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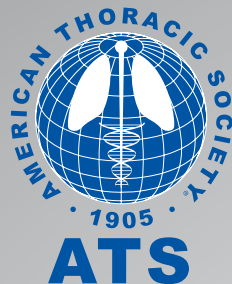
CHALLENGE TB



CHALLENGE TB

PERFORMANCE MONITORING REPORT

YEAR 4 OCTOBER - DECEMBER 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:
Tristan Bayly

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ABBREVIATIONS

ACF	Active Case Finding
aDSM	Active Drug Safety Monitoring
BDQ	Bedaquiline
CB-DOTS	Community-Based DOTS
CCM	Country Coordinating Mechanism
CI	Contact Investigation
CP	Community Pharmacist
CTB	Challenge TB
DLM	Delamanid
DOTS	Directly Observed Treatment Shortcourse
DPPM	District Public Private Mix
DR	Drug-Resistant
DS	Drug-Susceptible
DSMB	Data Safety and Monitoring Board
DST	Drug-Susceptibility Testing
GF	Global Fund
HIV	Human Immunodeficiency Virus
ICF	Intensified Case Finding
IGRA	Interferon-gamma Release Assays
IPT	Isoniazid Preventive Therapy
KIDH	Kibong'oto Infectious Diseases Hospital
LGA	Local Government Area
MDR	Multidrug-resistant
MTB	Mycobacterium tuberculosis
ND&R	New Drugs & Regimens
NTP	National TB Program
PLHIV	People Living with HIV
PMV	Patent Medicine Vendors
PSI	Population Services International
PTE	Pre-treatment Evaluation
RR	Rifampicin Resistant
SAE	Severe Adverse Event
SL-DST	Second-Line Drug Susceptibility Testing
SOP	Standard Operating Procedure
STR	Shorter Treatment Regimen
STTA	Short-term Technical Assistance
TB	Tuberculosis
UNSE	UN Special Envoy
USAID	United States Agency for International Development



CORE PROJECTS

Challenge TB (CTB) is the flagship global mechanism of the United States Agency for International Development (USAID) to prevent and control tuberculosis (TB).

This report summarizes project progress, achievements and challenges during the first quarter of Year 4, October-December 2017, across the 22 country projects, the East Africa Regional project, and five approved core projects.

As of December 31, 2017 CTB Year 4 workplans were approved in all countries except India.

Through increased investment in GeneXpert rollout and utilization as well as more diagnostic algorithms that prioritize its use, the proportion of new and previously treated patients tested with GeneXpert continues to increase. The complete data from 11 countries show that 28% of new TB patients were tested with GeneXpert in CTB targeted areas in 2017. In terms of previously treated patients, based on the complete data from eight countries, the proportion of previously treated patients tested with GeneXpert in CTB areas has increased by 24% since 2014, reaching a total of 69% at the end of 2017.

The progress made with Rifampicin-Resistant (RR)/multidrug-resistant (MDR)-TB patients testing is largely facilitated by CTB support to the national scale-up of GeneXpert (2,697 GeneXpert machines available by the end of December 2017 in 21 countries), strengthening GeneXpert diagnostic connectivity networks (867 [32%] of GeneXpert machines connected to data connectivity systems in 12 countries), as well as strengthening specimen transport systems (nearly 180,000 specimens were transported in 14 countries in 2017).

The CTB contribution to national case notifications increased to 31% in the CTB countries with complete 2017 data. There has been an increasing trend in the percentage of cases notified through various case finding approaches – e.g., the overall share of case notifications from contact investigation (CI) in CTB areas increased from 5% in 2016 to 7% in 2017; the proportion of children among notified cases in CTB areas increased from 10% to 13%; and the percentage of cases notified by private providers increased from 1% to 4%. Next quarter should provide a more accurate picture of these indicators as more complete data will become available in CTB countries which do not yet have data for last quarter of 2017.

Based on the available data as well as projections, the number of RR-/MDR-TB patients at national level started on treatment increased slightly in 2017; the treatment gap has widened in 2017 at both the national level and in CTB areas, reaching 11 % in CTB areas, and 6% at the national level compared with 7% and 4% in 2016, respectively. In 2017, the CTB countries that present the highest treatment gap at the national level are Indonesia (39%), Nigeria (27%), Bangladesh (25%), and Afghanistan (18%). On the other hand, eight countries have no reported treatment gap: Botswana, Cambodia, Ethiopia, Kazakhstan, Malawi, Ukraine, Uzbekistan, and Zambia. The next quarter should provide a more accurate picture of the treatment gap as more complete data will become available for the final quarter of 2017.

As of the end of December 2017, a total of 18 countries had introduced Bedaquiline (BDQ)-containing regimens, treating 1,411 individuals from 2016 to the end of December 2017. Similarly, a total of 17 countries have started 205 patients on regimens containing Delamanid (DLM), and 11 countries offered shorter treatment regimens (STR), treating 1,816 individuals.

UN Special Envoy (UNSE) - In October 2017, the UNSE Dr. Eric Goosby participated in the Union Conference in Guadalajara and met with a variety of key stakeholders to coach and encourage pathways to collaboration for the UN High Level Meeting on Tuberculosis. In addition, travel was undertaken to Washington DC, where Dr. Goosby participated in the WHO Launch of the Global TB Report and the USAID sponsored TB Symposium.

Measuring Catastrophic Costs - The *Handbook on Tuberculosis Patient Cost Surveys* was finalized. One thousand copies were printed and the electronic version is available for download:

http://www.challengetb.org/publications/tools/costing/TB_Patients_Cost_Surveys-Handbook.pdf

Core India - A total of 477 RR patients were diagnosed by December 2017, thus achieving the program target of diagnosing 475 RR patients in 2017. Between October and December 2017, 152 RR-TB were diagnosed. Of these patients, 30 (20%) patients were in the process of going through pre-treatment evaluation (PTE) and culture DST; 106 (70%) patients were linked to a public sector DR-TB Center for treatment initiation; 10 (6%) patients continued with private sector treatment; 5 (3%) patients migrated; and 1 (<1%) patient died.

Prevention - The key result of this quarter is the completion of enrollment in the WHIP3TB trial. In total, 4,026 participants have been enrolled; 2,548 in South Africa, 601 in Mozambique, and 877 in Ethiopia. The fifth trial steering committee meeting was held during The Union conference in Guadalajara, Mexico (12 October 2017). The agreement with Qiagen was amended to increase the number of interferon-gamma release assays (IGRA) donated from 4,000 to 5,200. This will allow for the retesting at month 12 and month 24 of all participants with a CD8-positive result at baseline, and a sample of participants with a negative result at baseline.

Measuring Stigma - In the course of this core project, KNCV has coauthored five tools to speed up the implementation of the stigma policy objectives: (1) International Journal of Tuberculosis and Lung Disease TB Stigma Supplement (13 articles); (2) TB Stigma Measurement Guidance and (3) Companion Curriculum; (4) Health Care Facilities stigma reduction tool; (5) Self-stigma reduction toolbox.

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

- The delay in the reporting of quarterly data remains a common problem in the majority of CTB countries, mainly due to differential reporting period (a lag of 1-2 weeks between the CTB reporting period and that of the National TB Program).
- The low uptake of new drugs and regimens (ND&R) in key countries such as Malawi, Tanzania, Nigeria, and DR Congo; because of limited access to SL-DST and sample transportation.
- Persistently low utilization of GeneXpert for several reasons including: delays in responding to maintenance requests and in the provision of extra modules in-country by Cepheid.

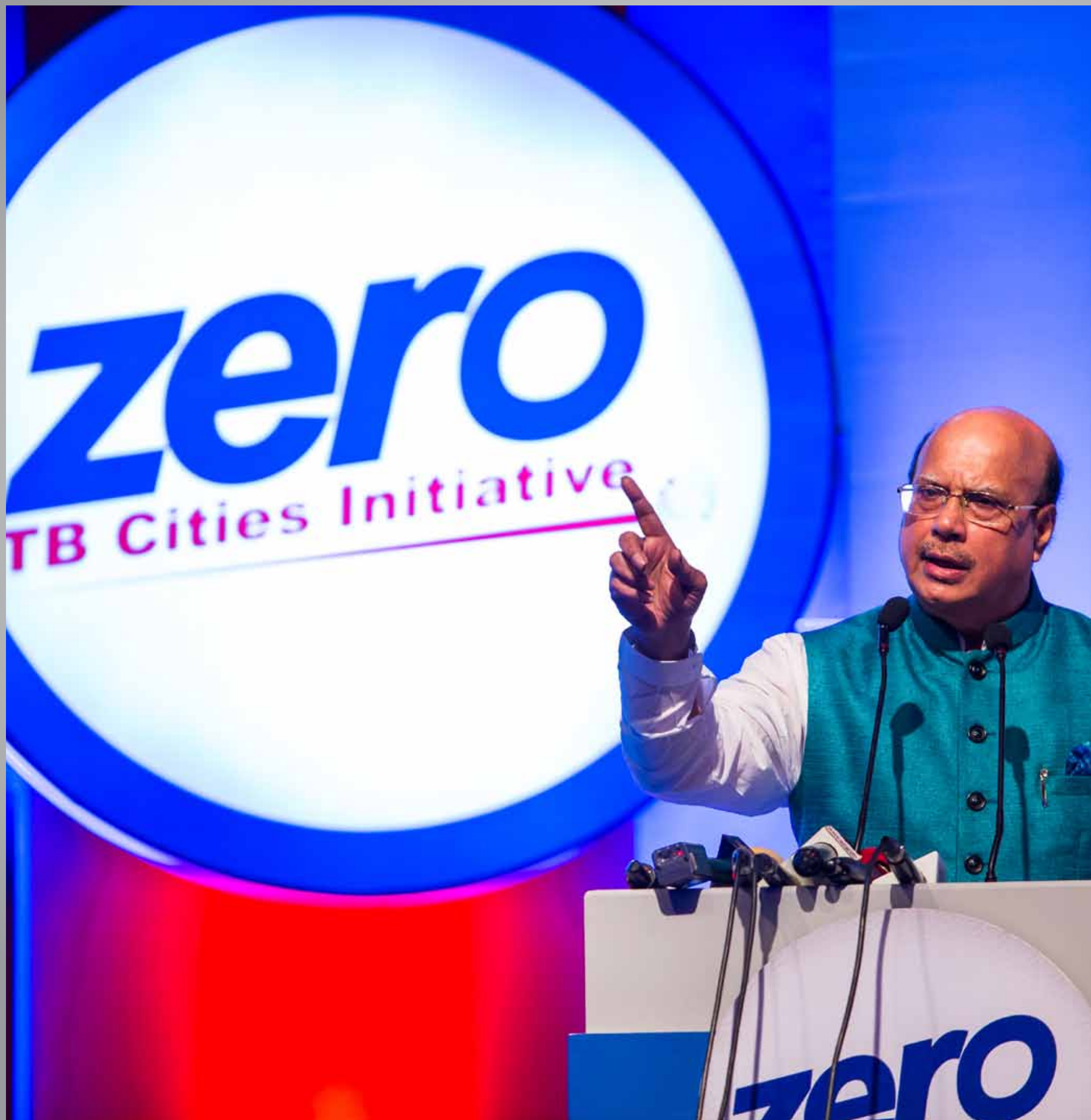
Actions:

1. Discuss the detail of the project performance gap during the next partner's meeting with the aim of prioritizing headquarters' response to some of the critical issues.
2. Organize visits to key countries in collaboration with partner headquarters and USAID backstops where feasible. The priority countries for next quarter include: India, Malawi, Tanzania, and DR Congo.
3. In collaboration with USAID engage with Cepheid and advocate for a better response on GeneXpert maintenance and module replacement which is a critical issue at the moment.
4. Using the BDQ core project, intensify follow-up to low performance countries with ND&R rollout including data quality.

MAJOR CHALLENGES

PROGRESS ON KEY PERFORMANCE INDICATORS

WHAT IS CHALLENGE TB?



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, CTB 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.

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

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

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

Objective 2: Prevent transmission and disease progression by:

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

Objective 3: Strengthen TB service delivery platforms by:

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

CTB implements projects at the country, regional, and international/global level with the majority of the project's work being done through country-specific projects. As of December 31, 2017, 22 countries were implementing CTB. At the regional level, CTB continued implementation of the East African Region project, and also continued implementation of five core projects (see page 41 for more details).

CHALLENGE TB COUNTRIES

Afghanistan	●	●	●		●					●	
Bangladesh	●	●	●	●	●		●		●	●	●
Botswana		●	●	●				●	●	●	
Burma	●	●	●	●	●		●	●			
Cambodia	●	●	●	●	●	●	●	●		●	●
DR Congo		●	●		●	●	●		●	●	●
Ethiopia	●	●	●	●	●	●	●		●	●	●
India		●	●				●	●			●
Indonesia	●	●	●		●	●	●		●	●	●
Kazakhstan			●								
Kyrgyzstan			●								
Malawi	●	●	●	●	●	●	●	●	●	●	●
Mozambique	●	●	●	●	●	●				●	●
Namibia	●	●	●	●	●	●	●		●	●	●
Nigeria	●	●	●	●			●			●	●
Tajikistan			●						●		
Tanzania	●	●	●	●	●	●	●		●	●	●
Ukraine	●		●		●		●				●
Uzbekistan		●							●		
Vietnam		●	●		●	●	●			●	
Zambia		●	●	●	●		●		●	●	
Zimbabwe	●	●	●	●			●	●		●	●



As of December 31st, 2017, 22 countries were implementing Challenge TB. The table above summarizes the technical reach of the approved Year 4 Challenge TB country work plans.



- 1 Enabling Environment
- 2 Comprehensive, high quality diagnostic network
- 3 Patient-centered care & treatment
- 4 Targeted screening for active TB
- 5 Infection Control
- 6 Management of latent TB infection
- 7 Political commitment & leadership
- 8 Comprehensive partnerships and informed community involvement
- 9 Drug and commodity management systems
- 10 Quality data, surveillance and M&E
- 11 Human resource development

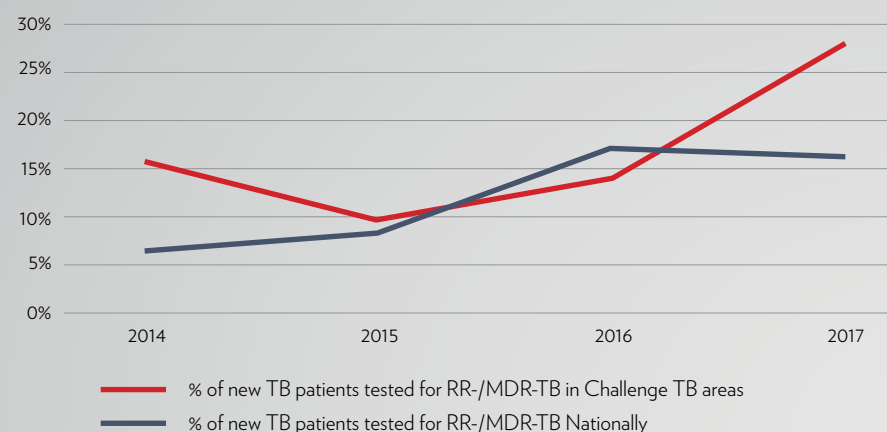
HIGHER RR-/MDR-TB TESTING PERFORMANCE

Through increased investment in GeneXpert rollout and utilization as well as more diagnostic algorithms that prioritize resistance testing, the proportion of new and previously treated patients tested for resistance continues to increase. In terms of new cases, there has been an upward trend both in CTB areas and nationally; this was particularly true in CTB areas in 2017, where the complete data from 11 countries show that 28% of new TB patients are tested for resistance with GeneXpert.

In 2017 the highest proportions nationally were reported in Tajikistan (68%), Ukraine (55%), Burma (49%), and Kyrgyzstan (45%); and the highest proportions in CTB areas were reported in Mozambique (78%), Tajikistan (73%), Ukraine (52%), Kyrgyzstan (49%), and Nigeria (47%).

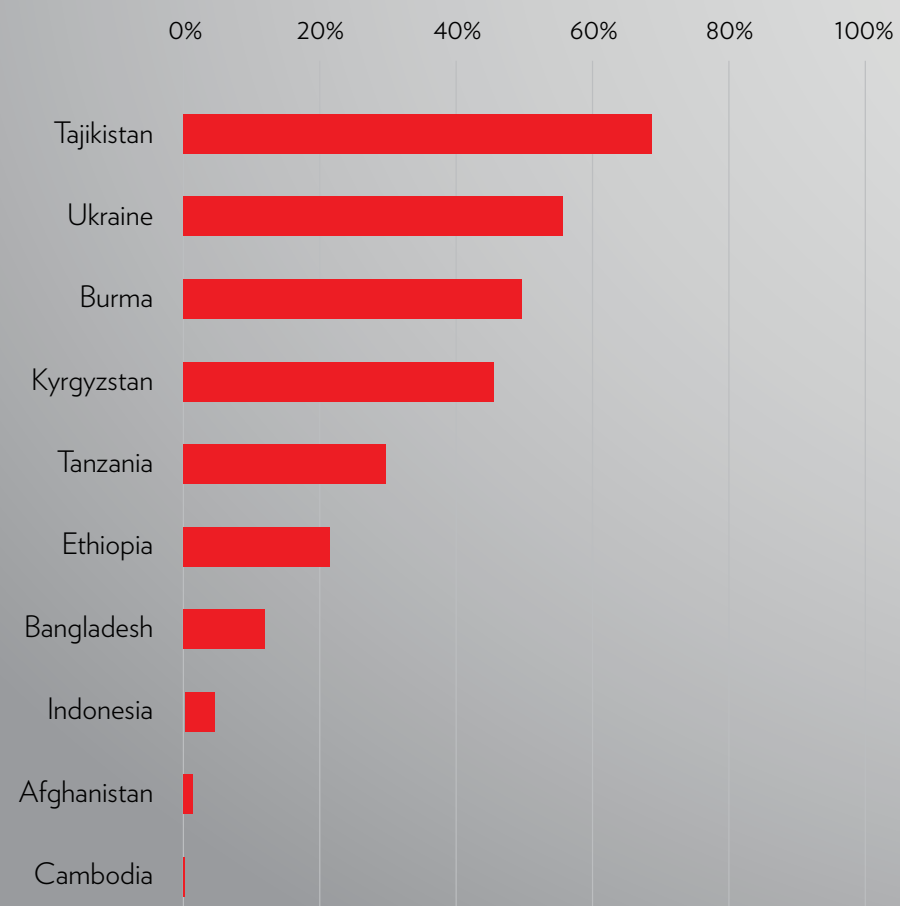
RR-/MDR-TB testing coverage for new cases in CTB countries

(National level combined, WHO data 2014-2016, CTB data 2017)



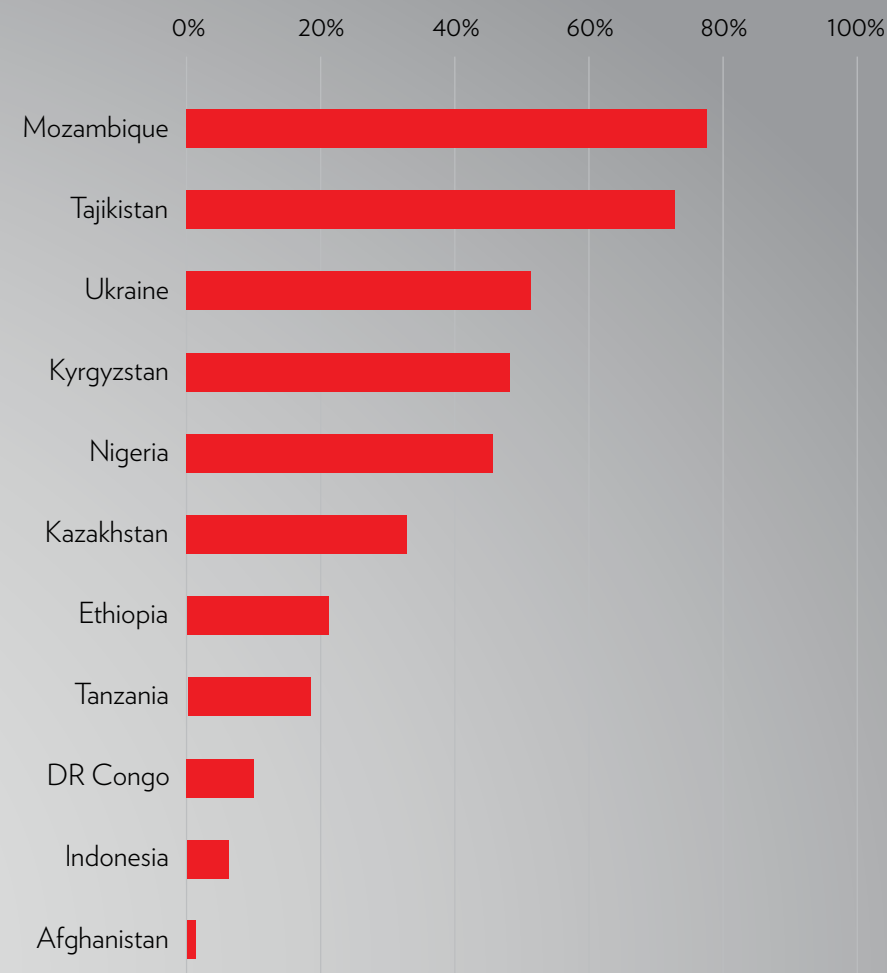
RR-/MDR-TB testing coverage for new cases in CTB countries

(National level, CTB data 2017)



RR-/MDR-TB testing coverage for new cases in CTB countries

(CTB areas, CTB data 2017)

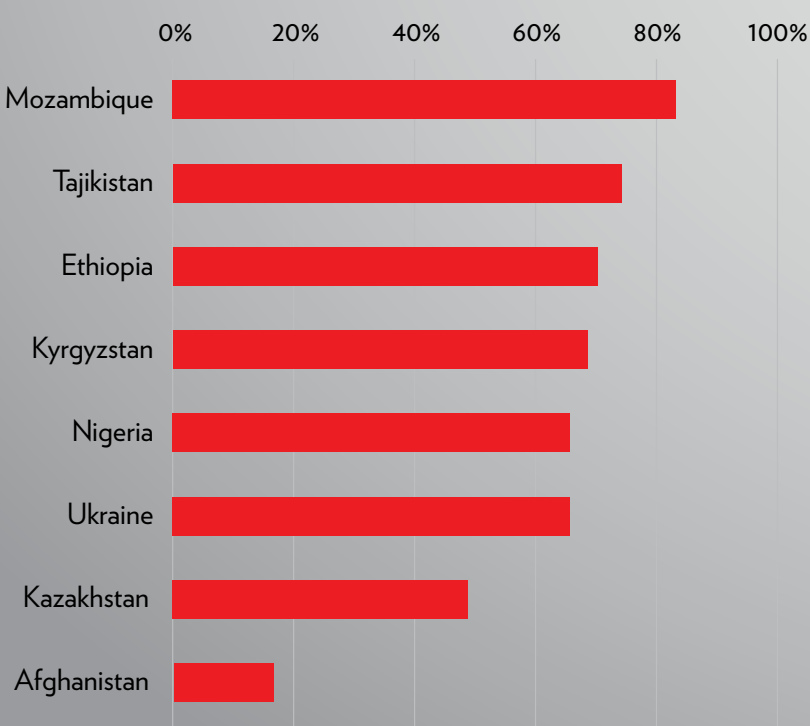
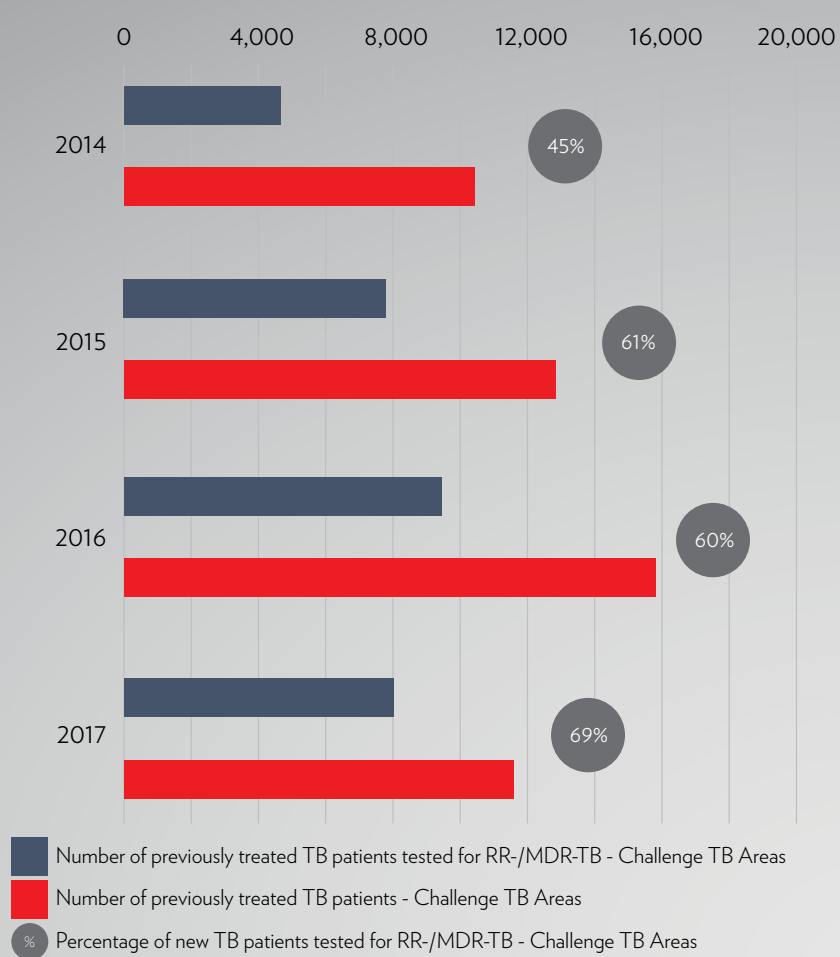


In terms of previously treated patients, based on the complete data from eight countries, the combined proportion of previously treated patients tested for resistance with GeneXpert in CTB areas has increased by 24% since 2014, reaching a total of 69% at the end of 2017. It is likely even higher due to missing data for the previous quarters of 2017. In 2017 the highest proportions in CTB areas were reported in Mozambique (84%), Tajikistan (75%), Ethiopia (71%), Kyrgyzstan (69%), Nigeria (66%), and Ukraine (66%). On the other hand, Afghanistan has a very low rate; in order to tackle this problem, the country is expanding the GeneXpert network (for more information see the section on significant achievements).



Percentage of previously treated TB cases tested for RR-/MDR-TB

(CTB areas combined, CTB data 2014-2017)



Percentage of previously treated TB cases tested for RR-/MDR-TB

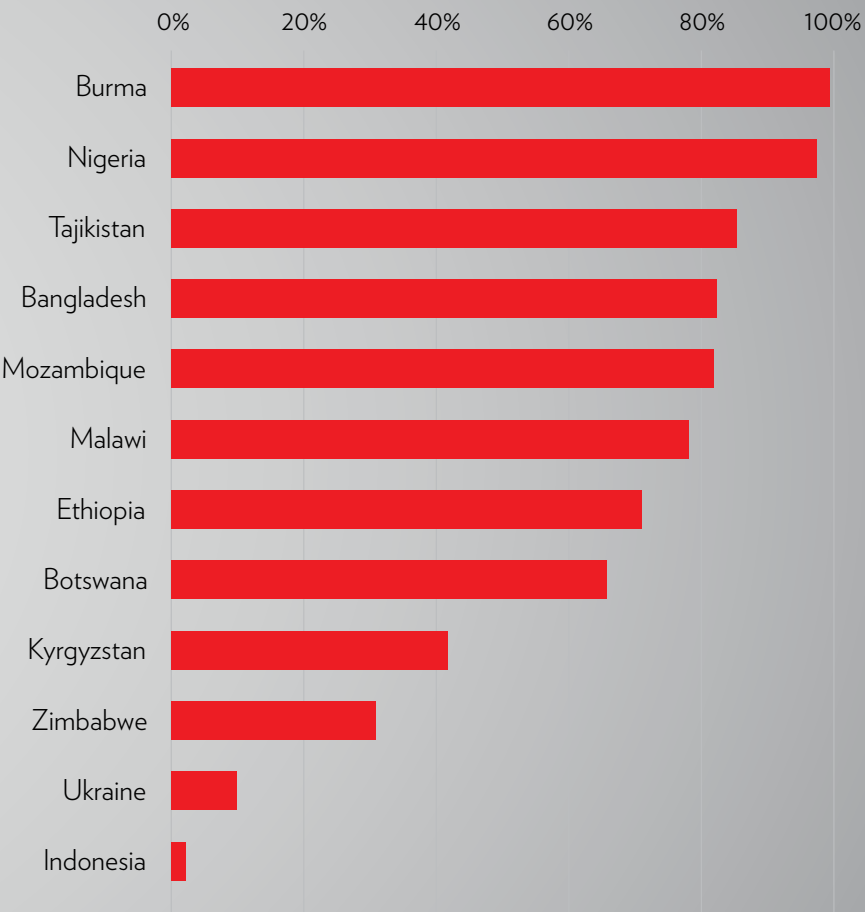
(CTB areas, CTB data 2014-2017)

The progress made with RR-/MDR-TB testing in CTB countries is largely facilitated by the project’s support to the national scale-up of GeneXpert (2,697 GeneXpert machines available by the end of December 2017 in 21 countries), as well as the strengthening of GeneXpert diagnostic connectivity networks (867 [32%] GeneXpert machines are connected to data connectivity systems in 12 countries). The countries with the highest proportion of GeneXpert machines connected to a data connectivity system are Burma (99%), Nigeria (97%), and Tanzania (85%).

STRENGTHENING GENEXPERT DIAGNOSTIC CONNECTIVITY NETWORK

The percentage of GeneXpert machines connected to a data connectivity system

(National level, CTB data 2014-2017)



India, Vietnam, Cambodia, Zambia, Uzbekistan, DR Congo, Namibia, Afghanistan, and Tajikistan - 0%

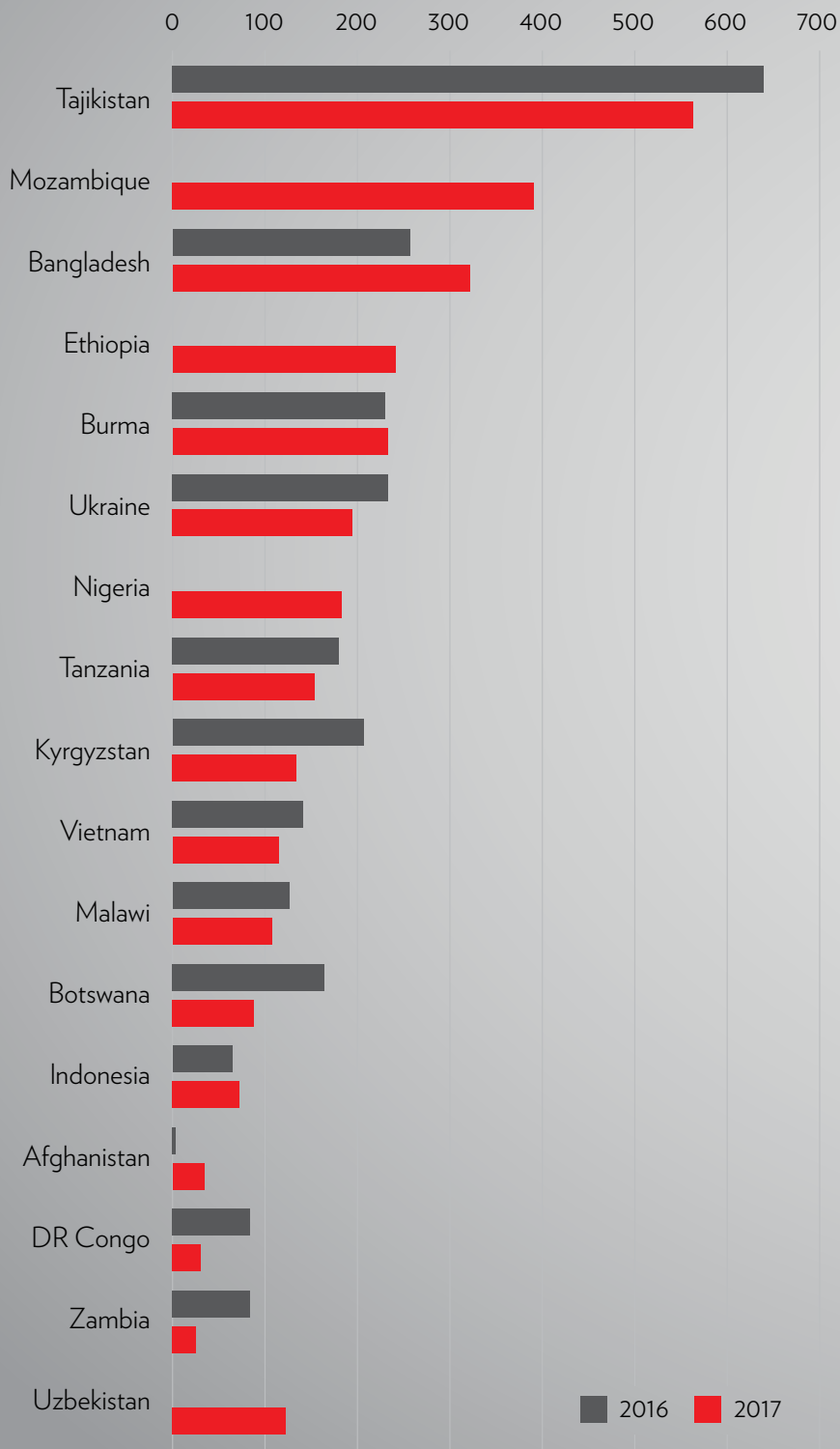
The average number of Xpert tests conducted per functional module each year varies significantly across the 17 CTB countries – from as low as 33 tests per module in DR Congo to 565 tests in Tajikistan.

The factors associated with such a high variability will be explored in the coming quarters. The maximum number of tests per module per year is estimated to be three tests per module per day for 265 working days, which is 795.

Underutilization is a serious cause for concern, which the project is working to resolve by increasing clinicians’ demand through policy and training, sample transportation systems, module warranty and maintenance, and diagnostic connectivity systems (an important clinical and module monitoring and management tool).

The average number of Xpert tests conducted per functional module

(National level, CTB data 2016-2017)





SUCCESS STORY: HEAR THIS! – SAVING THE HEARING OF DR-TB PATIENTS

In September 2014, Worknesh Bushura, a 28-year old, government employee from Hawassa, southern Ethiopia, started coughing, suffering from night sweats, and experiencing substantial weight loss. She visited a number of local private health facilities all of whom prescribed various courses of antibiotics, none of which made any difference. She then visited the Hawassa Public Health Center, where she was tested and diagnosed with pulmonary TB and placed on treatment, which she completed in May 2015.

Unfortunately, four-months later, the symptoms she had experienced before returned, it could only mean one thing, the TB was back. At the health center, she was tested using the GeneXpert (a modern rapid test for TB and resistance to anti-TB drugs) and it was true, it was TB again, but this time it was drug-resistant TB, a form that is resistant to one of the most effective drugs used to treat the disease. She was referred to Yirgalem Hospital, where in January 2016 she was started a second-line drug treatment regimen for drug-resistant TB, which included a drug called Capreomycin.

After three months of treatment, Worknesh started to suffer from ringing in her ears, which was soon followed by a loss of hearing. The second-line injectable drugs, which include Capreomycin, are an important group of drugs used in the treatment of drug-resistant TB, but these drugs can have some serious side effects, one of which is permanent hearing loss.

In Ethiopia, the USAID-funded Challenge TB project is providing audiometry systems to drug-resistant treatment initiation centers and training staff on their use. Audiometry is the testing of a person's ability to hear various sound frequencies in order to identify and diagnose hearing loss. The systems mean that hearing impairment can be detected early on in the treatment of patients with drug-resistant TB and the drug causing the hearing problem can be quickly replaced with an alternative one.

"I feel better now, and since I've been on the new medication, I'm able to communicate with my friends without difficulty. Thank God!"

With Challenge TB support, Hawassa Hospital is also providing audiometry services, so when Worknesh went there her hearing impairment was detected early and Capreomycin was immediately discontinued. The clinical review committee designed a special regimen using new drugs and Worknesh has been on this new two-year regimen since May 2017.

She says: *"I feel better now, and since I've been on the new medication, I'm able to communicate with my friends without difficulty. Thank God!"*

Perhaps most importantly, her hearing has improved significantly, her tinnitus is gone and the follow-up audiometry measurements show her hearing is now back within the normal range.

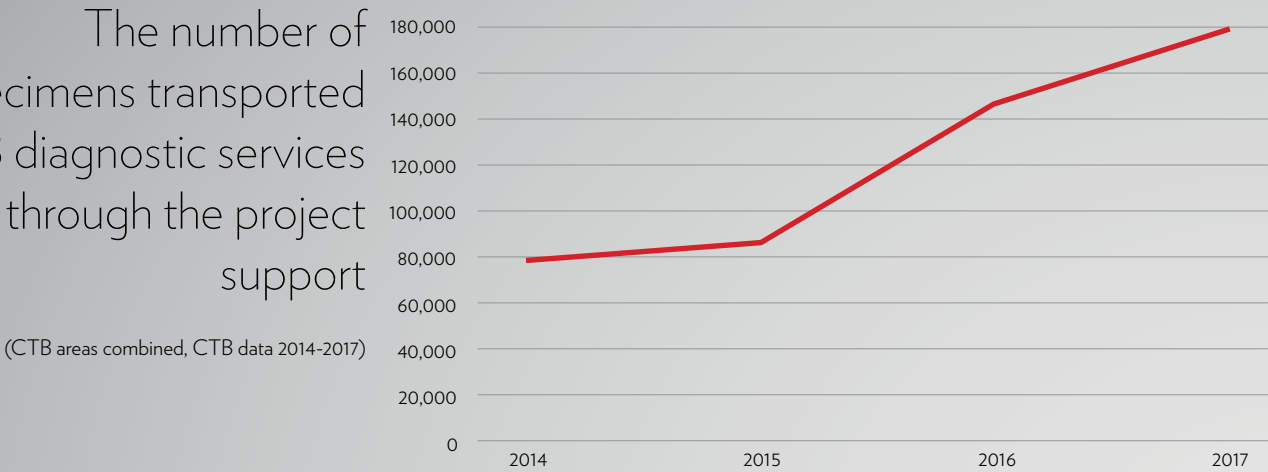
"Thanks to the Challenge TB project and my physician, my hearing is now back to normal. The current drugs are working well, and I am able to live a relatively normal life," said Worknesh.

Since this support started in 2016, Challenge TB has provided 40 audiometry systems to treatment initiation centers across Ethiopia and training for more than 100 healthcare staff. All drug-resistant TB patients now receive regular hearing assessments, which means hearing loss can now be detected early and measures can be taken to prevent long-term and permanent damage.

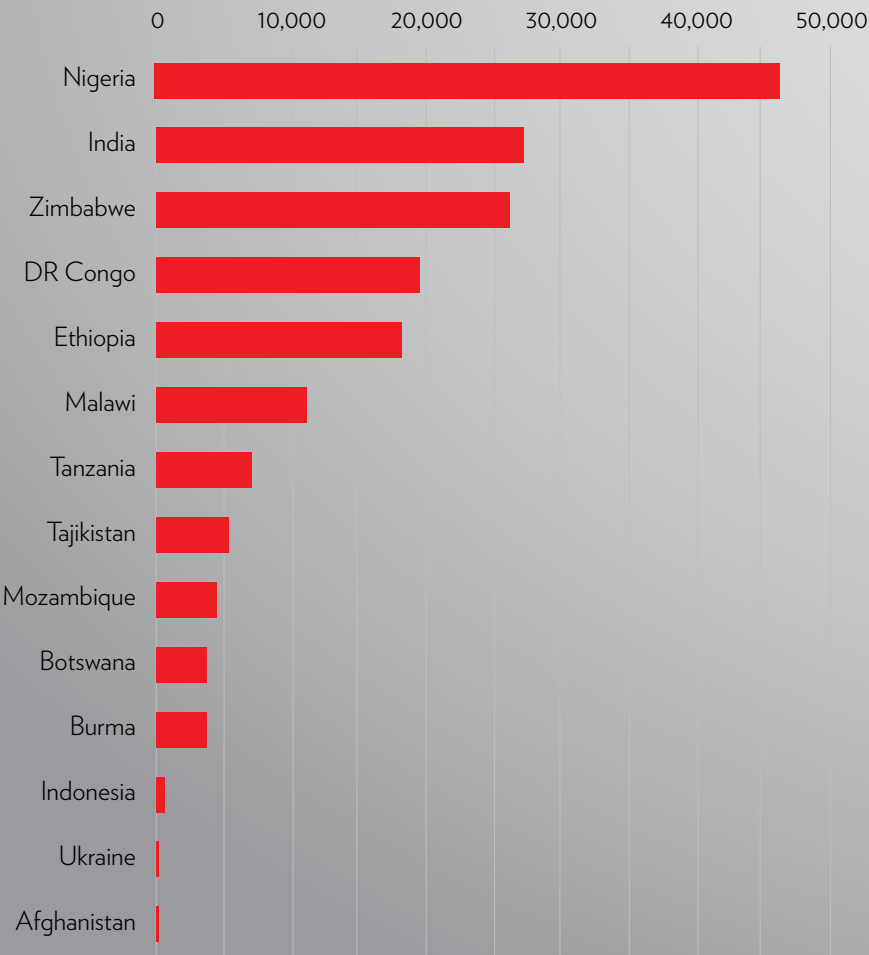
STRENGTHENING SPECIMEN TRANSPORT SYSTEMS

CTB plays an increasing role in supporting and strengthening specimen transport systems. In 14 countries a little over 175,000 specimens were transported in 2017 compared with around 147,000 specimens in 2016.

The number of specimens transported for TB diagnostic services through the project support



The graph below presents number of specimens transported in individual countries in 2017, with Nigeria (~46,000), India (~27,000), and Zimbabwe (~26,000) representing the largest proportions of the total. As data on specimen transport are often not available/reported at the national level, a comparison between CTB and the national-level is difficult across all 14 countries.



The number of specimens transported for TB diagnostic services through the project support

(CTB areas, CTB data 2017)

COUNTRY HIGHLIGHTS:

AFGHANISTAN

The NTP has been assisted with the expansion of access to GeneXpert technology through the installation of five GeneXpert machines at public sites in urban provinces; 12 additional GeneXpert machines are ready for installation in 12 health facilities in CTB-supported provinces. Sample referral mechanism systems and new GeneXpert implementation guidelines were developed and provided to the sites alongside job aides (posters on GeneXpert). CTB also supported the training of seven laboratory technicians and four provincial laboratory supervisors.

ETHIOPIA

Support has been provided to expand the use of GeneXpert as the primary test to find MTB, DS, and DR-TB patients. From July-December 2017, a total of 58,899 tests were performed resulting in 5,673 (10%) MTB positive patients, representing 22% of the total 26,424 notified patients, which is similar to that of the previous quarters.

UZBEKISTAN

Four GeneXpert machines and nearly 5,000 cartridges were delivered to Tashkent's National TB center with a handover ceremony planned in 2018. These machines and cartridges will be installed in CTB pilot laboratories in Tashkent city, as well as the Syrdarya and Djizzak regions. Before the installation the CTB team will conduct a check for proper installation and use in the pilot sites, and conduct a refresher training for laboratory staff.

UKRAINE

CTB is working to improve diagnostic connectivity through GxAlert rollout. Currently six out of 59 (10%) GeneXpert machines are connected to the system and their performance can be automatically monitored by the NTP. The national-level laboratories received training in system installation and usage with countrywide GxAlert rollout scheduled for early 2018. The GxAlert system is multi-purpose, supporting GeneXpert connectivity for the TB, HIV, and Ebola programs by immediately transmitting the results by SMS, e-mail, and data dashboard to the relevant stakeholders at the point of care and the NTP.

MOZAMBIQUE

SystemOne successfully worked on the transmission of data from GxAlert to OpenLDR (Laboratory Data Repository) located at the Ministry of Health. As a result, 13,766 (98% of all new TB cases) new TB patients registered in the period July-December 2017 were tested for MTB and RR-/MDR-TB, using GeneXpert compared to 11,818 (63%) new TB cases in the preceding six-months. This activity enabled correct and more complete documentation of testing activities and increased feedback to the clinicians.

TANZANIA

CTB supports GeneXpert optimization and related GxAlert implementation countrywide. During the quarter, the utilization of GeneXpert increased from 34% to 46% of maximum output compared to last quarter. This is based on functional modules per reporting period, with a target of each module testing a minimum of three specimens per day for machine that test only TB, and two tests for the machines that test both TB and HIV viral load. A total of 79 (83%) out of 93 machines successfully installed the GxAlert system and an additional 1,267 specimens were tested via the sputum specimen sample referral system using motorcycles from peripheral sites to nearby GeneXpert centers in CTB areas.

MALAWI

The national rollout of diagnostic connectivity using GxAlert started this quarter. Within a short time period, over 40 GeneXpert devices were connected by the NTP and local staff. At this moment, baseline information is being selected during each test, but custom data collection discussions have been held with relevant stakeholders to determine final data collection elements.

ZAMBIA ○ After an open selection process that took place mid-2017, initialization of activities for the introduction of a diagnostic connectivity solution in Zambia started this quarter. The SAVICS team (developers of the diagnostic connectivity platform DataToCare) conducted initial activities for implementation of GeneXpert connectivity solution. The main purpose of the visit was to define data capture for DataToCare connectivity system. During this visit, a meeting was held with key stakeholders to build consensus on data capture elements, a user matrix and priorities for data utilization. This initial activity is a critical step prior to installation of the platform and training of end-users.

NIGERIA ○ The implementation of sputum sample transport for maximizing GeneXpert testing continued in Nigeria through Riders for Health in seven states resulting in transportation of 11,069 sputum samples to GeneXpert sites. In the remaining seven CTB states, CTB supported the “hub and spoke” model of sample transportation through healthcare workers (HCWs), resulting in the transportation of a total of 13,202 transported samples and 13,200 tested samples.

BURMA ○ Sputum specimen transportation systems were established and supported in 2017 by using trained community volunteers in hard-to-reach communities responsible for both case-finding and running sputum collection centers in their respective areas. From Oct-Dec 2017, 3,048 samples were sent to diagnostic centers. The transportation systems have proved invaluable to both the community and peripheral health facilities who previously struggled to ensure that presumptive patients receive the necessary diagnostic services.



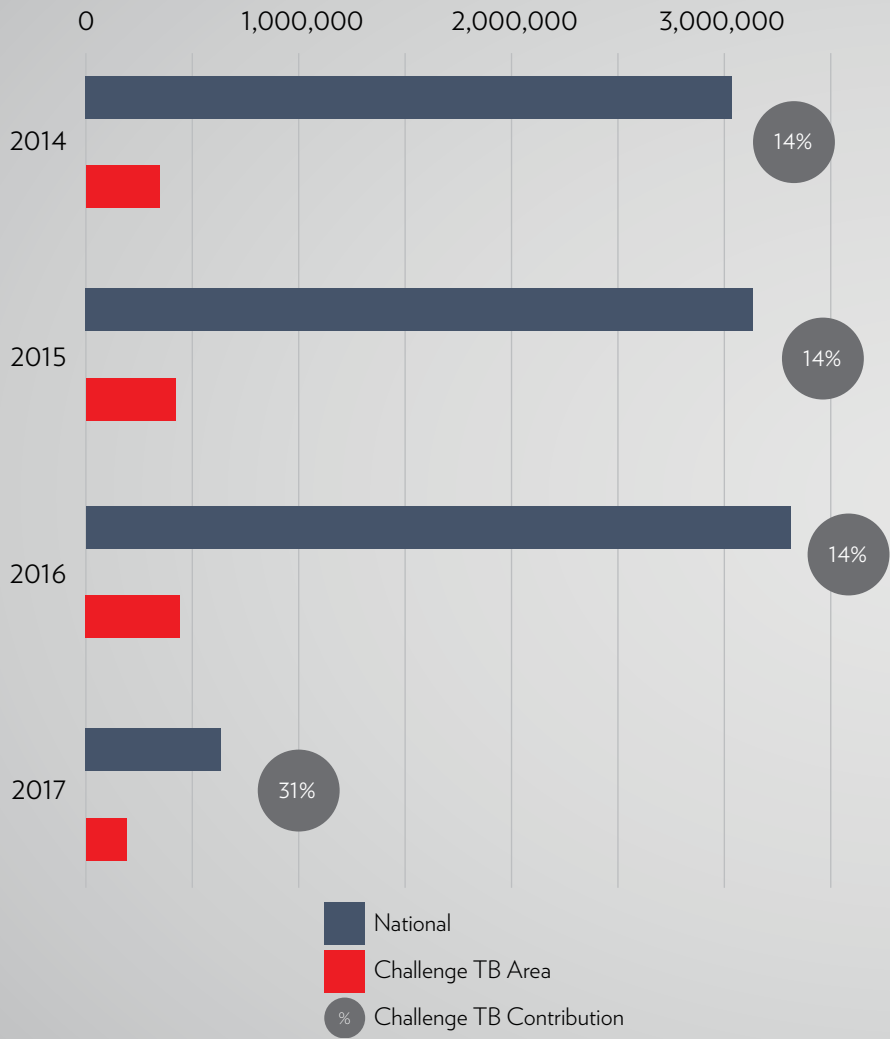
CASE NOTIFICATION

The CTB contribution to national case notifications increased to 31% based on the complete data (i.e., both CTB areas and national) reported by six CTB countries (Afghanistan, Indonesia, Mozambique, Tanzania, Ukraine, and Zambia) for all four quarters of 2017.

Delays in the reporting of quarterly data remains a common problem in the majority of CTB countries, mainly due to delays in the reporting by NTPs. In five of these countries, the CTB annual contribution to case-finding is similar to 2016 and 2015, but Ukraine showed a significant increase from 8% to 44%, which is explained by CTB Ukraine expanding its geographic coverage from two to seven oblasts.

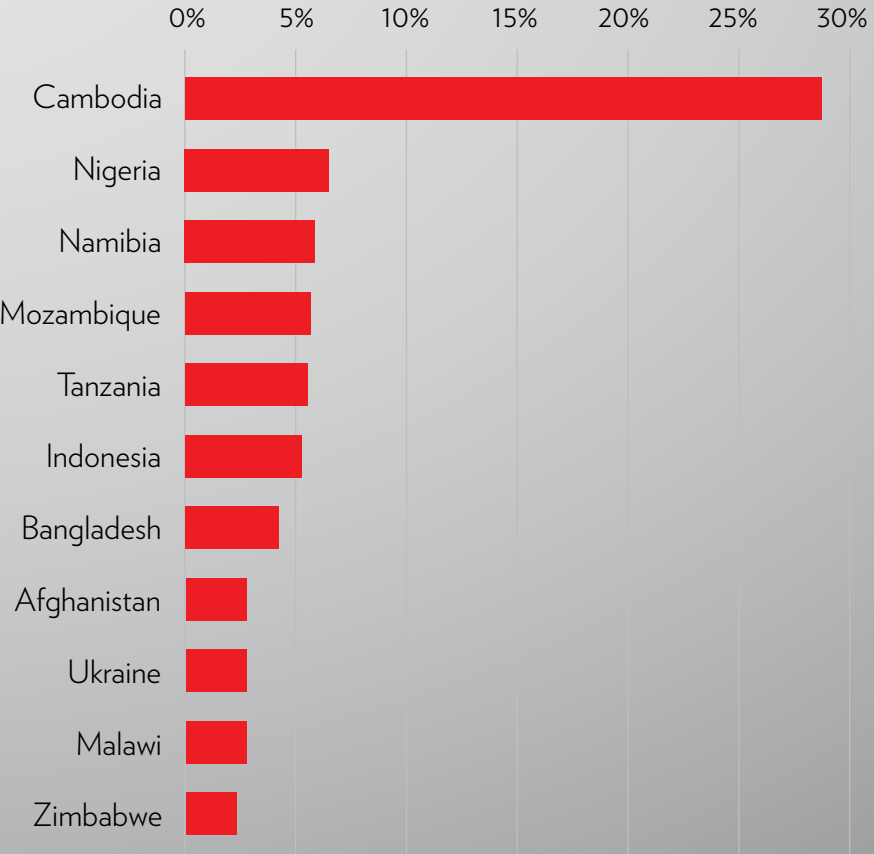
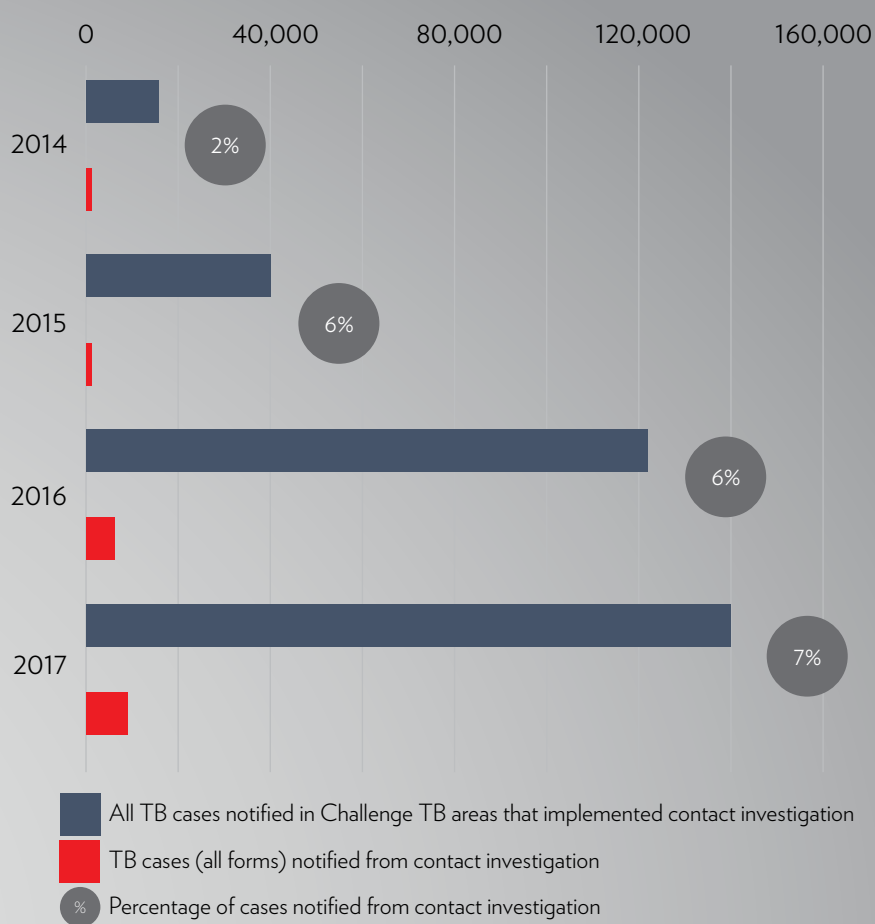
The number and percentage of TB cases (all forms) notified

(National and CTB areas combined, WHO data 2014-2016, CTB data 2017, 2014-2016 – based on 22 countries; 2017 – based on six countries)



The number and percentage of cases (all forms) notified through contact investigation

(CTB areas combined, CTB data 2014-2017: 2014 – based on two countries; 2015- based on four countries; 2016 – based on eight countries; 2017 – based on 11 countries.)

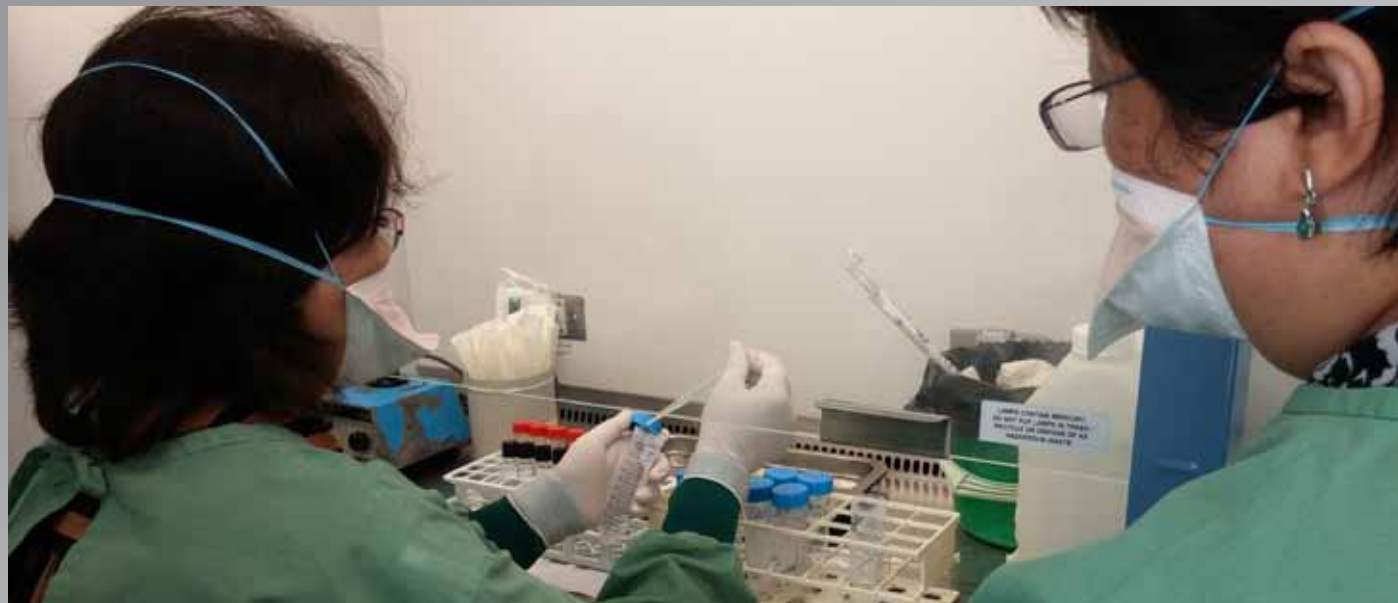


The percentage of cases (all forms) notified through contact investigations

(CTB areas, CTB data 2017)

SCALING-UP CONTACT INVESTIGATION

A total of 11 countries reported complete data on case notifications through contact investigation including for Oct-Dec 2017. Based on this data, overall share of case notifications from this intervention in CTB areas of these 11 countries is around 6%. The graph above right shows that this share per country varies from 2% in Zimbabwe to 39% in Cambodia in 2017. This high percentage needs more analysis and clarification.

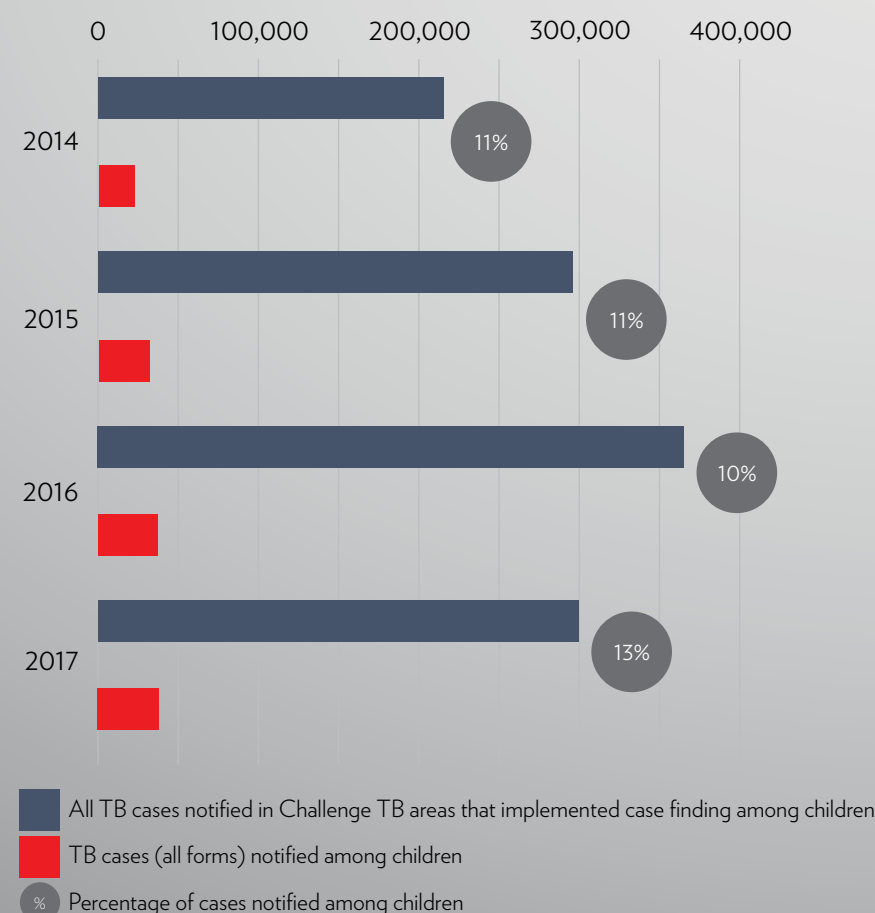


INCREASING CASE NOTIFICATION AMONG CHILDREN

Case notification data among children is reported by 14 CTB countries; however, only six countries (Afghanistan, Bangladesh, Cambodia, Indonesia, Namibia, and Tanzania) have full results for 2017 that include the last quarter. For all these 14 countries taken together, the proportion of childhood TB among cases notified in CTB areas is around 13%. As for individual countries, this percentage ranges from 5% in Botswana to 27% in Cambodia in 2017. Such a high variation can be caused by various factors, which need to be analyzed on a country-by-country basis. Overall the intervention appears to be effective and justified, as WHO specifies that the percentage should range between 5-15% in high-burden TB countries.

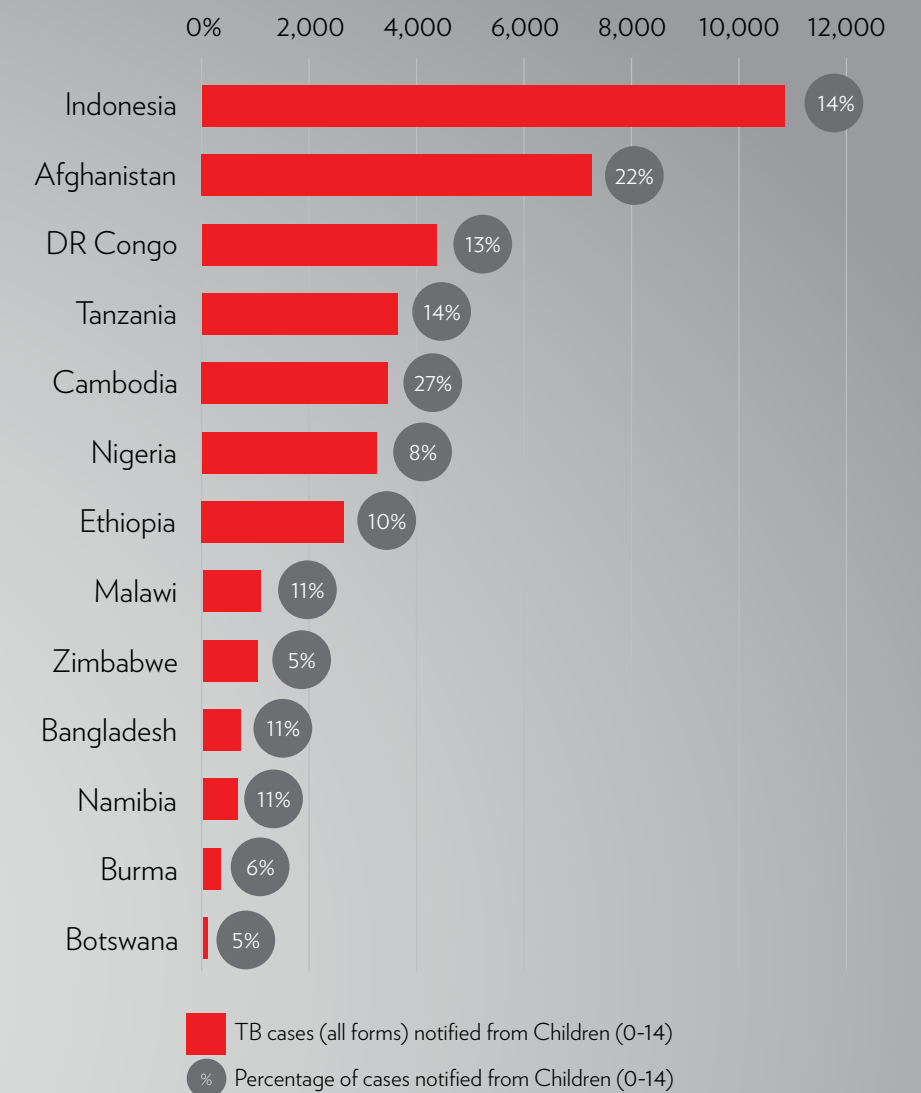
The number and percentage of cases (all forms) notified among children

(CTB areas combined, CTB data 2014-2017
2014– based on six countries; 2015-2016 – based on 11
countries; 2017 – based on 14 countries.)



The number and percentage of childhood TB among cases (all forms) notified

(CTB areas, CTB data 2017)



COUNTRY HIGHLIGHTS:

BANGLADESH

Bangladesh introduced active child TB screening in the pediatric outpatient departments of six selected health facilities to increase the detection of childhood TB cases. Five of the facilities are in Dhaka and one is in Sylhet, a city in the north-east of the country. To capture screening data electronically, CTB developed a mobile phone app which incorporates screening tools for child TB, a formulated user manual and trained relevant staff. In those facilities, children are screened using an electronic screening tool for TB symptoms once they arrive at the hospital. In Oct-Dec 2017, a total of 69,401 children were screened at the selected facilities where the HCWs identified 1,522 (2%) children with presumptive TB. A total of 985 presumptive child TB cases were tested based on the physician's confirmation. Among those tested, 95 (10%) child TB cases were identified and put on treatment.

INDIA

A total of 5,867 presumptive pediatric TB cases were provided up-front access to Xpert testing across six project sites where the project has engaged a total of 1,348 facilities (cumulative figure) of which 60% are from the private sector. Of the presumptive cases identified, 243 (4%) pediatric TB cases were detected; of which 13 (5%) were RR. The positivity on microscopy was 2%, indicating a more than two-fold higher detection rate on Xpert than on sputum microscopy. The case detection increased by approximately 14%, with positive cases increasing from 214 in previous quarter to 243 in the last quarter. Of the 243 cases diagnosed, 225 (93%) cases were initiated on treatment. These pediatric cases are added to a total of 1,348 for the year (Jan-Dec 2017).

SUCCESS STORY: COMMUNITY SUPPORT – MAKING THE DIFFERENCE IN INDIA

India has more cases of TB than any other country. In urban slums such as in the city Cuttack, in the eastern state of Odisha, TB rates are quite high, partly because of the crowded living conditions, but also because there has been little to no work done to engage the private sector in these areas. This is a crucial step, as in India, an estimated 70 percent of people with TB go straight to the private sector to seek medical help.

Nineteen-year-old Siba Senapati was diagnosed with pulmonary DR-TB in October 2017. Tragically, his father had died of TB only a few years before, and after his death, Siba had fallen into a dark spiral of unemployment, poverty, and addiction.

DR-TB is difficult to treat, it can take more than 24 months and consists of many pills, some of which can have serious side effects. Psychosocial support in the form of food and financial support, for example, can have a dramatic effect on patients' morale and can significantly reduce the numbers of patients who give up on treatment.

'Maa Aadyashakti' is a self-help group for women that operates in the slum where Siba lives. The women in the group each contribute as much as they can afford to a group account. Once they have enough savings, they plan to apply for a microloan from a bank that will help them to set up a small business.

As this group has a deep understanding and connection with the community, the USAID-funded Challenge TB project trained them on all aspects of TB including the stigma surrounding the disease and TB patients need for community support if they are going to survive the long and difficult process of treatment. They are now providing both psychological and nutritional support to people on TB treatment to help them stick to their grueling daily regimen.

Challenge TB also employs treatment coordinators to help every person with DR-TB adhere to their treatment. It is important that they get to know their patient's medical history and personality so they can provide additional support to those most likely to have trouble and give up. Purna Chandra Behra is the coordinator in Siba's area and he visited Siba, who was living alone in a shanty. Over a series of visits Siba became more open with Purna and described how he had been diagnosed with drug-sensitive TB in 2016 but he had given up on treatment after just one month.

Challenge TB staff have been on hand to support Siba since he received his diagnosis and members of 'Maa Aadyashakti' help him get to and from the hospital for his appointments. They also looked after him during his hospitalization at the DR-TB Center, until his mother was able to return from another city where she was working to care for him.

Thanks to regular counseling by the treatment coordinator and someone from a local NGO specializing in addiction, Siba recovered from his drug addiction and is determined to complete his TB treatment.

Since Siba and his mother had no income, Challenge TB staff helped them to submit successful applications to receive some money from the Red Cross and the Samaja Relief Fund. Siba was provided with 'Sattu', a mixture of ground pulses and cereals, which is packed with protein and helps him regain the weight he lost before he was treated.

Under the project, Siba's mother is now linked to 'Madhu Babu Pension Yojana' – a scheme run by the government of Odisha that provides pensions to widows, senior citizens and the disabled, through which she receives a small monthly pension. Project staff also persuaded her to join 'Maa Aadyashakti' so she can save for the future and provide support to other TB patients in the community.

Siba's view on life has undergone a complete transformation, he has had a glimpse of all the new possibilities and wants to stay healthy. He has now completed three months of treatment and will continue his treatment in the public sector. He says that it's now his turn to help and to provide for both him and his mother by becoming a rickshaw driver.

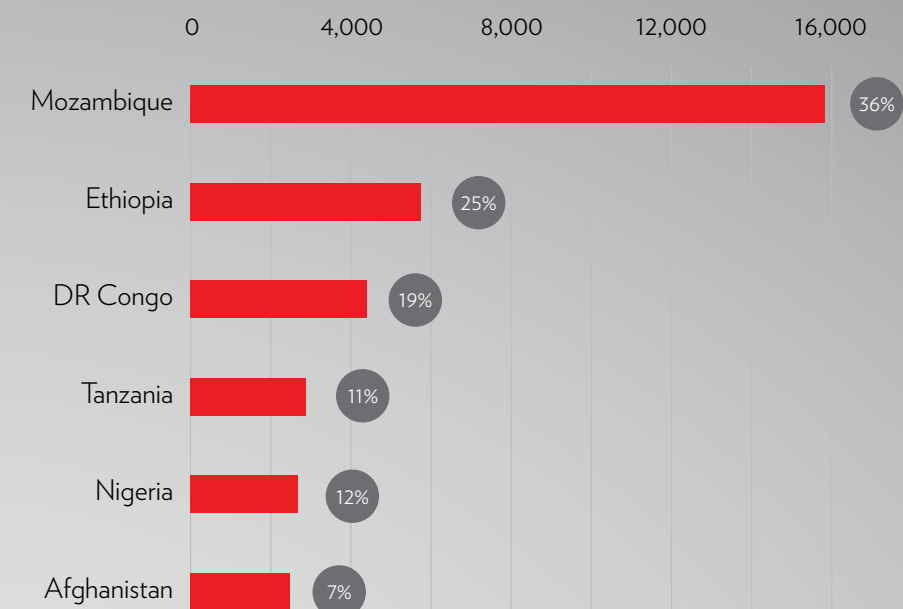
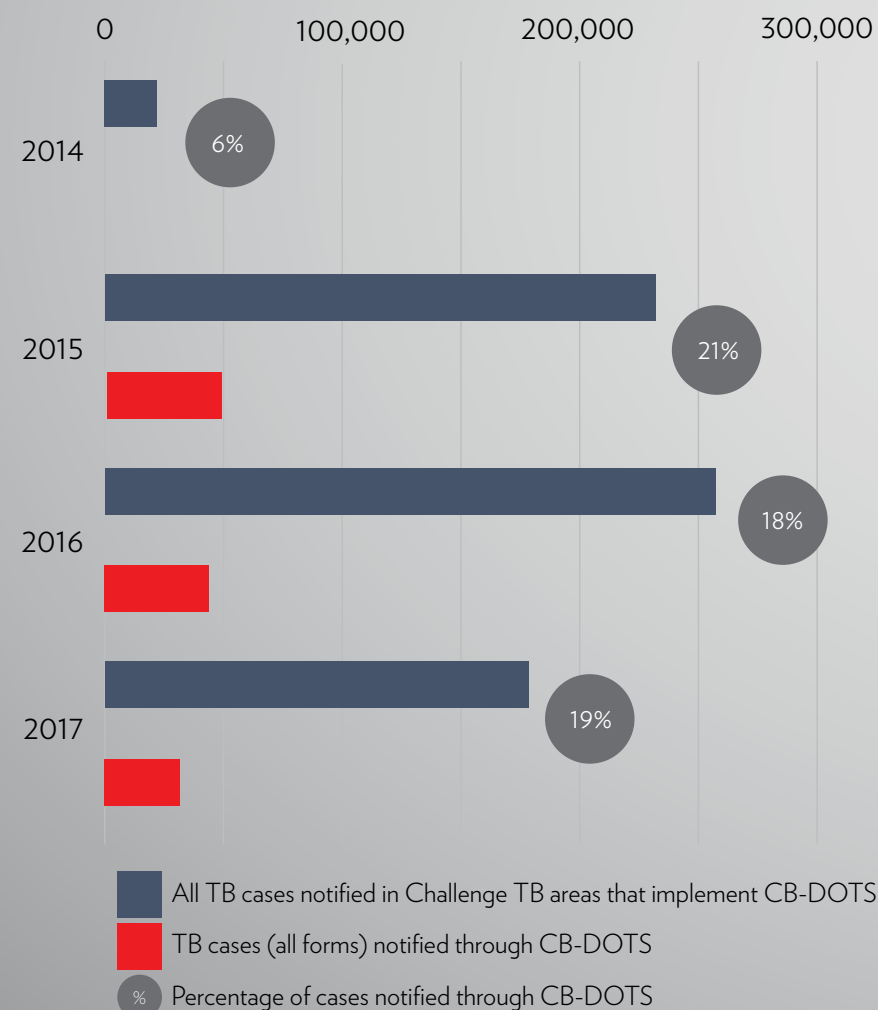


CB-DOTS/ COMMUNITY REFERRALS

CB-DOTS/community referral contribution is around 20% of all TB cases notified in CTB areas implementing the respective interventions at community level in six CTB countries; similar to case notification data presented above this data is incomplete as the data for Oct-Dec 2017 is missing from DR Congo, Ethiopia, and Nigeria, which underestimates the number of persons diagnosed through community referrals. Based on this incomplete data, the contribution of CB-DOTS/community referrals ranges from 7% in Afghanistan to 36% in Mozambique in 2017. It is expected that the overall percentage of cases notified in 2017 by community referral will change once these data are available.

The number and
percentage of cases (all
forms) notified through
CB-DOTS

(CTB areas combined, CTB data 2014-2017
2014 based on one country; 2015-2017 based on six
countries.)



NB: the above data should be interpreted with caution as the contribution is dependent on the coverage of CB-DOTS by country project.

The number and
percentage of cases (all
forms) notified through
CB-DOTS

(CTB areas, CTB data 2017)

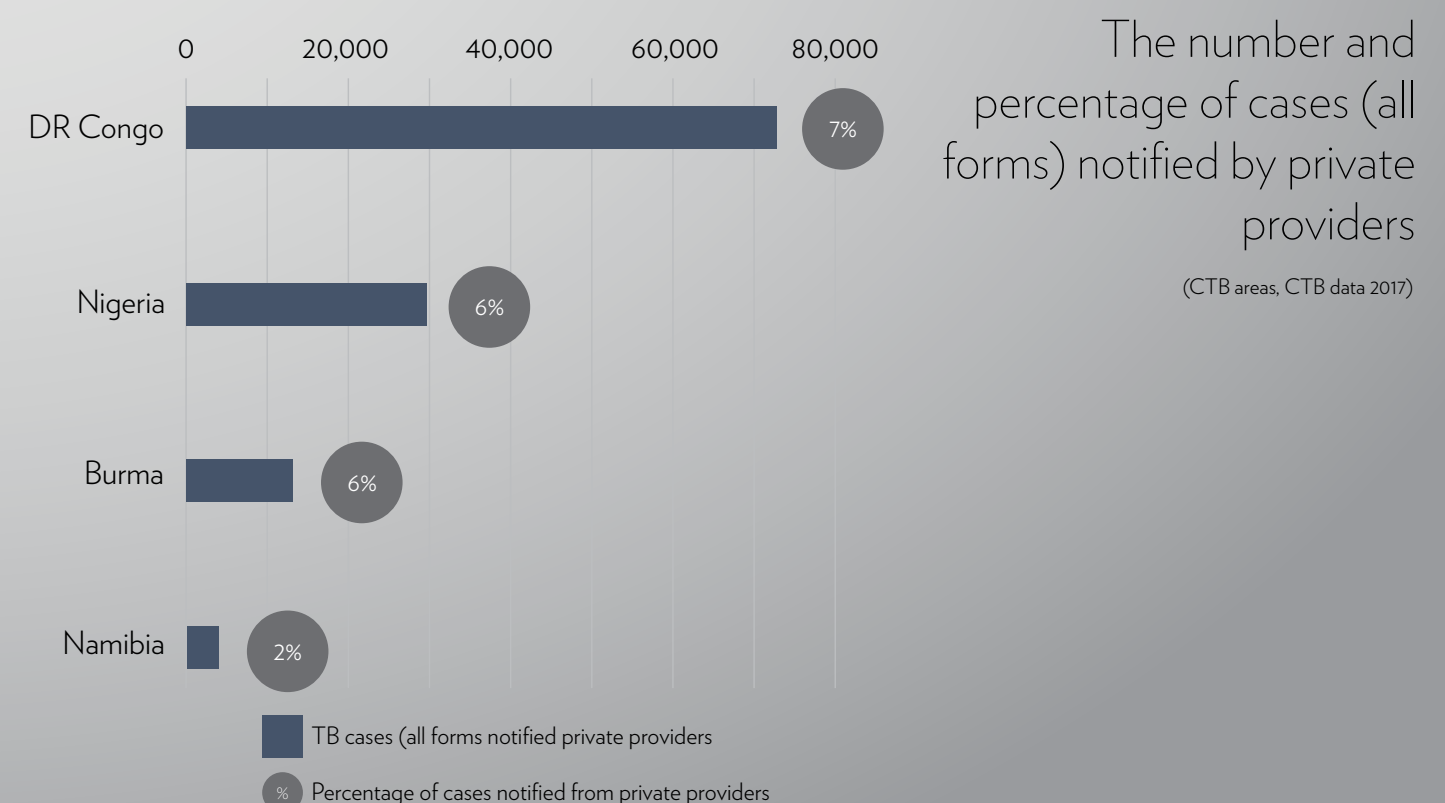
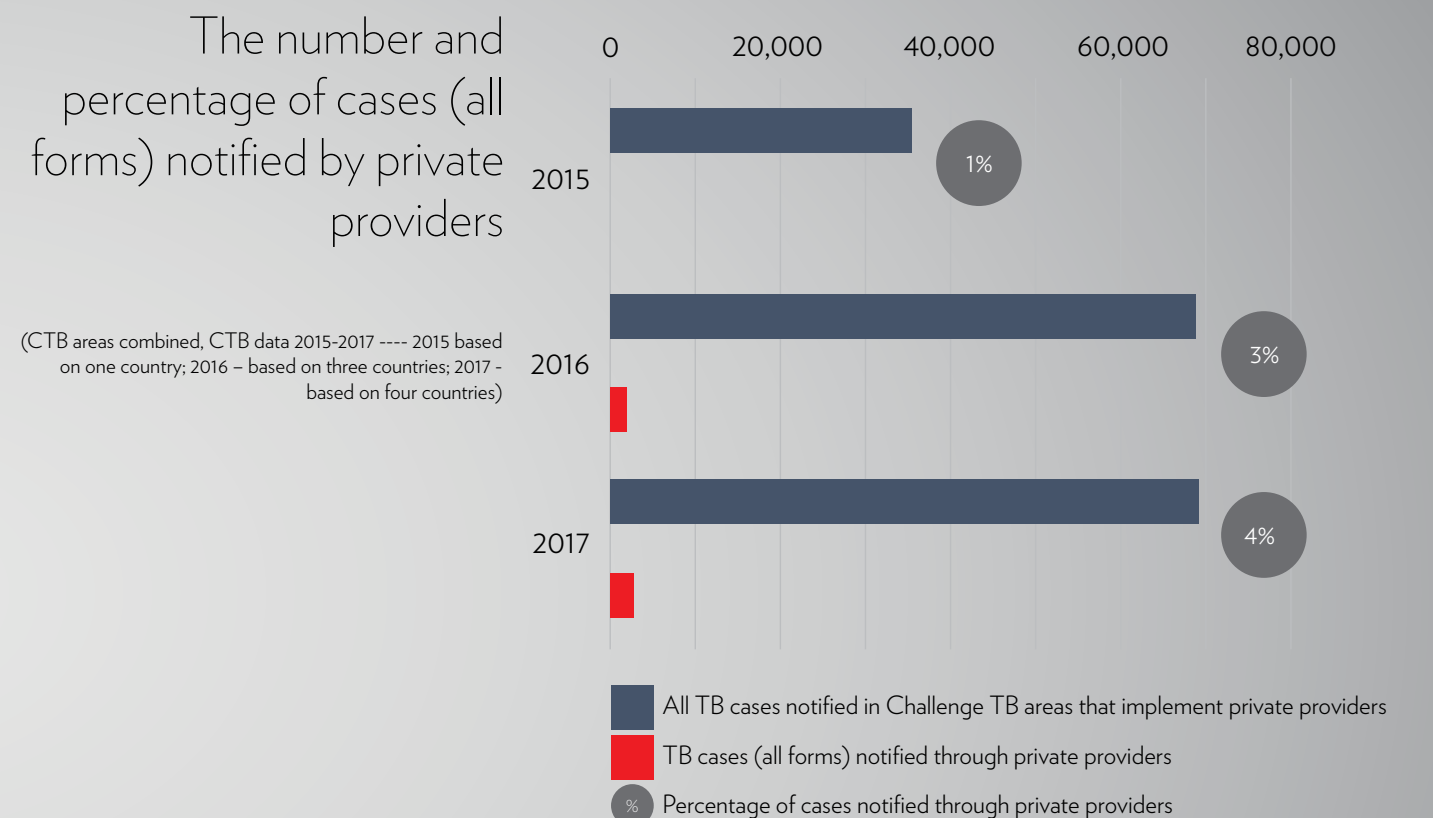


COUNTRY HIGHLIGHTS:

- AFGHANISTAN** ○ CTB is assisting the NTP to expand DOTS to those most in need and living in the rural areas of 15 provinces. CB-DOTS implementation has led to 20% increase in the number of identified/referred presumptive TB patients from 7,257 in Oct-Dec 2016 to 8,723 in Oct-Dec 2017. In addition, there was 60% increase in bacteriologically confirmed TB cases, from 387 (Oct-Dec 2016) to 616 (Oct-Dec 2017). Over the past year, CB-DOTS implementation increased the number of cases notified from community referral from 1,758 in 2016 to 2,494 in 2017 (41% increase).
- ETHIOPIA** ○ Community health extension workers (CHEW) are the main resource for community-based health service delivery, and presumptive TB identification and referral, as well as adherence support. In Oct-Dec 2017, 24% (5,501/22,915) of the total cases notified in CTB regions were due to CHEW referrals. Data quality on this activity still needs improvement; CTB regional M&E staff support the HMIS and follow-up and regularly check data quality using the standard of care (SOC/Qual-TB) and data quality assurance (DQA) tools.
- MOZAMBIQUE** ○ CB-DOTS activities contributed 42% (5,285/12,689) to the total TB case notifications in CTB areas in Oct-Dec 2017. There was a 65 % percent increase in CB-DOTS case notifications from 9,604 in 2016 to 15,850 in 2017; CB-DOTS activities contributed 36% to the total TB notification in CTB areas in 2017. This activity highlights the importance of the approach of using community activists to support the NTP in finding the missing patients within key populations, and through house-to-house visits and other community TB awareness activities.
- NIGERIA** ○ The Wellness on Wheels (WoW) campaign truck began operations in Ogun state (October 30 2017) and Nasarawa state (November 23, 2017) in this reporting period. This “one stop shop” approach to same-day screening and diagnosis for TB using digital chest X-ray and GeneXpert was conducted in 39 communities across 7 local government areas (LGAs) in the 2 states. A total of 6,525 community members were screened for TB with CXR and of this number, 1,683 (26%) presumptive TB patients were identified and tested with GeneXpert. A total of 71 (4%) TB patients including three RR-TB cases were diagnosed during this reporting period. Of the total diagnosed patients, 65 were immediately enrolled into TB care and treatment and tracking mechanisms were put in place to ensure treatment initiation for the remaining six. This intervention also afforded the opportunity for wider community education on TB prevention and care within these LGAs/states.
- ZIMBABWE** ○ From October to December 2017, a total of 13,332 people from high risk communities were screened for TB of which 4,937 (37%) were presumed to have active disease. A total of 177 (4%) TB cases were diagnosed of which 66 (37%) were bacteriologically confirmed. Among these, four (6%) were RR-TB. All the diagnosed patients were initiated on appropriate treatment at their nearest health facility.

Based on incomplete data from four CTB countries only, the combined proportion of cases notified by private providers in CTB areas is showing increase from 1% in 2015 to 4% in 2017. As for individual countries, the percentage of cases notified by the private providers in CTB areas ranged from 2% in Namibia to 7% in DR Congo and Nigeria. A more accurate picture of this indicator should be available next quarter.

ENHANCING PRIVATE/NON-NTP SECTOR CONTRIBUTION



DIAGNOSING AND TREATING MDR-TB

COUNTRY HIGHLIGHTS:

NIGERIA Nigeria is implementing a patent medicine vendors/community pharmacist (PMV/CP) intervention in the Northern regional states of Bauchi, Katsina and Kano, where CTB project teams ensure close collaborative efforts between the PMVs/CPs, DOT personnel, state laboratory personnel and Riders for Health to identify presumptive TB cases and collect and transport sputum samples for TB diagnosis. Through this approach, the northern three states contributed 59% (523) of the total number (887) of TB cases diagnosed through this intervention area across the 14 CTB supported states. The lessons learned from this approach will be replicated in all CTB supported regions/states in the future.

BURMA Burma is working with drug vendors at local pharmacies as a channel for early TB case-finding. In partnership with Population Services International (PSI), 978 presumptive TB patients were referred to both public and private diagnostic facilities. Of these patients, 182 (19%) were diagnosed with TB, of whom 58 (32%) were bacteriologically confirmed. Over the last nine months Apr-Dec 2017, a total of 1,527 presumptive TB patients were identified through drug seller networks and referred for testing. Of those referrals, 478 TB patients were diagnosed (31%) in 15 townships in Bago region.

Along with the implementation of the other case finding interventions such as active case finding (ACF) among key populations, intensified case finding (ICF) among PLHIV, and case detection in prisons, CTB countries continue reporting the respective data; although, the quality of this data still remains of poor mainly because of incompleteness and delays in reporting.

TANZANIA The project is currently supporting 30 districts with 161 community volunteers and 38 sputum fixers to conduct ACF, CI, and transport sputum for TB diagnosis with six out of 30 districts supported through CBOs. Last quarter, of those screened through community ACF among key populations, 3,420 were identified as presumptive TB cases, and 3,167 (93%) of these were tested for TB. Of those tested, 355 (11%) were diagnosed with TB, 106 (30%) by GeneXpert and 131 (37%) by smear microscopy, and all were put on treatment

DR CONGO ACF is conducted among new prisoners, released prisoners and prison staff in the eight CTB-supported provincial areas of the national leprosy and TB program. During last quarter, 5,319 prisoners were screened and 668 (13%) presumptive TB cases were identified of which all were investigated. As a result, 61 (9%) bacteriologically confirmed TB cases were detected, including two cases with RR-TB. All patients were put on treatment and all second SL-DSTs performed were negative.

CAMBODIA From Oct-Dec 2017, CTB continued to implement TB prevention and care activities in five hospitals. A total of 41,272 patients presenting at both out-patient and in-patient departments were screened for TB symptoms. Of those, 3,076 (7%) presumptive TB patients were identified; of those, 623 (20%) were diagnosed with TB and were put on treatment.

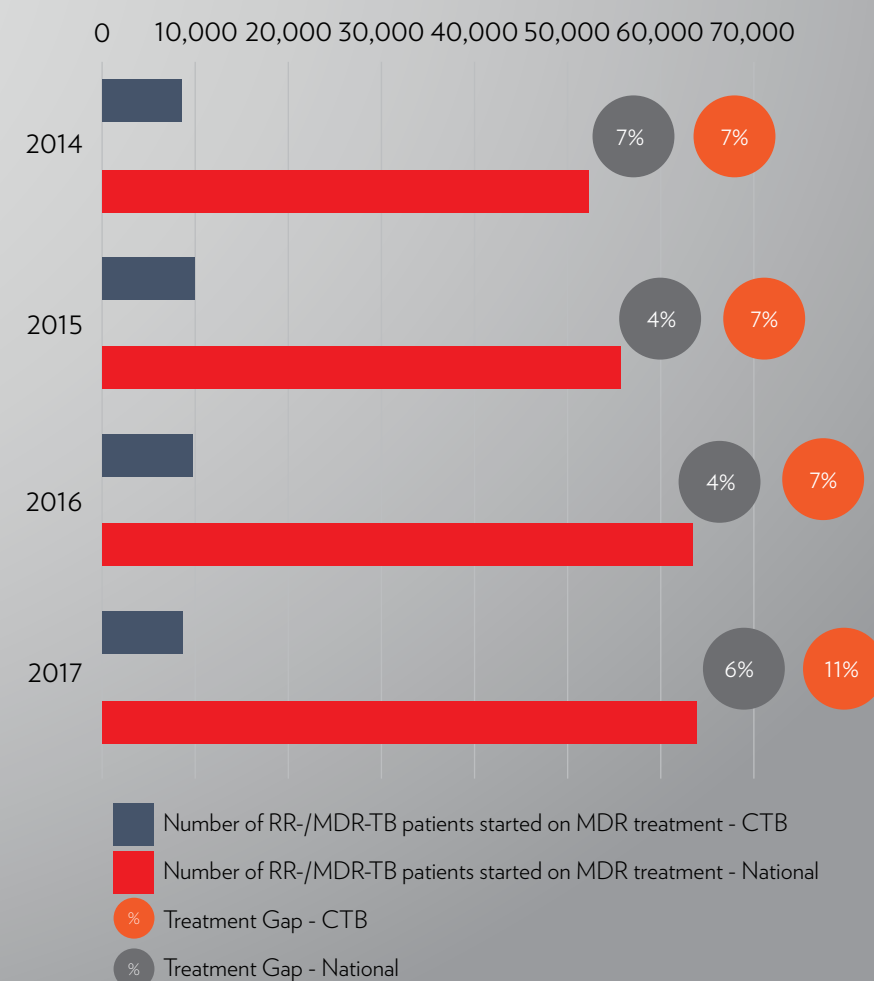
MDR-TB detection, treatment initiation and treatment success have historically been low worldwide. In order to reverse these trends CTB is actively supporting the implementation of programmatic management of DR-TB (PMDT). To track the progress of the PMDT component of the project, diagnosis and enrolment of patients on appropriate MDR-TB treatment are monitored on a quarterly basis. CTB uses national TB data from the WHO annual reports and from the local NTPs. Due to the way data is reported, some countries don't currently possess updated data and thus equal level projections have been made where applicable, whenever projections are made a disclaimer has been put in place.

The graph below shows the number of patients with RR-/MDR TB started on MDR-TB treatment at national level and in CTB areas as well as their respective treatment gaps. Equal level data projection has been used for the national data of 10 countries. Complete data of CTB areas were not available for four countries (Bangladesh, Cambodia, Uzbekistan, and Vietnam). Based on the available data, the number of RR-/MDR-TB patients at national level started on treatment rose slightly in 2017; the treatment gap has increased in 2017 at both the national level and in CTB areas, reaching 11 % in CTB areas, and 6% at national level. CTB countries that present the highest treatment gap at national level in 2017 are Indonesia (39%), Nigeria (27%), and Afghanistan (18%).

In order to address the treatment gap, CTB Indonesia is supporting the decentralization of treatment and monthly monitoring of treatment enrolment and adherence (MICA). With the involvement of Wasors and patient organizations, CTB Nigeria has implemented a periodic weekly monitoring of surveillance dash board (DR-TB line listing) to ensure prompt enrollment of all diagnosed patients. Nine countries have no reported treatment gap: Bangladesh, Botswana, Cambodia, Ethiopia, Kazakhstan, Malawi, Ukraine, Uzbekistan, and Zambia.

The number and percentage of cases (all forms) notified by private providers

(National combined, WHO data 2014-2016, CTB data 2017)



COUNTRY HIGHLIGHTS:

- MOZAMBIQUE** ○ CTB continues to provide technical assistance to health facility clinicians on the diagnosis and treatment of MDR-TB. A total of 86 MDR-TB patients were diagnosed in CTB-supported provinces, of whom 78 (91%) were initiated on treatment. Recognizing that the treatment gap of 9% is high, CTB through its CB-DOTS activities, is working closely with the NTP to identify and ensure that the eight patients who are currently not enrolled in treatment are located and started on treatment.
- INDIA** ○ CTB is supporting the DR-TB center in Thane through technical assistance to the Thane Municipal Corporation City TB Officer, specifically by recruiting a private sector chest physician to fill the existing human resource gap at the DR-TB center. Furthermore, CTB provided capacity building by coordinating training at the existing DR-TB center under CTB's Public Private Mix strategy. The results of these activities have supported the streamlining of services at the DR-TB center as well as improving the overall quality of provided services.
- UKRAINE** ○ CTB is scaling up the developed and piloted patient-centered care model for MDR-TB patients, focusing specifically on the operational aspects of building sustainable, patient-centered TB services based on outpatient case management and appropriate patient support. In five oblasts (Mykolayivska, Poltavska, Kyivska, Lvivska, and Odeska), CTB supported 32 mentoring and monitoring visits of regional specialists to the oblasts' rayons to conduct supervision and technical assistance, as well as training at the workplace for providers. Such visits helped to identify problems in TB case management and to promptly offer the right solutions, thus ensuring quality DR-TB care for about 2,100 patients.
- INDONESIA** ○ In order to improve the quality of MDR-TB treatment, through STTA (ATS) CTB Indonesia assisted the NTP to conduct a combined clinical audit and training for MDR-TB clinicians of 10 key sites, to improve the quality of MDR-TB treatment. The audit assisted in correcting treatments (adjustment of dosages based on weight changes, adjustment to the regimens based on bacteriological results etc.), improvement in recording, etc. The overall results were discussed with the NTP and where relevant, they were incorporated in the revised PMDT guidelines and will be incorporated in trainings for DR-TB treatment sites.

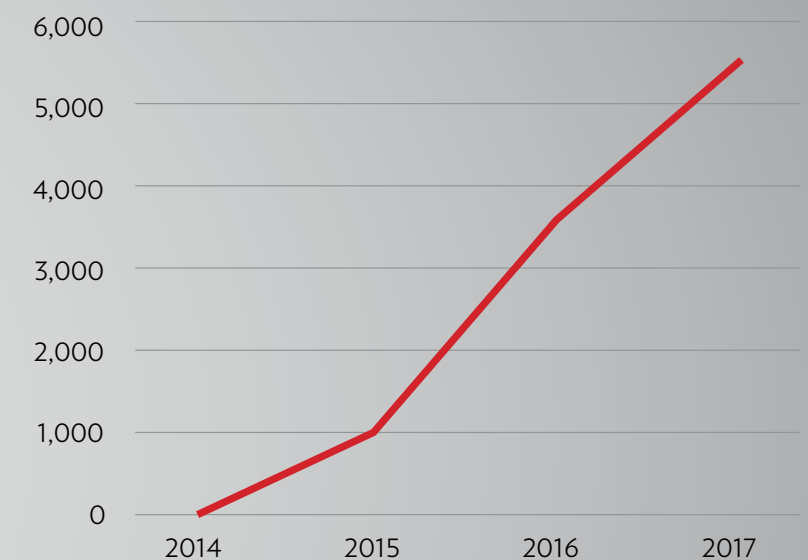


By the end of December 2017, ten CTB countries supported the provision of social and economic benefits to MDR-TB patients; the total number of such patients has significantly increased in these countries over the last three years reaching 5,531 in 2017, and with India reporting the highest number (3,824).

MORE MDR-TB PATIENTS RECEIVING SOCIAL OR ECONOMIC BENEFITS

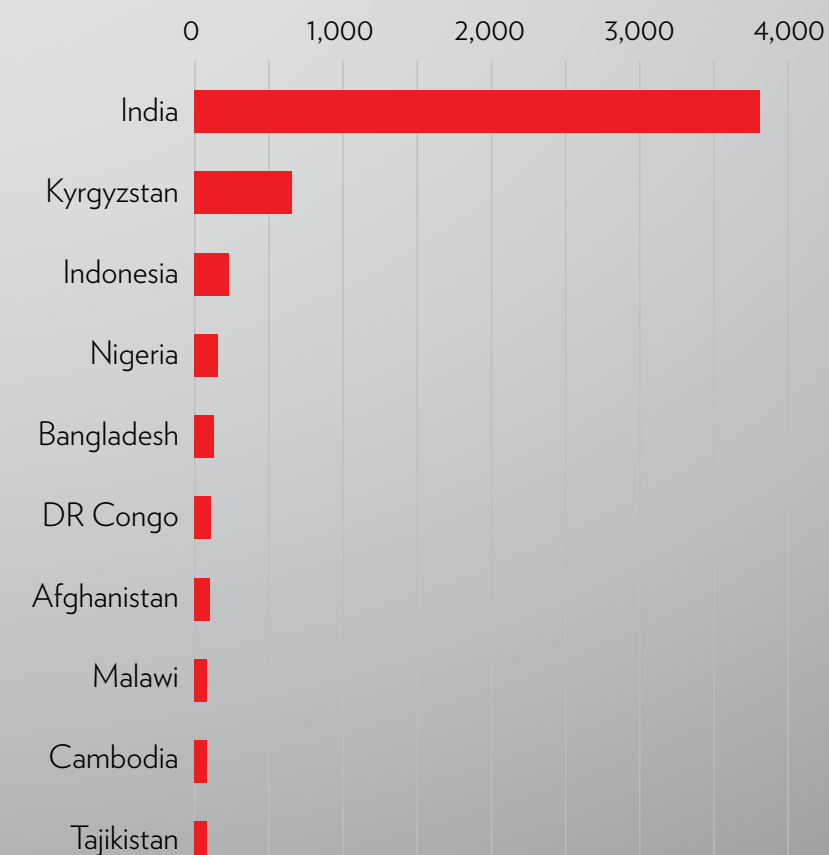
The number of MDR-TB patients who receive social or economic benefits

(CTB areas combined, CTB data 2014-2017
2014 - based on one country;
2015 - based on four countries;
2016 - based on eight countries;
2017 - based on 10 countries.)



The number of MDR-TB patients who receive social or economic benefits

(CTB areas, CTB data 2017)



COUNTRY HIGHLIGHTS:

INDIA

A total of 23 private organizations and philanthropists were successfully engaged to provide socio-economic support to DR-TB patients - 164 patients who were initiated on the treatment have been linked to various schemes in Oct-Dec 2017. A list of private organizations, who have been engaged, will also be provided to the district TB office, to link public sector DR-TB patients outside the geographic area covered by the project and to ensure all TB patients have access to available resources.

TAJIKISTAN

Several meetings were conducted in pilot sites including new ones with the chairmen of the districts' social support services. As a result, the district authorities agreed to provide social support to DR-TB patients to ensure treatment adherence. Such agreements are pending in new CTB pilots. The new regulations empower Jamoat (rural/village level government authorities) to include DR-TB patients in the benefit package system. By the end of the quarter, in the CTB pilot sites, 83 patients received various forms of support such as cash, food, and exemptions from land tax, electricity and water/sanitation charges during treatment.



CTB has been actively helping countries plan, implement, and introduce new TB drugs (BDQ, DLM) and the STR. The introduction of these ND&R aims to improve the treatment outcomes of patients as well as to improve their adherence to treatment. By the end of 2017, BDQ has been introduced in 18 CTB countries. The number of sites offering the treatment have more than doubled in the past year, which has led to almost tripling the number of patients that started treatment with the drug. The number of severe adverse events reported in patients using BDQ have increased in correlation with the increase in the number of patients treated with the drug. In 2017, a total of 58 patients were reported to have died from severe adverse events (SAEs) related to BDQ treatment.¹ Checking and acting on the barriers and assessing the data quality equally for the key countries will be a key area of focus for next quarter under BDQ Core project.

BDQ INTRODUCTION IN CTB COUNTRIES

	2014	2015	2016	2017	2017			
					Q1	Q2	Q3	Q4
Number of BDQ treatment initiation sites	2	12	29	81	39	49	63	81
Number of patients started on BDQ	2	31	524	1411	409	302	306	394
Number of reported BDQ SAEs	0	9	103	294	53	65	74	102
Number of reported BDQ SAEs which led to a death	0	1	12	58	6	12	14	26

A total of 17 countries had started patients in regimens containing DLM by the end of 2017. The number of sites offering DLM to patients that need it have doubled in the past year. The number of patients treated with DLM has sharply increased, going from less than 20 patients to 200 patients in 12 months. Very few severe adverse events were reported, and no deaths were associated with the use of the drug.

DLM INTRODUCTION IN CTB COUNTRIES

	2014	2015	2016	2017	2017			
					Q1	Q2	Q3	Q4
Number of DLM Treatment Initiation Sites	0	0	11	29	15	19	22	29
Number of patients started on DLM	0	0	16	205	37	14	45	109
Number of reported DLM SAEs	0	0	1	3	0	0	0	3
Number of reported DLM SAEs which led to a death	0	0	0	0	0	0	0	0

The number of sites offering the STR in 2017 is more than double the number of sites in 2016 (11 countries). The number of patients benefitting from a STR also increased dramatically, more than double the number of patients treated in 2016. A sustained increase in the number of patients started in STR was seen in every quarter of 2017. Very few severe adverse events were reported, and no deaths were associated with the use of the regimen.

STR INTRODUCTION IN CTB COUNTRIES

	2014	2015	2016	2017	2017			
					Q1	Q2	Q3	Q4
Number of STR Treatment Initiation Sites	36	36	132	368	258	261	348	368
Number of patients started on STR	220	217	655	1802	305	390	519	588
Number of reported STR SAEs	0	0	0	4	0	3	1	0
Number of reported STR SAEs which led to a death	0	0	0	0	0	0	0	0

¹ Out of the 58 deaths in 2017, 50 were reported in India, all of which still need to be validated through a causality analysis.

EXPANDING NEW DRUGS AND REGIMENS

COUNTRY HIGHLIGHTS:

INDONESIA ○ During the last quarter DLM arrived in the country. The guideline for DLM implementation was drafted and will be included in the revised PMDT guideline in January 2018. This will be followed by training of the PMDT (sub)referral sites on the full triage approach (complementary deployment of the STR and new drugs containing regimens triaged by clinical assessments and SL-LPA testing). In addition, three National Reference Laboratories are able to perform SL-LPA (Microbiology UI Jakarta, BBLK Surabaya, Persahabatan Hospital Jakarta) with adequate equipment and experience in testing both sputum and MTB cultures by LPA. The CTB project procured the SL-LPA kits for these laboratories which will expedite the availability of testing. In the next quarter, full LPA training courses and procurement of all equipment and consumables will be implemented in four additional sites.

NAMIBIA ○ The government placed the first order of DLM to the GDF in the reporting quarter. The STR for MDR-TB was introduced with three patients starting the treatment last quarter, marking a major milestone in the country. More patients are expected to be commenced on shorter regimen next quarter. CTB-Tajikistan currently has 75 patients on the STR and 64 patients on individualized treatment regimens with BDQ. Ten STR patients are on track to successfully complete treatment in the first quarter of Year 4. In addition, the project started expansion of ND&R interventions to new sites. Nine new sites (Vose, Rogun, Hamadoni, Khovaling, Shurabad, Kulyab city, Kulyab, Muminabad and Varzob) were assessed to evaluate readiness for implementation of ND&R. The assessment included recommendations to improve the active drug safety monitoring (aDSM) system including aDSM manual updates and revisions to reporting protocols and AE data flow. Based on assessment findings, the NTP agreed to a gradual scale-up, with districts starting as soon as the standards are met.

TANZANIA ○ The project is supporting scale up of rapid molecular diagnostic testing for detection of TB and MDR/XDR TB through the introduction of second line HAIN testing in 3 Zonal TB Labs (CTRL, Kibong'oto Infectious Diseases Hospital [KIDH] and Mbeya Zonal TB Lab). CTB is responsible for procurement of reagents and supplies, as well as calibration and maintenance of the machines. As a result, in the Oct-Dec quarter, a total of 41 test were performed with 3 pre-XDR and 1 XDR patients detected and initiated on individualized treatment regimen at KIDH.

UZBEKISTAN ○ CTB continues to build NTP capacity at pilot sites in CTB areas for the implementation and management of patients on ND&R in particularly through trainings for both TB and PHC providers in appropriate ND&R use. Since July 2017, trainings have taken place for TB specialists in treatment sites in Khorezm and Fergana oblasts using a module developed in Year 3 based on Uzbekistan's finalized ND&R clinical protocol including management of side effects. It is expected that these facilities will also receive the necessary equipment (supported through the GF) for ND&R rollout by mid-2018.

UN SPECIAL ENVOY (UNSE)

In October 2017, the UNSE Dr. Eric Goosby participated in the Union Conference in Guadalajara and met with a variety of key stakeholders to coach and encourage pathways to collaboration for the UN High Level Meeting (HLM) on Tuberculosis. In addition, travel was undertaken to DC, where Dr. Goosby participated in the WHO Launch of the Global TB Report and the USAID sponsored TB Symposium. Jane Coyne began her role facilitating track 1 for the UN HLM preparation.

In December, Dr. Goosby participated in the UHC Forum hosted by the Japanese government and partners. This participation allowed the UNSE to coordinate meetings with other Japanese stakeholders. A briefing was held with the Friends of the Global Fund for Japanese parliamentarians that work on TB/HIV/Malaria. Dr. Goosby gave the keynote address at the WHO sponsored TB/UHC side event, met with Mr. Takemi a senior parliamentarian that plays the role of broker for all Global Health support, had bi-lateral meetings with three governments and met with elders to discuss what they might be interested in doing on UHC/TB. In addition, continued work as facilitator for Track 1 and participating in multiple track calls to try to keep abreast of UNHLM planning.

MEASURING CATASTROPHIC COSTS

During this quarter the *Handbook on Tuberculosis Patient Cost Surveys* was finalized. In October 2017, the handbook was edited and ready for proofreading. In November/December 2017, the graphic design was done. Printing of 1,000 copies in English took place and the web version has been available for download since December 21st from the link below:

http://www.challengeTB.org/publications/tools/costing/TB_Patients_Cost_Surveys-Handbook.pdf

The print version is available upon request and will be distributed in NTP meetings, the Union Conference, etc. At the Union conference in Guadalajara in October 2017 the first implementing countries presented their results (beyond this CTB grant) and the WHO consultant presented on global progress and mentioned upcoming Handbook for December 2017.

CORE INDIA

Since PATH launched activities in March 2017, a total of 477 RR patients were diagnosed by December 2017, thus achieving the program target of diagnosing 475 RR patients in 2017. Between October and December 2017, 152 RR-TB were diagnosed. Of the RR-TB diagnosed patients, 30 (20%) patients were in the process of going through pre-treatment evaluation (PTE) and culture DST; 106 (70%) patients were linked to a public sector DR-TB Center for treatment initiation; 10 (6%) patients continued with private sector treatment; 5 (3%) patients migrated; and 1 (<1%) patient died.

Additionally, the program is capturing the DST trends in the private sector, which will reflect the existing DR-TB types for further planning and preparedness. The program ensured that all of the DR-TB patients linked to the public sector for treatment were fast-tracked through the PTE and DST process as well as ensuring that the patients were initiated on treatment within 12 days of their DR-TB diagnosis. Moreover, all patients receiving treatment in the public sector were monitored through monthly follow-up appointments and encouraged to continue treatment. This unique patient support model provided by the treatment coordinators has boosted the trust and confidence

in public sector DR-TB care and ensured more private sector patients are linked to initiate and continue treatment. Thus, PATH's DR-TB project has created necessary linkages between the private and public sectors for successful activity implementation, providing support for DR-TB patients, and developing confidence in the public sector DR-TB management among private sector patients.

PREVENTION

The key result of this quarter is the completion of enrollment in the WHIP3TB trial. In total, 4,026 participants have been enrolled; 2,548 in South Africa, 601 in Mozambique and 877 in Ethiopia. Based on enrolment dates, by the end of 2017: 23 participants completed eight study months (=maximum time to complete 6H as per protocol) in the 6H arm; 143 participants in the 3HP arm and 144 in the p3HP arm completed 16 study weeks (=maximum time to complete 3HP as per protocol).

Retention has been and will continue to be closely monitored and evaluated. Patient-centered practices are being implemented to keep participants on the study: individual approaches, spending enough time with each patient during clinic visits, and home visits (in Mozambique). The second Data Safety and Monitoring Board (DSMB) took place through a teleconference on October 6, 2017. The main query was around the preliminary retention rates (just below 90% for the month 3 visit), though acknowledged that this may be, in part, an artifact of the delay between visits and data being entered into the database later, resulting in under-reporting. A follow-up report based on an up-to-date database is being developed in January 2018 ahead of another DSMB meeting planned for March 2018 to re-assess retention.

The fifth trial steering committee meeting was held during the Union conference in Guadalajara, Mexico, (12 October 2017). The agreement with Qiagen was amended to increase the number of interferon-gamma release assays (IGRA) donated from 4,000 to 5,200. This will allow the retesting at month 12 and month 24 of all participants with a CD8-positive result at baseline and a sample of participants with a negative result at baseline.

MEASURING STIGMA

During this core project, (and leveraging other funding), KNCV has coauthored five tools to speed up the implementation of these policy objectives:

1. IJTLD TB Stigma Supplement (13 articles)
2. TB Stigma Measurement Guidance and
3. Companion Curriculum
4. HCF facilities stigma reduction tool
5. Self-stigma reduction toolbox

In addition to the development of the above tools, the Ethical Clearance for the study in Ethiopia was granted during this quarter, and subsequently the Study Coordinator (Dr. Sebside Tadesse) was employed. Dr. Tadesse is employed at University of Addis School of Public Health and has published on TB stigma in Ethiopia previously. Three Amharic-speakers holding MSc's and with more than five years of work experience were selected as qualitative interviewers. The study design was presented to the USAID mission, and several recommendations were made regarding additional ethical protection of participants and additional institutional review board reviews. A training for data collectors and an orientation for facility staff will occur next quarter.



The IJTLD supplement was launched on October 13, 2017 during the Union Conference in Mexico. The articles were cited 27 times within the first two months (excluding self-citations) and clearly filled a need for evidence to support policy and practice.

The IJTLD TB stigma supplement was picked up by the Kaiser Family Foundation and the Infectious Disease Society's Science Speaks Blog. Kaiser Family Foundation

<https://www.kff.org/news-summary/science-speaks-highlights-articles-on-stigma-in-special-issue-of-tb-journal/>

Stigma surrounding tuberculosis keeps patients from services, worsens health risks, but remains largely unmeasured, unaddressed

<http://sciencespeaksblog.org/2017/11/13/stigma-surrounding-tuberculosis-keeps-patients-from-services-worsens-health-risks-but-remains-largely-unmeasured-unaddressed/>

Challenge TB amplified the message through a blog on Nature Microbiology and prominent placement in the USA TB Wire

<https://naturemicrobiologycommunity.nature.com/users/71808-stephanie-law/posts/22571-combating-tuberculosis-stigma-the-time-is-now>

TB STIGMA STAKEHOLDERS MEETINGS IN MEXICO

At the Union conference, two meetings were held with partners, coauthors, survivors, activists, and donors to consider next steps in rolling out the technical materials and ensuring sufficient capacity building to pilot tools appropriately. There was consensus that human resource limitations would be a rate limiting steps for bringing the work to scale, but there was no agreement on who should be leading the capacity building and even some discussion on what types of knowledge and experiences constitute TB stigma expertise. In mid-December The TB Stigma Measurement Guidance was finalized after review by community members, Global Fund CRG staff, PMU, and technical partners. The Getting to Zero: Stigma Reduction Intervention Workshop December 2017 In addition, KNCV with own budget led development of tools for interventions to reduce self-stigma among TB patients and stigma in health care facilities. An expert meeting on TB stigma reduction at KNCV, co-funded STP, was held in Dec 2017. During this stigma reduction meeting, USAID/CTB, STP and KNCV met in a side meeting to discuss on the practical steps and hand-over of the roll out of stigma measurement guidance to STP.

On December 13, internal meetings were held with CTB staff to work on the operational aspects of rollout within CTB.

- Ethiopia – Review SOW, draft instruments, SOP development
- Indonesia team – review of protocols and synergies with existing work with patients
- Central Asia team- development of a concept note, check on savings/ resources, integration, planning, specific tools, translation.

The main focus of the Global Fund Hub in Year 3 was to support CTB countries with the 2018 – 2020 funding cycle. During the first quarter of Year 4, no short-term technical assistance visits were planned or carried out. Botswana was the last CTB country to submit a funding request in February 2018. The Country Coordinating Mechanism (CCM) has set the submission date of the new joint TB/HIV Funding Request for February 7, 2018. For this Global Fund funding application, a self-assessment tool was completed, and the focus of the application will be on key and vulnerable populations, new technologies and/or innovations. Nigeria's TB/HIV funding request was not approved in 2017. The resubmission of their funding request for an 18 month (Jan 2018 – June 2019) extension grant was recently approved.

In total 16 countries reported on the approval and signing status of their grants for 2018 – 2020 (Afghanistan, Bangladesh, Burma, Cambodia, Ethiopia, India, Indonesia, Kyrgyzstan, Malawi, Mozambique, Nigeria, Ukraine, Uzbekistan, Vietnam, Zambia, and Zimbabwe). Botswana, DR Congo, Namibia, Tajikistan, and Tanzania are awaiting approval or the signing of their grants (see table).



Country	Principal recipient	Average Rating	Latest Rating	Status of grant applications 2018-2020	Total Approved/ Signed Amount *	Total Committed Amount	Total Disbursed to Date
Afghanistan	AFG-T-UNDP	B1	N/A	Approved/signed	\$24,432,308	\$19,080,001	\$14,320,284
	AFG-T-MOPH	B1	N/A	Approved/signed	\$11,752,713	\$6,503,202	\$2,566,457
Bangladesh	BGD-T-NTP	A2	N/A	Approved/signed	\$110,278,588	\$94,660,627	\$72,558,519
	BGD-T-BRAC	A1	A1	Approved/signed	\$177,803,607	\$132,089,481	\$108,250,817
Botswana	BWA-C-BMoH	N/A	N/A	Awaiting approval	\$10,244,837	\$8,368,748	\$6,232,133
	BWA-C-ACHAP	N/A	N/A	Awaiting approval	\$16,798,970	\$13,225,905	\$10,374,403
Cambodia	NFM-2015 CENAT	B1	N/A	Approved/signed	\$15,664,272	\$15,664,271	\$15,038,402
DR Congo	COD-T-MOH	NA	NA	Awaiting approval	\$13,831,917	\$12,184,950	\$12,159,036
	COD-T-CARITAS	N/A	N/A	Awaiting approval	\$38,964,682	\$32,349,168	\$30,230,056
Ethiopia	ETH-TB-MOH	A2	B1	Approved/signed	\$58,177,462	\$52,162,619	\$47,219,387
India	IDA-T-WVI	B1	B1	Approved/signed	\$12,699,898	\$11,616,708	\$11,260,930
	IND-T-IUATLD	A2	A1	Approved/signed	\$ 52,218,377	\$46,907,337	\$46,907,337
	IND-T-CTD	B1	N/A	Approved/signed	\$476,980,946	\$461,757,614	\$461,757,614
Indonesia	IND-T-MOH 2016	B1	B2	Approved/signed	\$70,392,709	\$48,283,526	\$39,452,842
	IND-T-AISYIYA 2016	A2	A2	Approved/signed	\$21,200,718	\$11,375,606	\$10,679,131
Kazakhstan	KAZ-T-NCTP	N/A	N/A	No new grant application	\$17,674,620	\$11,162,835	\$6,870,562
	KAZ-T-HOPE	N/A	B1	No new grant application	\$6,577,628	\$4,977,880	\$4,977,880
Kyrgyzstan	KGZ-C-UNDP	N/A	N/A	Approved/signed	\$18,617,455	\$18,617,455	\$18,375,507
Malawi	MWI-C-MOH	B1	B1	Approved/signed	\$285,215,022	\$259,671,749	\$217,333,684
	MWI-C-AA	B2	B2	Approved/signed	\$29,287,078	\$19,191,356	\$22,035,972
Mozambique	MOZ-T-MOH	B1	A2	Approved/signed	\$82,477,147	\$30,179,746	\$27,639,817
	MOZ-C-FDC	C	B1	Approved/signed	\$22,026,026	\$15,227,092	\$15,227,092
Myanmar	MYN-T-SCF	A1	A1	Approved/signed	\$44,368,531	\$33,668,009	\$26,963,765
	MYN-T-UNOPS	A2	B1	Approved/signed	\$198,944,783	\$158,645,454	\$119,417,162
Namibia	NM-TB-MoHSS	B1	B1	Awaiting approval	\$27,032,336	\$25,665,296	\$25,640,296
Nigeria	NGA-T-ARFH	N/A	B1	Approved/signed	\$176,900,911	\$139,108,325	\$139,108,325
	NGA-T-IHVN	N/A	N/A	Approved/signed	\$88,263,600	\$71,329,767	\$71,329,767
Tajikistan	TJK-T-RCTC	N/A	N/A	Awaiting approval	\$4,666,695	\$4,635,758	\$4,635,758
	TJK-T-HOPE	A2	A2	Awaiting approval	\$12,901,391	\$10,498,803	\$9,575,955
Tanzania	TZA-T-MOF	B1	B1	Awaiting approval	\$51,873,002	\$19,196,236	\$18,595,141
	TZA-C-STC	B1	N/A	Awaiting approval	\$13,059,126	\$12,426,912	\$10,566,150
Ukraine	UKR-C-PHC	B1	B1	Approved/signed	\$3,373,393	\$3,264,111	\$3,214,111
	UKR-C-AUN	B1	B1	Approved/signed	\$63,279,884	\$62,281,884	\$62,281,884
	UKR-C-AUA	A2	B1	Approved/signed	\$66,268,901	\$64,427,931	\$64,377,931
Uzbekistan	UZB-T-RDC	N/A	B1	Approved/signed	\$16,736,572	\$14,850,199	\$13,682,328
Vietnam	VNM-T-NTP	A1	A1	Approved/signed	\$39,979,032	\$38,458,395	\$38,458,395
Zambia	ZMB-C-MOH	B1	B1	Approved/signed	\$100,702,951	\$95,565,824	\$76,788,050
	ZMB-C-CHAZ	B1	B1	Approved/signed	\$53,837,477	\$53,793,342	\$49,095,258
Zimbabwe	ZWE-T-MOHCC	A2	A2	Approved/signed	\$62,565,047	\$41,556,938	\$30,789,235

NEW PUBLICATIONS

ACTIVE DRUG-SAFETY MONITORING AND MANAGEMENT – MANUAL FOR TUBERCULOSIS MEDICINES AND REGIMENS

This manual provides a step-by-step guide to programmatically implement a sustainable aDSM system in line with the WHO-recommended aDSM Framework. It is applicable to patients on new and repurposed drugs, new DR-TB regimens such as the shorter treatment regimen, and XDR-TB regimens. The document describes the detection, active monitoring and management of DR-TB patients using clinical and laboratory assessment, as well as recording and reporting of SAEs.

http://www.challengetb.org/publications/tools/country/aDSM_Manual_Myanmar.pdf

IMPLEMENTATION OF THE ONLINE CHILDHOOD TB TRAINING FOR HEALTHCARE WORKERS COURSE (ZIPPED PACKAGE)

The Union's online training course in Childhood TB for Healthcare Workers can be completed independently, but also facilitated for a group of learners. This package of files has been developed in recognition of this need, and to strengthen both local relevance as well as knowledge transfer that are pragmatic and locally relevant, with the ultimate aim of improving the management and prevention of TB in children.

http://www.challengetb.org/publications/tools/ua/Implementation_Childhood_TB_Online_Training.zip

TUBERCULOSIS PATIENT COST SURVEYS: A HANDBOOK

This handbook provides a standardized methodology for conducting health facility-based cross-sectional surveys to assess the direct and indirect costs incurred by TB patients and their households, building on experience gathered using a previous costing tool and an iterated WHO pilot protocol and tool.

http://www.challengetb.org/publications/tools/costing/TB_Patients_Cost_Surveys-Handbook.pdf

WEBSITE:

<https://www.challengetb.org/>

TWITTER:

<https://twitter.com/@challengetb>

INSTAGRAM:

<https://www.instagram.com/challengetb>

CHALLENGE TB STORIES ON MEDIUM:

<https://www.medium.com/@challengetb>

CHALLENGE TB PHOTO ESSAYS ON EXPOSURE:

<https://challengetb.exposure.co/>

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ONLINE RESOURCES



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.

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