively supporting the NTP in rolling out the use of Xpert for all TB presumptive cases. This quarter, a total of 12,793 tests were done in 52 Xpert sites; 1,537 (12%) were found MTB positive, of which 89 (0.7%) were RR-TB; all (100%) were put on treatment. CTB assisted the NRL on the introduction and expansion of SL-LPA in 10 culture labs in the country. Currently six of the regional laboratories started the service, with a total of 97 tests done, of which seven were Pre-XDR and one XDR-TB patients.

Improved patient-centered care and treatment - Naso-gastric (NG) aspiration became a routine practice in ten selected health facilities in Addis Ababa to enhance bacteriological confirmation of TB in young children (below the age of 5). This quarter, NG tube aspiration was done for 16 presumptive cases and the samples were sent for Xpert testing, resulting in one RR-TB diagnosis and five diagnosed clinically. CTB is supporting the whole process of implementation i.e. guidelines, training materials, job aids and monitoring tools development, training of HCWs, etc.

CTB conducted a mortality audit in one of the CTB supported regions using an updated version of the mortality audit tool (TB CARE I). Of the 12 deaths reviewed, six were female, three were HIV co-infected (25%), two had diabetes (17%). Only five had been fully adherent to their regimen (>90% of doses taken) before their death. Fifty-eight percent of the deaths occurred within three months of treatment initiation. The information from this mortality audit was used to guide clinicians to further improve the quality of care through strengthened patient counseling and DOT, improved management of co-morbidities and other risk factors. The mortality audit practice will continued to be supported by CTB so it can be scaled-up to more regions in the coming quarters.

Intensified CI - A total of 2,287 health facilities were engaged this quarter. Household contacts of 4,307 index cases have been approached and 14,459 contacts (12,804 > 5 years of age and 1,655 less that 5 years of age) were screened. A total of 255 (2%) of contacts > 5 years of age and 41 (3%) of < 5 years of age were identified as presumptive TB cases; of which 54 (21%) and 4 (10%) TB cases were diagnosed, respectively.

Prison TB screening activity - Ethiopia (Photo: Berhan Teklehaimanot)

INDIA

The Union is leading CTB efforts in India with close collaboration with KNCV, PATH and FIND. The project has been primarily contributing to TB care and prevention efforts in India through the Call to Action to End TB in 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. The other important components of the CTB-India project are addressing the gaps and limitations in childhood TB and providing universal access to HIV counseling and testing for TB patients diagnosed in the private sector.

Communication support for ACF - CTB provided communication support to the MoH Central TB Division in the ACF drive launched in 50 districts across 17 states. CTB developed the ACF communication campaign with awareness raising messages about TB symptoms in Hindi and five regional languages disseminated through media channels across a population of nearly 9.2 million people, where 48,291 sputum examinations were conducted and 2,513 patients (5%) were diagnosed with TB.

TB projects with businesses - As part of the Call to Action, CTB implemented advocacy and sensitization efforts with businesses through the Mumbai and Delhi Dialogues last year and engaged with various corporate/other partners to launch projects on TB. As a result, these partners have announced the following projects:

- GAIL, the largest gas transmission company in India, launched a TB project on awareness, screening, diagnosis and to provide nutritional support for TB patients in Pata.
- DLF Foundation launched "TB-Free Delhi" project to establish an MDR-TB rapid diagnosis center and to provide nutritional support to identified MDR-TB patients in Delhi.
- Through its six centers, the Institute of Driving & Traffic Research will reach out to 300,000 drivers annually and raise TB awareness along with that of HIV & Tobacco use.
- The Rotary National TB Control Committee committed US$44,000 for TB activities.

Comprehensive, high quality diagnostics (FIND) - A total of 10,792 presumptive pediatric TB and DR-TB patients were tested. Of the total tested, 739 (7%) cases were diagnosed as Xpert-positive with 68 (9%) patients being diagnosed with RR-TB. As observed in the previous quarter, more than half (53%) of non-sputum specimens were tested on Xpert reflecting better utilization of the test. The project is on track to achieve the target of 50,000 presumptive pediatric TB patients to be tested with Xpert by 2017, with 20,626 children already tested in 2016.

India vs. TB charity cricket match between celebrities and parliamentarians - India (Photo: The Union)

INDONESIA

CTB-Indonesia is led by KNCV and implemented in collaboration with ATS, FHI 360, and WHO. In Year 3, CTB will focus on increasing TB case notifications and improving DOTS implementation by public and private sector providers supported by effective surveillance systems. CTB will strengthen the capacity for effective utilization of the expanded Xpert network, and the quality of services during scaling-up and decentralization of PMDT and home based MDR-TB treatment and care alongside with application of the patient triage approach using the shorter treatment regimen.

Joint External Monitoring Mission (JEMM) – From January 6-16, 2017, the JEMM for TB care and prevention was undertaken by all major stakeholders including CTB partners. The JEMM provided recommendations for further strengthening of TB care and prevention services to reach the targets of the National TB Plan 2015-2019, the End TB Strategy, and the Sustainable Development Goals and targets pertaining to TB, which are utilized by the NTP to revise and update current policies and strategies, including the strategy for the new GF grant proposal 2018-2020.

The mandatory notification application officially launched - Wajib Notifikasi (WiFi-Mandatory Notification) is a mobile application for primary clinics and private practitioners to notify TB cases to the NTP, which was officially launched on April 1, 2017. This mobile application will support the mandatory notification implementation for private practitioners by providing a user-friendly reporting system. This application is free of charge has been available on the Google Play Store under the name "Wajib Notifikasi TB" since February 23, 2017, with more than 100 downloads so far.

ACF in prisons - CTB has been facilitating ACF in 11 prisons, with the results from Year 2 up to Year 3 Quarter 2 presented below:

Number of inmates screened (symptomatic + X-ray) = 10,594
Percentage of inmates screened that were presumptive TB cases = 17% (1,908/10,954)
Percentage of inmates able to supply sputum among presumptive TB cases = 77% (1,477/1,908)
Percentage of inmates-sputum samples sent for Xpert examination = 100% (1,477/1,477)
Percentage of inmates tested with Xpert diagnosed with TB = 13% (193/1,477)
Percentage of inmates diagnosed TB and put on TB treatment = 100% (193/193)

Based on these results, the Directorate General of Correction agreed to use the remainder of Year 3 to strengthen routine case finding based on cough surveillance, instead of only relying on mass TB screening.

World TB Day - Indonesia (Photo: Trishanty Rondonuwu)

KYRGYZSTAN

CTB-Kyrgyzstan is led by KNCV. This project is working on strengthening patient-centered care and treatment with major focus on the introduction/implementation of ND&R.

Implementation of ND&R - Beginning in February 2017, the first patients were enrolled on STR and individualized regimens containing BDQ. In total, 53 patients were enrolled on STR and 26 on BDQ and repurposed drugs by March 31, 2017. Within two months of treatment, 16 out of 24 smear positive patients on BDQ had negative smear results, three patients had negative culture results, and four out of the 19 smear positive patient on STR had smear negative results.

Improved aDSM and PV - CTB contributed to the improvement of aDSM and PV. The NTP had submitted a total of 12 notifications on SAEs to the MoH by the end of the quarter. The reported SAEs included neurological disorders (3), allergic reactions (4), hearing disorders (1), and one death.

TB NSP development - CTB facilitated the writing of the National Program «Tuberculosis V» for 2017-2021 that ensured the involvement of the Civil Society Organizations (CSOs). Now CSOs will play an important role in the TB program implementation, in patient follow-up, case management, community education and mobilization, as well as decreasing stigma and discrimination against TB patients.

XDR-TB patient Kyzylgul who is receiving a new regimen containing Bedaquiline – Kyrgyzstan (Photo: Olivier Le Blanc)

MALAWI

KNCV is the sole implementer in Malawi. The project's primary focus is on increasing case detection through intensified case-finding, active case-finding (e.g. mobile teams using digital chest X-ray/CAD-4TB screening, followed by Xpert examination), and CI. Another key focus of the project is on strengthening the NTP leadership at the central, zonal and district levels. In Year 3, CTB will be implemented at the national level, in all five zones, and in 15 scale-up districts within these zones.

Renovation of the NRL - Following the assessment in Year 2, CTB engaged Air Filter Maintenance International supported by the MoH/NTP in the renovation and upgrade of the NRL from a Biosafety Level 2 to a Level 3 containment facility. The completion of the renovations of the laboratory was done on March 31, with the training of NRL staff planned for the first week of April 2017.

MDR-TB case management - CTB and the NTP jointly conducted a national-level supervision for MDR-TB cases - 34 patients were sampled out of the 108 that were on treatment. The key problems identified included a lack of skills among some HCWs involved in MDR-TB service provision, limited transport for staff to visit the patients, a lack of MDR-TB management committees, and no nutritional support for patients. Recommendations included capacity building for HCWs, the NTP should procure and supply motorbikes for visiting patients through the GF, and the establishment of MDR-TB management committees.

Childhood TB - Childhood TB cases are 10% of all notified cases in the NTP annual report 2015 (against a national target of 15%). The NTP with support from CHAI, developed a childhood TB training curriculum which was later scaled-up by CHAI to train HCWs in their impact districts. CTB scaled up these trainings to its priority districts and trained 118 HCWs.

MOZAMBIQUE

CTB-Mozambique is led by FHI 360 and has KNCV as the sole collaborating partner. In Year 3, CTB is working closely with the NTP in the following technical areas: 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 case-based TB register in place that is interoperable with other health information systems (MoH and HIV), and conducting the first TB prevalence survey.

Sputum Transportation System (STS) - A STS is currently being implemented in six districts across two provinces. Between October 2016-March 2017, 1,501 sputum samples were transported, out of which 345 (23%) were BC TB cases. The STS contributed 53% (345/657) to overall TB BC cases in the period of implementation. Results of the STS also included an improvement in the turnaround time for microscopy, from an average of seven days to just 48 hours.

Strengthening MDR-TB activities - CTB conducted a technical supportive supervision to Zambézia and Nampula provinces at 12 health facilities in eight districts. A total of 173 clinicians were supported during the field visit. During the supervision, sites identified by the NTP as potential centers of excellence for MDR-TB were visited to identify the needs with regards to infrastructure, laboratory (including blood tests and biochemistry), inpatient wards and consultation rooms, STS, ECG, X-ray and audiometry availability. In addition, the issue of speeding up DR-TB notifications, and the need to test all presumptive DR-TB cases (retreatment cases, and HIV+TB cases) were identified as priorities. A detailed report was shared with the NTP and was used for GF concept note development.

Prevalence Survey - CTB supported the revision of the national TBPS questionnaires followed by the field pre-testing. A second round of pre-testing will be done with the revised questionnaires next quarter. Recruitment and placement of key personnel has been completed with the recruitment of the survey coordinator. The data management plan is approved and an inception meeting was held to validate the current understanding of what is required of the data management solution. The selected software developer participated in the meeting and the survey software is currently under development.

NAMIBIA

CTB-Namibia is led by KNCV, and in alignment with PEPFAR Namibia, continues to work with the Namibian government, civil society and private sector to expand access to TB/HIV services. In Year 3, CTB is supporting activities that increase HIV testing services among TB patients and contacts, enabling timely initiation of ART in TB platforms, and improving retention and adherence to TB treatment and ART among co-infected patients.

Development of the Medium Term Plan - CTB supported the NTP in the development of its third Medium Term Plan. Two consultative meetings were conducted with key stakeholders across all sectors including the private sector. CTB funded the first consultative meeting and provided TA throughout the process from the epidemiological assessment, end term program review, and the development of the third strategic plan. Currently, the development of the M&E plan for the new NSP is underway, and the endorsement of the new NSP is expected next quarter.

The new laboratory diagnostic algorithm - CTB supported the implementation of the new laboratory diagnostic algorithm, incorporating GeneXpert as the initial test for all presumptive TB cases, followed by SL-LPA for RR-TB cases. A training on the new diagnostic algorithm was conducted for all 35 district TB coordinators and 26 regional coordinators. The project anticipates improved diagnostic practices, which will lead to an improved case finding (of both DS- and DR-TB) and improved case management.

TB/HIV integration - On March 22, 2017 at the Okuryangava Clinic TB-DOT Point (Windhoek District), CTB celebrated the milestone of providing access to treatment at CTB supported sites for up to 3,500 TB/HIV patients countrywide since the start of CTB-Namibia in October 2015. This was organized as a run-up event to World TB Day on 24 March 2017.

Challenge TB-Funded integrated DOTS and HIV point, Namibia (Photo: KNCV)

NIGERIA

KNCV is currently the lead and sole implementer in Nigeria. In Year 3, the project covers the following technical areas: patient-centered care and treatment, comprehensive high quality diagnostics, enabling environment, political commitment and leadership as well as quality data, surveillance and M&E. CTB is working towards universal access to TB diagnosis and treatment in 14 priority states, focusing heavily on increasing case notification in a country with an estimated case detection of only 15%.

Sputum transport and results retrieval system - CTB supported the scale-up of sputum transport and the results retrieval system in the CTB supported states. A total of 9,860 sputum samples were transported; 9,663 (98%) were tested; and 1,106 (11%) TB cases were detected including 52 (5%) cases with RR-TB.

CI implementation and scale up - CI implementation was scaled-up and continued implementation in 13 CTB-supported states (out of 14 CTB states, with the exception of Nasarawa state). Visits were paid to the homes of 2,412 BC TB patients and 8,481 household contacts were screened for TB; out of these, 2,120 (25%) presumptive TB cases were identified; of which 2,078 (98%) were tested for TB; and 294 (14%) TB cases were diagnosed and put on treatment.

Implementation of e-TB manger - CTB provided TA in finalization of the e-TB manager training materials and supported the NTP in the first phase roll-out of the harmonized e-TB manager platform for the individual case-based management of DS- and DR-TB in 204 high burden DOTS facilities in 16 states. Selected participants from 57 high burden facilities in nine CTB-supported states were trained and were provided with tablets for data entry. As a result, there has been a spike in the number of entries into the e-TB manager (86,614 logins in March; 28,383 logins in February; 4,018 logins in January 2017).

TB Patient Ortoo Terhemba, Nigeria (Photo: KNCV)

SOUTH SUDAN

CTB-South Sudan is led by MSH and has KNCV as the sole collaborating partner. In Year 3, CTB continues to focus on increasing case notification and improving treatment outcomes by supporting the expansion of quality and sustainable TB care services in three states, which have high populations and a high burden of TB and HIV. In addition, CTB is supporting the provision of TB services to the displaced population and the expansion of quality-assured TB diagnostic services beyond the three states. CTB-South Sudan will be closed at the end of September 2017.

Enhanced TB detection through intensified case finding (ICF) - CTB-supported home health promoters (HHPs) from community-based organization AIDS Resistance Trust to continue intensified case finding and referrals using the FAST strategy, and to provide education on TB signs and symptoms. A total of 19% (320/1,710) presumptive TB cases were referred by HHPs to Munuki and Kator primary healthcare centers (PHC) this quarter compared with 12% (168/1,389) in previous quarter, a 7% increase.

CI at community level - From January-March 2017, two PHC centers (Munuki and Kator) implemented CI among the household contacts of smear positive index cases. Of the 50 index cases, 25 (50%) were visited (many people, including some of the TB patients relocated to safer areas due to the current political situation in South Sudan, could not be accessed due to restricted movement resulting from insecurity); 87 contacts were screened for TB, of which eight (9%) presumptive TB cases were identified and referred for further examination. None of the presumptive cases referred for TB diagnosis turned out to be TB cases.

GeneXpert testing implementation - Ninety-nine samples were referred for GeneXpert testing from CTB supported areas, out of which 9% (3/34) were RR-TB cases. All the RR-TB cases detected during this quarter were retreatment cases, and were all initiated on second-line treatment.

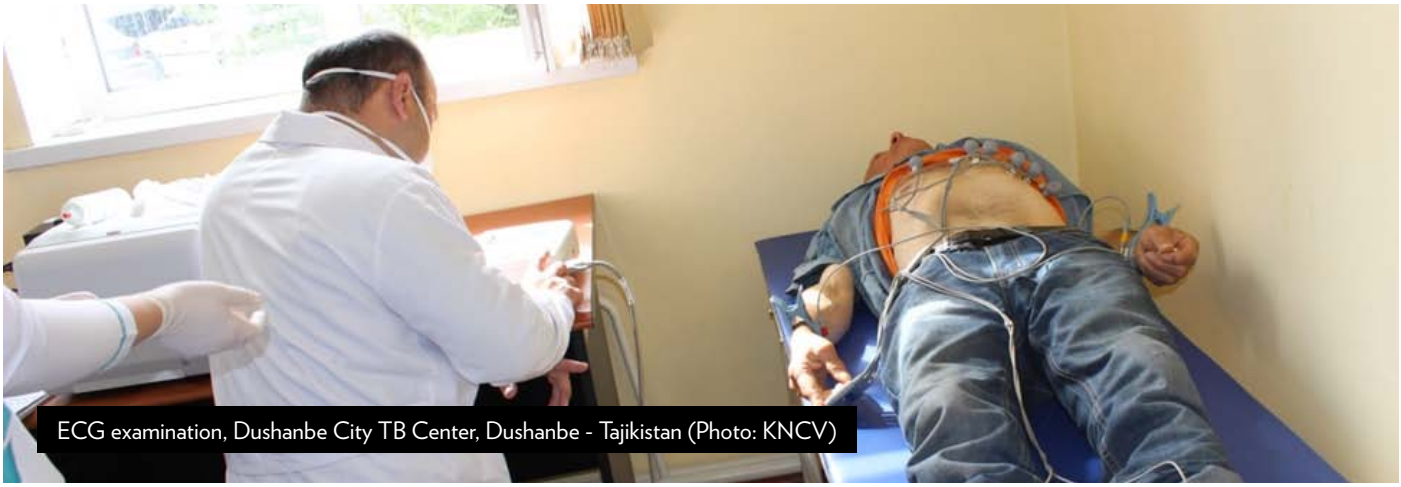
TAJIKISTAN

CTB-Tajikistan is implemented by KNCV. In Year 3, CTB-Tajikistan continues working to improve quality of care for patients with M(XDR)-TB by building the NTP's capacity to manage and implement ND&R. CTB is also building the NTP's drug management capacity and support the implementation of an early warning system (QuanTB) for all supply chain levels.

Introduction of ND&R - Patients enrolment onto ND&R started in December 2016. By March 31, 2017, a total of 43 patients were enrolled on treatment: 24 on individual regimen with BDQ and 19 on STR. Out of the 43 enrolled patients, 24 (56%) patients started treatment in the National TB Center (Machiton) and 19 (44%) patients started treatment in ambulatory centers.

Improved sample transportation system in the CTB pilots (Dushanbe and Rudaki) from PHC facilities to the district/city TB centers and to the NRL prevented delays in Xpert testing. Data collected this quarter showed a sixty percent increase in the number of samples tested (696 in Quarter 1 vs. 1,109 in Quarter 2), and a 17% increase in the number of notified TB cases (104 and 122 in 1st and 2nd quarters, respectively).

Under the optimized diagnostic algorithm initiative, CTB initiated SL-LPA in the NRL. CTB procured five SL-LPA kits for training and the start-up process. SOPs on SL-LPA and rapid identification were also developed and the next step is the training of the NRL staff which is scheduled for the first week of April 2017.



ECG examination, Dushanbe City TB Center, Dushanbe - Tajikistan (Photo: KNCV)

TANZANIA

Led by KNCV, with PATH and ATS as collaborating partners, CTB-Tanzania is focused on all CTB technical areas apart from the management of LTBI and drug & commodity management systems. The project is implemented in the seven regions of Arusha, Dar es Salaam, Geita, Kilimanjaro, Mwanza, Pwani, and Zanzibar.

Strengthening STS - CTB continued to support use of motorcycles for sputum sample transportation from lower level health facilities to GeneXpert sites in four priority districts. Since the start of implementation in October 2016, a total of 1,321 samples (smear negative specimens) were collected and transported for testing; out of them 129 (10%) specimens were found MTB positive and four (3%) were RR-TB; all the patients were initiated on TB treatment.

The NRL Accreditation - CTB continued to support the process of NRL accreditation, with assessments and trainings of laboratory staff. The NRL worked with CTB recommendations in order to achieve its goal of acquiring accreditation. In March the Stepwise Laboratory Improvement Process Towards Accreditation (SLIPTA) audit was conducted, and the NRL performance was raised from three to five stars. This was also made possible by the renovation and remodeling of the laboratory space with the support of CTB. The NRL is planning to apply for accreditation in July 2017.

Childhood TB - CTB supported the first ever national childhood TB technical working group meeting, bringing together key stakeholders from the government and non-state actors. In addition, a total of 209 HCWs from 140 high volume sites received a comprehensive 5-day training on childhood TB. Pediatric notification rose from 604 cases (10% of all notified cases) in Quarter 1 to 877 cases (14% of all notified cases) in Quarter 2.

UKRAINE

PATH is the lead partner in Ukraine, and works closely with KNCV. In Year 3, CTB-Ukraine continues to support the NTP by supporting more oblast TB programs to expand and improve a model for a patient-centered approach to MDR-TB care, based on ambulatory treatment and the quality improvement of MDR-TB care and prevention services. CTB is also building the NTP's capacity to manage and implement ND&R.

Medical, social, and psychological support for MDR-TB patients - CTB continued supporting local NGOs and oblast branches of the Ukrainian Red Cross Society in provision of medical, social, and psychological support to MDR-TB patients in the ambulatory phase of treatment. From December 2015 to March 2017, a total of 409 MDR-TB patients received such support in three project oblasts; 143 (35%) patients have successfully completed treatment so far; 175 (43%) patients are currently continuing treatment, among them 33 patients interrupted their treatment for less than one month and resumed it thanks to the support they received from CTB. Despite the provided psychosocial support, 10 patients (2%) were lost to follow-up.

Introduction of ND&R - CTB in collaboration with the TB Institute applied to the BDQ donation program for 200 courses of treatment. All preliminary questions from the Global Drug Facility were addressed and the final quote provided. CTB is currently working on custom clearance documents. The order status is "placed with suppliers" and the estimated delivery date is May 13, 2017. CTB signed a sub-agreement with the TB Institute to support the enrollment of 200 patients on BDQ treatment.

TB/HIV collaborative activities - CTB conducted the situation assessment followed by training workshop to present international standards for TB/HIV programmatic management. The workshop was attended by 36 public health staff from three PEPFAR-targeted oblasts (Odeska, Mykolaivska, Kirovohradska), and by 16 staff from the national level. Recommendations were developed for the improvement of the TB care cascade among PLHIV, as well as for the implementation of PEPFAR activities in the targeted oblasts. The following areas of intervention were preliminarily identified:

- Measuring the death rate among TB/HIV patients and identifying the main determinants of death
- Developing a M&E plan of TB/HIV activities which complies with the 2015 WHO recommendations
- Implementing quality control of laboratory services and supportive supervision of diagnostic and treatment programs for TB/HIV patients
- Ensuring access to Xpert MTB-RIF and SL-LPA for PLHIV as well as access to ND&R
- Ensuring optimal timing of ART initiation in all TB/HIV patients
- Optimizing referral between TB and HIV services.

UZBEKISTAN

Led by WHO, and with KNCV as the sole collaborating partner, CTB-Uzbekistan is aligned with the Uzbekistan NSP 2016-2020 and the USG TB Strategy. The goal of the project is to improve patient-centered quality TB services, building local capacity and the utilization of innovations and new technologies.

TB Infection Control (TB-IC) - CTB conducted two nationwide trainings on TB-IC in Samarkand city for 28 staff of the TB and Sanitary-epidemiological services from all 14 regions of Uzbekistan. Beginning next quarter, CTB will ensure regular (quarterly) supervision of the implementation of TB-IC measures in CTB-targeted regions.

Introduction of ND&R - CTB together with the NTP worked on the development of a ND&R implementation roadmap. The roadmap includes: an implementation plan, patient triage, eligibility criteria for MDR-/XDR-TB patients to start treatment with ND&R, treatment regimens, and the management of side effects. CTB will organize a workshop to finalize this document in April 2017.

TB "Distance Learning" module - CTB started the development of a TB "Distance Learning" module for PHC providers. This module aims to improve the PHC providers' knowledge on TB case detection as well as case management of TB patients, including for DR-TB. The draft structure and content for TB "Distance Learning" courses are being developed in cooperation with the NTP and the State Medical Postgraduate Institute.

VIETNAM

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 care and prevention 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 enabling environment, targeted screening for active TB, and drug & commodity management systems.

Merit Award - KNCV Tuberculosis Foundation/CTB-Vietnam received the Merit Award from Vietnam MoH for its significant contributions and assistance to the implementation of the NSP Plan on TB care and prevention from 2014-2016.

Joint TB/HIV service delivery - CTB organized a 2-day training on HIV counseling and testing (HCT) of TB patients for 30 NTP staff at district and provincial level in Dien Bien province, with the goal of improving the NTP staff HCT skills in order to reach the HIV program targets among TB patients. In collaboration with FHI 360, the National AIDS Administration and the NTP, CTB conducted monitoring on the implementation of joint TB/HIV service delivery in selected communities in eight districts. Delivery units for joint TB/HIV services have been established and are operating in three districts, and preparations are underway in other districts.

TB-IC facility assessment and planning - CTB conducted TB-IC facility assessment and planning combined with joint TB/HIV services delivery monitoring in eight selected districts in Nghe An and Dien Bien. The results of TB-IC facility assessment, recommendations and planning for TB-IC improvement were presented and discussed with leaders and staff of the district Health Centers and provincial and central TB and HIV programs.

ZAMBIA

FHI 360 is the lead partner in Zambia, working closely with KNCV. The Year 3 workplan, which was approved in February 2017, prioritizes improving access to and quality of diagnostics, improving patient-centered care and treatment as well as targeted screening for active TB, infection control, and M&E/surveillance.

CTB project launch - CTB was officially introduced to the MoH and the NTP and provisional permission was given to CTB to begin implementing project activities in collaboration with the NTP. Based on this formal introduction and provisional approval, workplan implementation has started. A letter to seek final approval has been written to the Permanent Secretary and the MoH, and a response is being awaited. A letter of Understanding (LoU) that defines the scope of work, the roles and responsibilities of the MoH and CTB in the implementation/ operationalization of the project has also been submitted to the MoH. The LoU has not yet been signed by the two parties as it is still under review by the MoH. Four staff were recruited: the project director, the director of finance and administration, an advisor on infection control/infrastructure, and an advisor on laboratory services. Recruitment of the other staff is on-going and will be completed next quarter.

Development of TB National Strategic Plan - CTB provided TA in the development of the TB NSP 2017-2020. The project director was part of the national technical writing team of the NSP constituted by the NTP. The team was also supported by an external STTA consultant who was supported by CTB through the GF Hub. A final draft was submitted to the NTP at the beginning of March 2017. By participating in the development of the NSP, a partnership was established not only with the NTP, but other stakeholders and partners. It was also an opportunity to introduce CTB to the rest of key players in TB care and prevention activities in Zambia.

ZIMBABWE

The Union is leading the project in Zimbabwe with collaboration from IRD, KNCV, and WHO. The Year 3 work plan prioritizes: improving access to and quality of diagnostics, increasing case finding, integrated TB/HIV care, PMDT, childhood TB, and M&E/surveillance.

Childhood TB - CTB supported the exit assessment of a childhood TB intervention pilot conducted in Makoni district from February to December 2016. One key observation was an increase in the total number of children notified from 11 (3% of the 341 notified cases) in 2015 to 22 (6% of the 332 notified cases) in 2016. The NTP has procured 20 digital X-ray machines for prioritized districts including Makoni through GF support and engaged other partners to strengthen the supply chain of commodities. On-going engagements with member of parliament through CTB support will pursue advocacy for a legislative framework to exempt presumptive TB clients from user fees for TB related X-ray diagnostic services, in order to eliminate catastrophic costs related to accessing TB services.

The NSP development - The development of the NSP 2017-2020 was supported. This included a situational analysis, providing the lead external TA, the costing TA as well as the M&E TA. The strategy is aligned with the new National Health Sector Strategic Plan 2016-2020. Strategic interventions include universal use of Xpert MTB/RIF as the initial diagnostic test for all presumptive cases of TB and emphasis on patient-centered care that safeguard human rights and promote social protection to minimize catastrophic costs related to TB.

Children - Zimbabwe (Photo: Tristan Bayly)

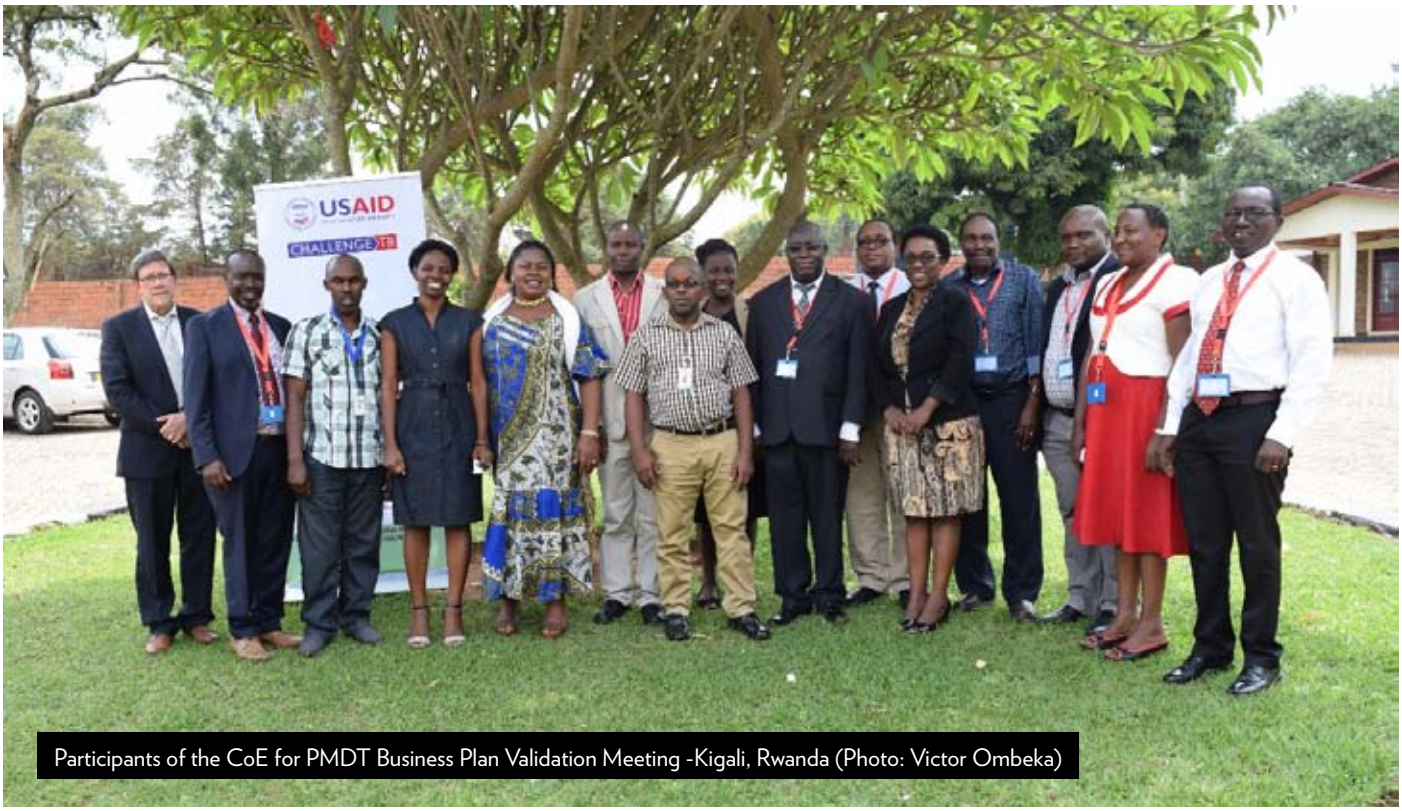
EAST AFRICA REGION

CTB East Africa Region (EAR) Project is implemented by KNCV as the lead and with MSH and The Union as collaborating partners. The technical focus areas include: cross-border TB care and prevention and cross-country collaboration for improved TB care, prevention, and surveillance; supporting National TB reference laboratories; strengthening PMDT to improve access to second-line TB drugs including new drugs and shorter regimens and M/XDR-TB case-holding and palliative care; building capacity on childhood TB; and creating a regional training corridor by linking training institutions and earmarking them for specific trainings in TB. The project has three key sub-agreements with Supra National TB Reference Laboratory - Uganda (SNRL), the East, Central and Southern African Health Community (ECSA), and the Center of Excellence - Rwanda (CoE).

Cross-border activities accelerated - Cross-border health committee meetings were held in four of the five selected border areas (Kenya-Somalia, Kenya-Uganda, Kenya-Tanzania, Kenya-Ethiopia). The cross-border committees have been instrumental in establishing link between the border areas and thereby facilitating the implementation of the inter-country patient referral system. As a result of communication channels established under the project and implementation of the inter-country patient referral system, a total of six patients have been transferred across the borders by health facilities in three separate border areas since October 2016 (Garissa-Lower Juba, Turkana-Moroto, and Kajiado-Longido). All six patients continued their treatment in the health facilities where they were transferred. In addition, between October - December 2016, 324 TB patients have been notified in border districts included in the project.

Drug and commodity management systems - The project has been supporting the development of a TB commodities supply chain portal, a regional electronic platform to improve TB commodities data visibility, facilitate monitoring of the commodities stock situation in East, Central and Southern Africa (ECSA) countries, and facilitate timely exchange of medicines when appropriate. Twelve participants from the NTPs in ECSA were trained on the TB supply chain portal. Technical documents were provided to the participants including the user manual for accessing the system and the blueprint of the system.

Center of Excellence (CoE) - Two meetings - a stakeholder consultative meeting and an expert panel validation meeting were held in Kigali, Rwanda to draft a Business and Marketing Strategy for the regional CoE on PMDT hosted by the School of Public Health/University of Rwanda (SPH/UR). The business plan will be finalized in the next quarter the feedback received during the meetings is incorporated. Once the Business and Marketing Strategy is in place, the CoE is committed to its implementation and to provide guidance for the continuation of its operations in a sustainable, efficient and growth oriented manner.



Participants of the CoE for PMDT Business Plan Validation Meeting -Kigali, Rwanda (Photo: Victor Ombeka)

CORE PROJECTS

CTB is working on priority projects that have implications for TB diagnosis, treatment and prevention globally. Major achievements and highlights from the first quarter of Year 3, January-March 2017 are outlined on the next few pages along with GF Hub progress on page 9.

Bedaquiline Introduction

The CTB Core Bedaquiline Coordination Project facilitates the introduction of ND&R in 23 CTB countries (including Kazakhstan). As of the end of March 2017, a total of 16 countries offered BDQ-containing regimens treating 1,018 individuals from 2016 to the end of the quarter ; eight offered DLM-containing regimens treating 111 individuals and eight offered STR treating 825 individuals. ND&R are not introduced yet in six CTB countries. During the reporting period, Afghanistan and Kyrgyzstan introduced new drugs and regimens for DR-TB patients (STR, and individualized regimens containing BDQ, respectively) Seven countries (Burma, Cambodia, Ethiopia, India, Malawi, Nigeria and Tanzania) plan to introduce the STR in the coming months and three countries (Nigeria, Ukraine and Zambia) BDQ-containing regimens.

Following submission and approval of the "Analysis of the MDR-TB and XDR-TB situation" and the plan for the rollout of treatment regimens containing new drugs in Kazakhstan, USAID requested CTB to draft a workplan for KNCV technical assistance in Kazakhstan for implementation with CTB Year 3 funding. The draft workplan is available and a final decision from USAID is awaited. This quarter, a CTB "Guidance on requirements for QTc measurement in ECG monitoring when introducing new drugs and regimens for the treatment of DR-TB" was finalized, and translated into Russian and Ukrainian. They were also disseminated to the CTB-supported countries. In addition, the project succeeded in streamlining its M&E system under the overall CTB Project M&E Framework, enabling more accurate and consistent information. Finally, team members specifically contributed in the recently published WHO "Report of the Guideline Development Group meeting on the use of BDQ in the treatment of multidrug-resistant tuberculosis" and a related FAQ document; the draft "Guidelines for the Treatment of Drug-susceptible Tuberculosis and Patient Care", and on ongoing work to update the treatment outcome definitions following the publication of WHO policy regarding the use of the shorter treatment regimens for DR-TB patients in May 2016. Other guidelines/tools/abstracts in progress are listed below:

- Guidance on audiometry and ECG monitoring - drafted and awaiting final USAID approval
- Abstracts and 2 symposia proposals to the 48th Union World Lung Health Conference
- Updated Generic programmatic and clinical guide for the introduction of new drugs and shorter regimens for the treatment of Multi/Extensively Drug-Resistant Tuberculosis
- Updated Guidance on the management of pediatric cases of DR-TB
- Workplan for KNCV TA in Kazakhstan for CTB Year 3 funding

Highlights from specific countries include the following:

Afghanistan - The MDR-TB guidelines were revised to include BDQ and DLM and a standard STR, with the new medicines added to the licensed medicine list. Japan International Cooperation Agency is providing DLM for 35 MDR-TB patients over a period of two years, with 10 patient courses for 2017. Médecins Sans Frontières also started enrolling patients on the STR (9 months) in the Kandahar region. Currently, the PV system in the country is weak, and in particular for these two new drugs. CTB Afghanistan plans to extend its assistance to the NTP in the coming project years and may provide additional equipment and human resource capacity building to the NTP to strengthen the PV system.

Bangladesh – The diagnostic algorithm and SOPs for STR are approved. A training plan on STR was approved for doctors and health care providers and the first two DR-TB patients started on STR in April. Despite this progress, CTB will start to focus activities on addressing the SL-LPA result turnaround times which remains too long at an average of seven days, with the goal of reducing it to three days.

Botswana - A national workshop was held to revise the National DR-TB guidelines for the introduction of ND&R. The STR and individualized regimens will be introduced in all five MDR-TB treatment sites simultaneously. Currently there is no system to capture aDSM data on TB drugs. There is a plan to integrate the monitoring of ND&R into the existing aDSM system for antiretroviral drugs, including Dolutegravir, by Quarter 4.

Burma - STR approved by the National Expert DR-TB committee and incorporated into the updated national DR-TB guidelines. Drugs have been procured and NTP is expecting delivery in August 2017. After the arrival of the drugs, the NTP plans to start the pilot project on STR in August/September 2017. CTB supported a workshop in March 2017 in Rangoon for the development of SOPs for aDSM of TB medicines and regimens. The SOPs will be finalized in June 2017, followed by Training of Trainers (ToT) workshops with support from CTB and the GF.

Cambodia- The NTP, in collaboration with partners, reviewed and updated the current PMDT guidelines in preparation for the implementation of ND&R. CTB advised on and reviewed the drafted guideline. CTB provided TA to the NTP during the GDF visit to the country. During the visit, the current stock of MDR-TB drugs was reviewed and the future drug needs, including BDQ, DLM and STR were estimated. An implementation action plan has been developed, with a tentative start date for the introduction of the STR of July 2017, pending the availability of drugs.

DR Congo - 52 patient courses of BDQ were received in March 2017. A total of 11 patients are awaiting enrollment at the Damien Foundation site in Kinshasa. CTB is supporting the investigation of contacts of all pre-XDR-TB and XDR-TB patients that is ongoing in Kinshasa and soon in Lubumbashi. A committee of experts (national and international) had been set up to examine each case and decide on the most appropriate individualized treatment regimen. The management of XDR-TB cases on new drug containing regimens has been a major challenge with the death of 11 of the 17 patients enrolled on treatment at the Damien Foundation site in Kinshasa. Monitoring and reporting of SAEs needs significant strengthening for optimal implementation. Additional needs at the Damien Foundation site in Kinshasa (CEDA) were identified by CTB during recent visit to DR Congo by the USAID backstop and other consultants from Washington, (the final report from the visit is awaited). The NTP is in the process of implementing a response plan for the management of XDR-TB cases across the country; with CTB providing support to the plan in the CTB supported provincial TB and leprosy coordination departments over the coming quarters.

Ethiopia - The NTLP decided to introduce the STR across the whole country as from December 2017. A preliminary PSM plan was developed for the 970 MDR-TB patients proposed to be treated under the NTLP in 2017. BDQ, DLM and repurposed drugs delivered to enable second ND&R treatment initiation center at ALERT to start enrolling patients on new drugs in April 2017.

India - The MoH has taken the decision to expand access to BDQ and the STR throughout the country by the end of 2017. CTB has had meetings and consultations with the Central TB Division (CTD), the MoH, State officials and the WHO team to discuss CTB support to additional treatment sites, beyond the initial six sites. The Revised National TB Control Programme has recently released a draft updated PMDT guidelines. The CTD and WHO have jointly organized four national ToTs on the expansion of BDQ and STR under the updated guidelines for PMDT in India. The CTB PMDT Technical Officer participated in one of the ToTs in Chennai.

Indonesia - With the assistance of CTB, the NTP developed a draft guideline for the STR. The development of the guidelines for the use of DLM are ongoing. CTB supported the NTP in conducting a meeting for the interim analysis of BDQ containing regimens, which also involved the Indonesian FDA. The NTP, together with CTB and the Indonesian FDA, developed a draft aDSM tool. The SL-LPA kit was registered in Indonesia by a local distributor (PT Enseval Medika Prima) in November 2016. CTB Indonesia is processing procurement of nearly 8000 SL-LPA tests (80 kits, 96 tests each). As soon as the supplies arrive, refresher training for LPA in three LPA labs will be conducted.

Kazakhstan - There is currently no CTB funding under Year 3 activities in Kazakhstan. However, KNCV regional office (RO) consultants are included in the technical working group on new regimens for treatment of MDR-TB, through which the CTB approach is promoted. KNCV RO is drafting plan for KNCV TA in Kazakhstan based on the action plan developed under CTB Year 2 core BDQ project, for CTB Year 3 funding.

Kyrgyzstan - CTB facilitated the process of including BDQ on the list of drugs imported without registration, and provided support to the NTP in customs clearance of BDQ and to receive permission from the Department of Drug Provision to use BDQ in the country. CTB initiated regular meeting on PV with all stakeholders to monitor and evaluate reported side effects due to the ND&R.

Malawi - With contribution from CTB, the NTP developed and submitted its application for the GF 2018-2020 period. In this request, the NTP proposed to treat 205 patients proposed with a STR by 2020. However the NTP has yet to plan the introduction of BDQ or DLM in Malawi. With support from CTB, the NTP revised the National Guidelines and incorporated the STR.

Mozambique - The introduction of ND&R is following the timeline in the country roadmap and NTP national implementation plan. Drugs are anticipated to arrive in the country in May/June 2017. CTB supported a training on SL-LPA of staff at the Maputo National TB Reference Laboratory. CTB also supported the MDR-TB focal persons from the NTP and CTB to attend an advanced training course on "Meeting the Challenge of DR-TB" in Cape Town, South Africa. In January 2017, in preparation for the implementation of ND&R, CTB conducted assessments of the sites selected as MDR-TB centers of excellence. The results of the assessment visits were shared with the NTP for review and action.

Namibia - New PMDT guidelines have been drafted based on the CTB generic protocol, incorporating the new approved diagnostic and treatment algorithm. Draft guidelines will be approved soon. The new approved diagnostic and treatment algorithm and the new PMDT guidelines, include the STR. No patients have been started on the STR as yet. Procurement of medicines for the STR (using Government resources) is yet to be completed.

Nigeria – The first batch of DR-TB medicines for 180 patients to be enrolled on the STR arrived in country. Contract agreements are being processed to commence renovation and infrastructural upgrades at the three selected sites (Chest Hospital Jericho, Ibadan; University Teaching Hospital Port Harcourt; and NTBL Training Center in Zaria) which will completed next quarter. In March 2017, CTB conducted a ToT and a stakeholders planning workshop for the phased introduction of ND&R.

Tajikistan - The Tajik MoH approved the National Guidelines on the Treatment of MDR-/XDR-TB patients with ND&R, developed with the support of CTB. BDQ for treatment of the first cohort of 50 patients was donated by USAID through the BDQ Donation Program. The official BDQ handover ceremony was conducted on January 31, 2017 in the National TB and Pulmonology Center (Machiton) that has the only XDR-TB ward (with 50 beds) in the country. The SLDs for the STR are provided with support from the GF's NFM grant. The CTB team regularly participates in the consilium (to date a total of 21 consilium meetings have been held). Triaging and decisions on the enrolment of patients on ND&R from the two pilot sites (Dushanbe and Rudaky) are made by the consilium.

Tanzania - Following the recent WHO recommendations on the use of the STR, and BDQ or DLM containing regimens for RR-/MDR-TB cases, the NTLP has decided to introduce the STR and BDQ/DLM containing regimens from Quarter 3 2017. The drugs are scheduled to arrive in July 2017. The STR and new drug containing individualized longer treatment regimens will be initially implemented in two sites from July 2017, and nationwide scale-up is planned from January 2018. In preparation for the introduction of ND&R, CTB supported a workshop on PV/aDSM and the finalization of treatment protocols.

Ukraine - The CTB project in collaboration with the TB Institute (that has a different regulatory and financing system from the MoH) applied to the BDQ donation program for 200 treatment courses. All preliminary questions from GDF have been addressed, and a signed and stamped quote has been provided. CTB is currently working on the custom clearance documents, with the estimated delivery date of mid-May 2017. Revision of the national TB protocol has started and both new drugs and the STR will be included in the revised version. Ukraine will include ND&R implementation in its funding application to the next round of GF grants, which is currently under development.

Uzbekistan - Thirty percent of the new GF grant is proposed to support the treatment of XDR-TB patients. WHO CO and KNCV team under the CTB project framework, supported the NTP in the development of a "Roadmap for the implementation of STR and new drugs for DR-TB patients" (which includes an implementation plan, patient triage, information on eligibility criteria for MDR/XDR-TB treatment, treatment regimens and the management of side effects; etc.). The draft version is now ready, and CTB will support the NTP in organizing a workshop to finalize the document in April 2017.

Vietnam - The Year 3 workplan doesn't include ND&R, on a national level, however, in collaboration with IRD and CHAI, CTB has provided TA to the NTP for the development of the demonstration plan/protocol for the introduction of DLM.

Zambia - The NTP has applied to ZAMRA, the country's regulatory authority, for the registration of BDQ and DLM, but approval awaits the inclusion of the two drugs in the TB manual. The manual revision will take place in May 2017. An order for the two drugs has been made to the procurement unit of the MoH and the medicines are expected in Zambia in August/September 2017.

Zimbabwe - National TB management guidelines were finalized for printing and distribution. These include a chapter on PMDT, which includes the latest recommendations on ND&R. The terms of reference was developed to solicit TA to revise the PMDT guidelines and the implementation plan for introduction of ND&R. The activity is tentatively planned for May 2017.

Stigma

Progress was made towards completing the "TB Stigma measurement guidance" but individual chapters are taking longer than expected. The full manual will likely be completed at the end of July 2017, with the companion curriculum available by September 25, 2017. Highlights for the quarter include:

- The IJTLD TB Stigma Supplement now consists of 14 manuscripts (Two editorials and 12 original articles). However, there is a lack of appropriate reviewers able to complete full reviews by the required deadline.
- The "TB Stigma measurement guidance" document is progressing with a high-level of technical quality in the initial content. The instructional designer is giving detailed and timely feedback to improve quality and to calibrate the complexity of technical language. In addition, activists and end-users of the guide have been identified to serve as coauthors and reviewers of the chapters to ensure technical quality and usability. However, engaging additional stakeholders is approximately doubling of the coordination workload and an extension of the timeline from Quarter 3 to Quarter 4 seems inevitable.
- The KNCV Young Professional, Julia van der Land, is now working full time on the Stigma project for the next four months and has contributed as a reviewer of chapters and as an author of a chapter on stigma and HCWs called "Dirty Work Stigma."

UN Special Envoy for Tuberculosis

The paperwork that would confirm Dr. Erik Goosby's role as UN Special Envoy on Tuberculosis is delayed, which is likely related to USG transition and a real interest in the UN Secretary General's office to proceed thoughtfully. This quarter we continued to engage leadership in the UK government to ensure sustained political support for AMR and TB as well as funding for TB from the UK's Department for International Development (DFID). In the United States, Dr. Goosby has made multiple trips to Washington to discuss funding with the appropriators in Congress, the potential global health leaders in the new administration and the TB advocacy community. In terms of the Lancet Commission, the funding for the commission is confirmed, and will be launched officially in May.

Catastrophic Costs

A generic protocol and instrument (WHO, 2015, TB CARE II) to measure catastrophic costs has been available for field testing since September 2015. The CTB-supported Catastrophic Costs core project is implemented in Vietnam with the objective of field testing the WHO generic protocol and instrument for measuring the proportion of TB patients (and their households) experiencing catastrophic costs in one country. Surveys have also completed in Burma (funded by WHO/CO and 3DF), Philippines (Global Fund), Solomon Islands and Timor Leste (Australian National University and WHO/WPRO), and are ongoing in Uganda (US CDC), China (domestic), and Mongolia (GF). The following activities took place:

WHO organized a global consultation to develop a National TB Patient Cost Survey Handbook in April 2017. A draft handbook and draft changes to the survey methodology and instrument were circulated to meeting participants prior to the consultation. Countries that had completed or started a patient cost survey presented findings, implementation experiences and suggested changes to the survey methodology. WHO also presented a draft road map for the roll-out of patient cost surveys in all 30 high-burden countries by 2020, and cost estimates including for TA. Group work was organized to discuss; 1) Revision of survey methodology; 2) Add-on research; and 3) Survey result dissemination and policy dialogue. At the end of the meeting, specific changes to the survey methodology were agreed, and advice was provided on the revised structure and content to the draft handbook. A second draft will be prepared by May 12, 2017, in order to get feedback for the preparation of a third draft that will be presented to the End-TB Summit and the TB-STAG meeting in June 2017. The final handbook will be published in Quarter 3, 2017.

A healthy child under 5 who received IPT during contact investigation - Cambodia (Photo: Ngo Menghak)

Prevention

It is anticipated that all sites involved in the Prevention Core Project study in the three countries will be enrolling by mid-May 2017, with an average of 200 participants enrolled per week by June. The third version of the protocol was approved by the South Africa MCC, South Africa IRB, and LSHTM. It has been submitted for approval to the Ethiopian and Mozambique authorities. Progress in specific sites is detailed below:

South Africa - The Winnie Mandela Clinic, an Aurum site, has been enrolling since late 2016. In total, 219 participants have been enrolled at this site as of March 31, 2017. The goal of enrolling 25 participants per week is being met. Due to follow-up visits, over 20 participants visit the site each day. Tsehpong Hospital, a PHRU site, has started enrolling participants since the site initiation visit in March. As of March 31st, nine participants have been enrolled at this site. The goal is to reach a peak enrolment of 20 participants per week at this site. Another two visits for initiation of new sites are scheduled for South Africa in the first week of April. By mid-April, four South African sites will be enrolling.

Ethiopia - Ohio State University (OSU) IRB provided expedited review and approval of the protocol. Formal written approval was received on March 31, 2017. The import of rifapentine and isoniazid into Addis Ababa is underway. The SIV is planned for April 24, with enrollment starting shortly thereafter.

Mozambique - CISM (Centro de Investigação em Saúde de Manhiça) received IRB approval on March 8, 2017. Enrollment should start at CISM in mid-May. The large catchment area and large pool of potential participants should allow us to enroll 35-40 participants a week.

Short project in India

PATH is working under this core project to achieve universal access to early TB diagnosis and treatment in the private sector. The effort includes provision of DST to RR-TB patients; linking DR-TB patients to public sector for treatment and provision treatment adherence support; enhancing private sector capacity to manage side effects for DR-TB patients, etc. PATH has identified and engaged a local NGO-Maharashtra Janavikas Kendra (MJK) to support the CTB Core program to achieve its objectives across seven wards in Mumbai. The project was approved by USAID on January 6, 2017. During the quarter, the project conducted preparatory activities, including arranging the sub-agreement with the local partner, MJK, hiring of key staff (project coordinator and treatment coordinators), and arranging service contracts between MJK and laboratories for conducting pre-treatment evaluation and drug sensitivity testing. Meetings with the local government authorities of NTP were organized for better project coordination and streamlining the process. Training of treatment coordinators was conducted and a data-capturing mechanism was established for timely monitoring and evaluation. Patients began enrolling on the program on March 23, 2017.

Diagnostic Connectivity

CTB Diagnostic Connectivity Project started at the end of January 2017 to contribute to global as well as country coordination level activities to optimize diagnostic and clinical services for TB. At the global level, the project was represented in the GLI Diagnostic Connectivity Task Force to develop practical guidance on the selection of appropriate digital connectivity solutions, improving data utilization and ensuring strong data usage agreements. In addition, a proposal was submitted for a symposium on diagnostic connectivity during the Union World Conference on Lung Health in Mexico 2017. At the country level, the following activities took place:

- A CTB sub-award package including generic RFA (including technical/operational requirements of the connectivity solution, budget template that can be published and steps need to be taken) was developed and shared with selected CTB countries.
- All CTB countries were mapped by current implementation stages (no implementation, preparations, ongoing rollout or implemented).

LED FM Training - Bangladesh (Photo: Md. Monirul Islam)

PUBLICATIONS

Challenge TB Year 2 Annual Report Summary

http://www.challengetb.org/reportfiles/Challenge_TB_Year_2_Summary_Report.pdf

Challenge TB Annual Report Year 2

http://www.challengetb.org/reportfiles/Challenge_TB_Annual_Report_Year_2.pdf

Guidance on requirements for QTc measurement in ECG monitoring when introducing new drugs and shorter regimens for the treatment of Drug-resistant TB

This document describes the steps necessary to measure the corrected QT interval from ECG monitoring for patients being treated either with the shorter treatment regimen or the new drugs for drug-resistant TB treatment.

http://www.challengetb.org/publications/tools/pmdt/Guidance_on_ECG_monitoring_in_NDR.pdf

Challenge TB Year 3 QMR 1 - October-December 2016

http://www.challengetb.org/reportfiles/Challenge_TB_Year_3_QMR_1_Oct-Dec_2016.pdf

Desk Guide for the Management and Treatment of Childhood TB (French)

This French version of the 2016 guide is for health workers who manage sick children in first level health facilities or outpatient settings at any level of care, and NTP workers who manage children as part of NTP work. It aims to improve early and accurate case detection of children with TB, the management and outcome of children with TB, and child contact screening and management. It focuses on the diagnosis of common forms of TB in children, how to treat, when to refer, and the management of children who are close contacts of TB cases.

http://www.challengetb.org/publications/tools/ua/Guide_pour_le_diagnostic_et_la_prise_en_charge_de_la_tuberculose_chez_enfant.pdf

A village head and health facility committee member unite to end TB - Zimbabwe (Photo: Paidamoyo Magaya)

CHALLENGE TB

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.

Design & layout - Tristan Bayly

Back cover photo - TB Patient Nigeria (Credit: Tristan Bayly)

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