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CHALLENGE TB

A woman with dark skin and short, curly hair stands in front of a mud-brick house. She is wearing a red and black patterned dress and yellow flip-flops. She is holding a young child in her arms. The child is wearing a white and red striped shirt and white socks. The background shows a dirt path and some greenery.

CHALLENGE TB

PERFORMANCE MONITORING REPORT
YEAR 5 - APRIL - JUNE 2019



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:
Cured TB Patient Kapinga Kabeya, DR Congo - Photo: The Union

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Executive Summary

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



INTRODUCTION

This performance monitoring report summarizes project progress and achievements for the third quarter of Year 5, April - June 2019, across projects in 23 countries, the East Africa Regional project, and two core projects.

The project is in the last phase of implementation; eighteen country offices are already closing by August 2019 and currently finalizing the country-specific end of project reports and mainstreaming all Challenge TB activities to NTP with support from Global Fund and other USAID TB portfolio. Five no cost extension countries (NCE) Afghanistan, Botswana, Nigeria, Ukraine, and Zimbabwe and the prevention study will continue for an additional six months.

The main focus of this report is quarterly trends in the achievement of Challenge TB key priority interventions in the five NCE countries. For the other 18 countries that phased down their operations and developed Challenge TB end-of-project reports by end of June 2019, only the major activities/milestones accomplished this quarter are reported (the key intervention-specific Year 1-5 results data is included in their end-of-project reports, that have already been submitted to USAID).

PROGRESS IN KEY INTERVENTION AREAS

There has been a continuous increase in the number of TB cases diagnosed using GeneXpert compared to microscopy. Currently, 64 percent of all new TB cases were diagnosed/tested with GeneXpert. Over 50 percent of the GeneXpert machines are connected to GxAlert, and 86 percent of all modules are functional. The coverage for SL-LPA remains low at 37 percent.

At least 180,162 TB cases (all forms) were reported in the quarter from all Challenge TB countries with a 32 percent contribution from Challenge TB geographical areas. The proportion of selected vulnerable groups among all cases notified are: 14 percent children, 15 percent PLHIV, and 1 percent prison inmates. A package of interventions were responsible for this significant achievement, including hospital engagement, the FAST strategy, community interventions and referral, contact investigation, and private sector engagement.

Over 3,382 drug-resistant TB (DR-TB) cases were enrolled into care within the Challenge TB project, 54 percent of all national enrollment. The number of DR-TB patients on different regimens are as follows; 1,764 DR-TB on STR; 1,172 on bedaquiline; 106 bedaquiline and delamanid, and 45 patients on delamanid.

SHORT-TERM TECHNICAL ASSISTANCE

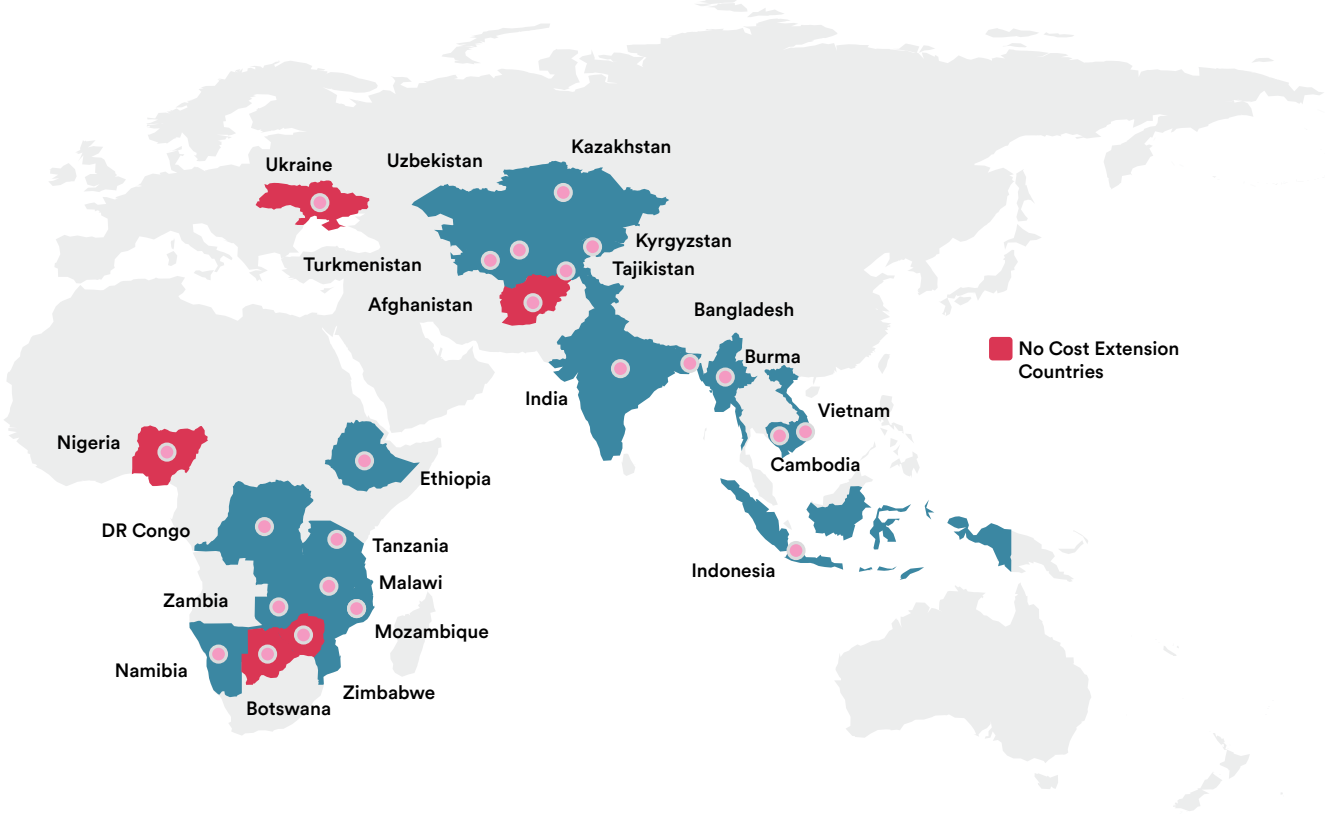
The technical assistance in the last phase of this project is mainly in three areas: Supporting countries to adapt the new WHO guideline on the Programmatic Management of Drug Resistant TB (PMDT), prevalence surveys and laboratories, and operational support to ensure the quality closeout of the project and to mitigate any financial risks.

PROJECT CLOSEOUT

Most countries had successful project closeout meetings with the participation of high government officials and USAID directors/representatives. Part of the event was discussing legacy documents and interventions that will be scaled-up by government and other TB stakeholders.

KEY CHALLENGES AND ACTIONS

Key challenges in the last quarter were sustaining staff motivation during the closeout phase of the project, delays in transitioning/taking over of critical activities by the National TB Program or the Global Fund, and emergency request for re-programing of funds from few countries. The main strategy of the project to mitigate these risks is communication and dialogue with USAID Mission and the National TB Programs.



ABOUT 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 Challenge TB.

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, the 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.

Challenge TB 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:

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

Objective 2: Prevent transmission and disease progression by:

- 1. Targeted screening for active TB
- 2. Implementing infection control measures
- 3. Managing latent TB infection

Objective 3: Strengthen TB service delivery platforms by:

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

Challenge TB 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 June 30, 2019, 23 countries were implementing Challenge TB. At the regional level, Challenge TB continued the implementation of the East African Region project, and also continued the implementation of two core projects. During this quarter the requested no cost extension (NCE) of the project for an additional six months was approved for a total of five countries: Afghanistan, Botswana, Nigeria, Ukraine, and Zimbabwe. The remaining 18 countries wound down their operations and started working on the development of end-of-project reports. Furthermore, the core project on Prevention received an extension with additional funds.



Key Achievements

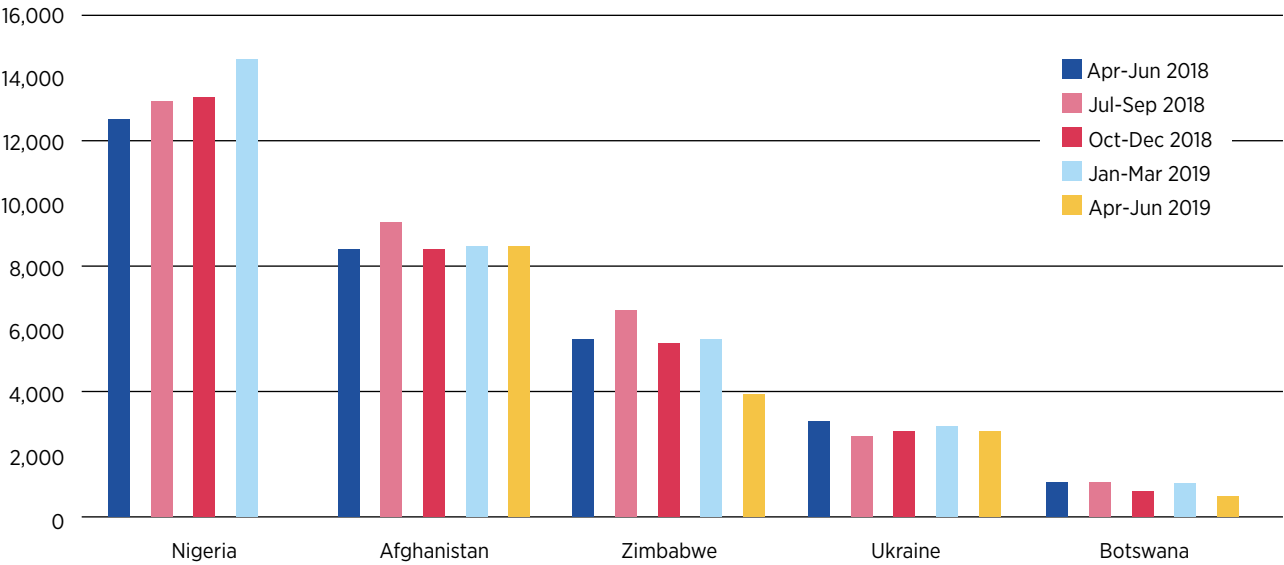




CASE-FINDING

Quarterly trends of TB case notifications from Challenge TB-supported areas are presented for five NCE countries, with increasing quarterly trends in Nigeria and Afghanistan. This quarter, a total 15,996 cases were notified in four NCE countries (57,696 cases were notified in 13 countries, which reported complete data).

NUMBER OF CASES (NEW AND RELEASE) NOTIFIED IN CTB AREAS, NCE COUNTRIES, 2018-2019*



* Nigeria Q3 data pending

CHILDHOOD TB

Increasing quarterly trends on TB cases notified among children in Challenge TB areas are reported in Afghanistan and Nigeria.

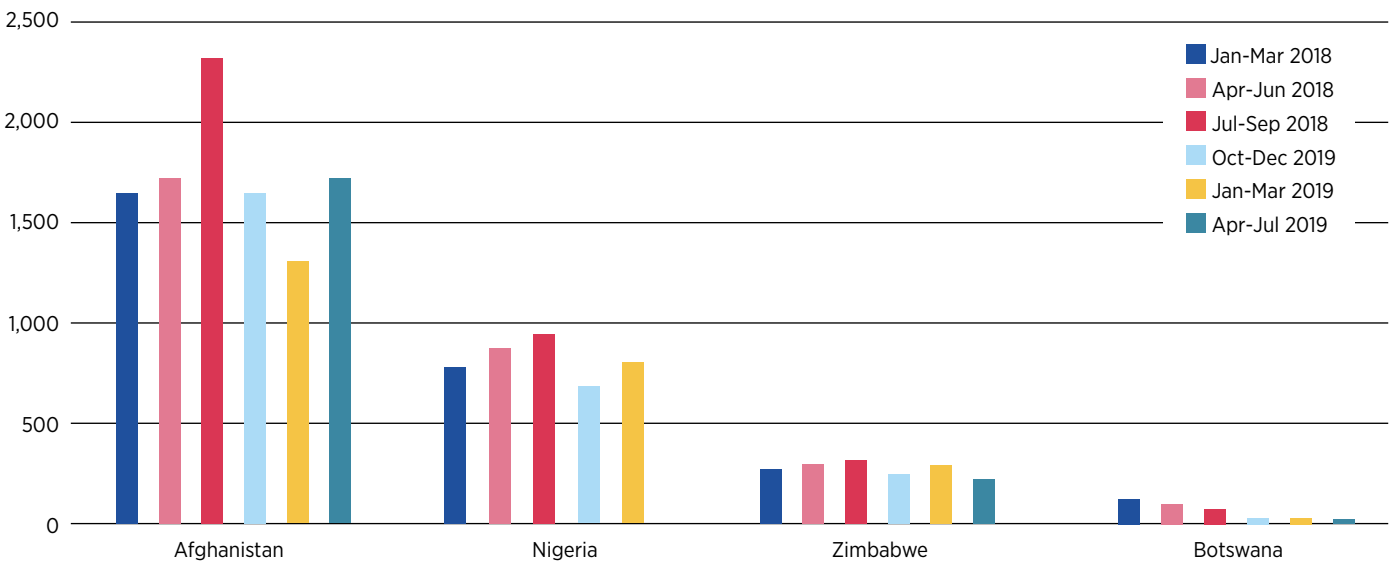
Afghanistan - Between Apr-Jun 2019, 4,860 TB cases were detected in the five provinces and 20 percent of them were children under the age of 15, all were put on treatment. Challenge TB assisted health facility staff,

especially those from pediatric hospitals, to identify and treat children with TB, and train pediatricians on the management of TB and X-ray interpretation. Kabul contributed 40 percent of all the childhood TB cases this quarter.

Nigeria - A total of 690 children (0-14 years) were diagnosed with TB (0-4 year - 284, 5-14 years - 406), out of 8,507 presumptive patients identified through active screening of children in the pediatric outpatient departments

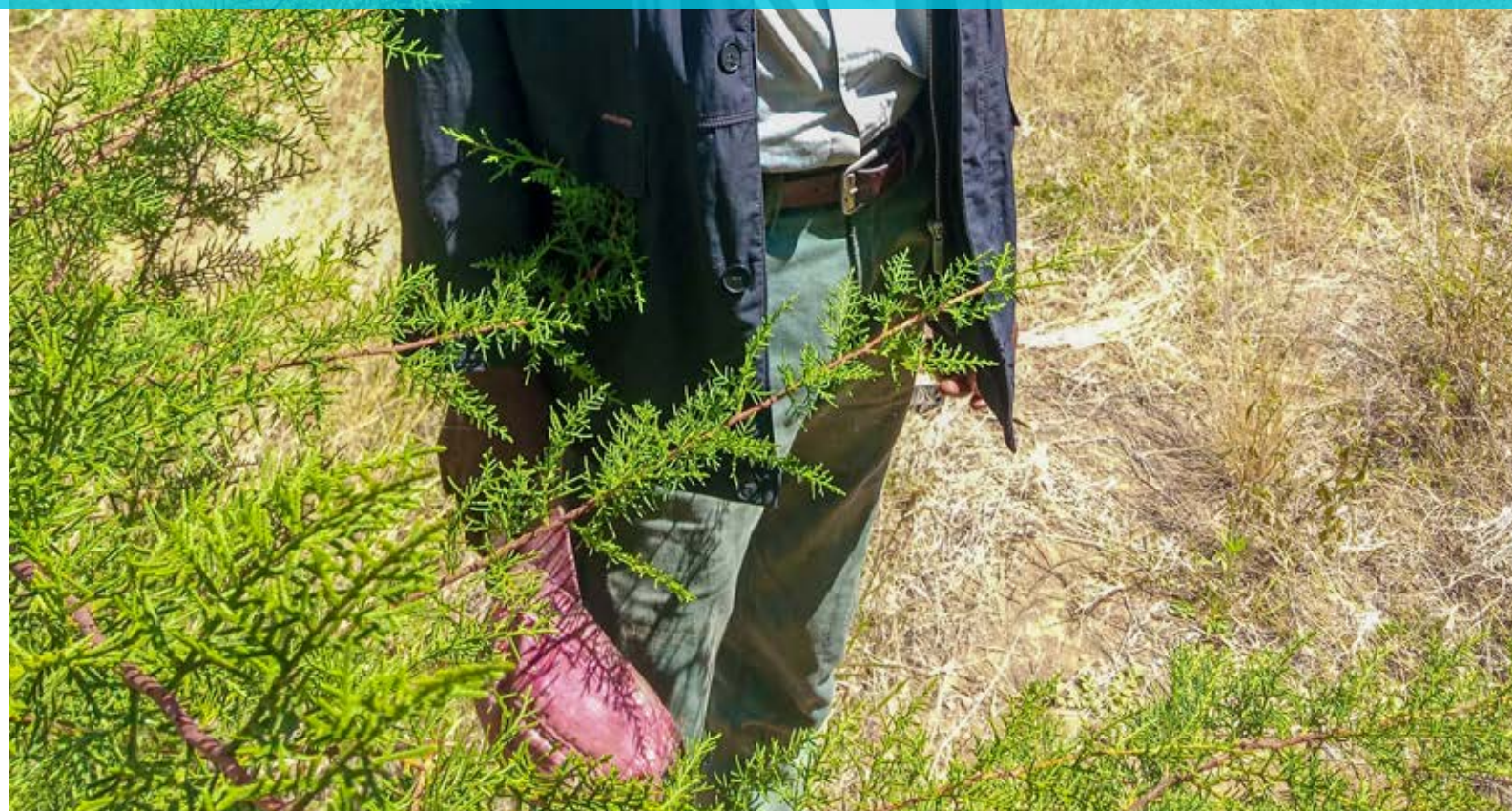
across Challenge TB-supported local government areas in 14 states. Through pediatrician-led review clinics, the project continues to mentor healthcare workers in pediatric service delivery points on identifying presumptive children and improve access to chest X-ray services through institutional referral arrangements with X-ray centers.

NUMBER OF CASES (ALL FORMS) NOTIFIED AMONG CHILDREN IN CTB AREAS, NCE COUNTRIES, 2018-2019





TB in the Mines - Ethiopia



“I never knew it was possible to catch TB more than once. It is important to take the symptoms seriously and to get checked out as soon as possible.”

Gobena Beriso lives and works in Bule, just outside Oblo village, Ethiopia. Like many, he depends on gold mining for his livelihood. Common in many rural areas across Ethiopia, small-scale mining often represents the most promising, if not the only, income opportunity available. With his meager earnings, Gobena just manages to get by and take care of his wife and five children.

When he started to develop a chronic cough and lost a significant amount of weight, Gobena knew he had to go and get himself tested. Some years before he had been treated

TB awareness campaign at the market that day, and Gobena was one of the 28 people identified as a possible TB patient, and he was tested for any resistance to conventional TB drugs with GeneXpert as he had suffered from TB before.

When the results came back, they showed that Gobena had multidrug-resistant TB, requiring him to start a treatment regimen of 20 months. The regimen includes several painful injections, and numerous pills, however, Gobena has barely experienced any discomfort or side effects during his treatment so far.



for TB, but he wasn't sure if he was suffering from the same illness as before. Determined to find the cause, he visited the nearest health post, but to his disappointment, he was referred to a health center some 25 kilometers away and could not afford to pay for a motorcycle taxi to the facility and back.

As time went on, Gobena remained untreated, and his health continued to worsen, but despite growing weaker by the day, he kept working to support his loved ones. During one of his weekly visits to the market to sell his ore to local merchants, he noticed an awareness session on TB being held.

Health extension workers trained Challenge TB had arranged a

More than a year into his treatment, Gobena's condition has dramatically improved, and he is looking and feeling much healthier. His family members all tested negative for TB and have shown no symptoms.

The Challenge TB project has trained health extension workers in remote areas around Oblo, Borena, and Guji to identify people with TB symptoms and take their samples for testing. Over the past year, more than one hundred TB patients have been identified and treated through this intervention. Challenge TB continues to assist in the improvement of TB prevention and care in remote and rural communities, which is vital in Ethiopia's fight to eradicate TB.





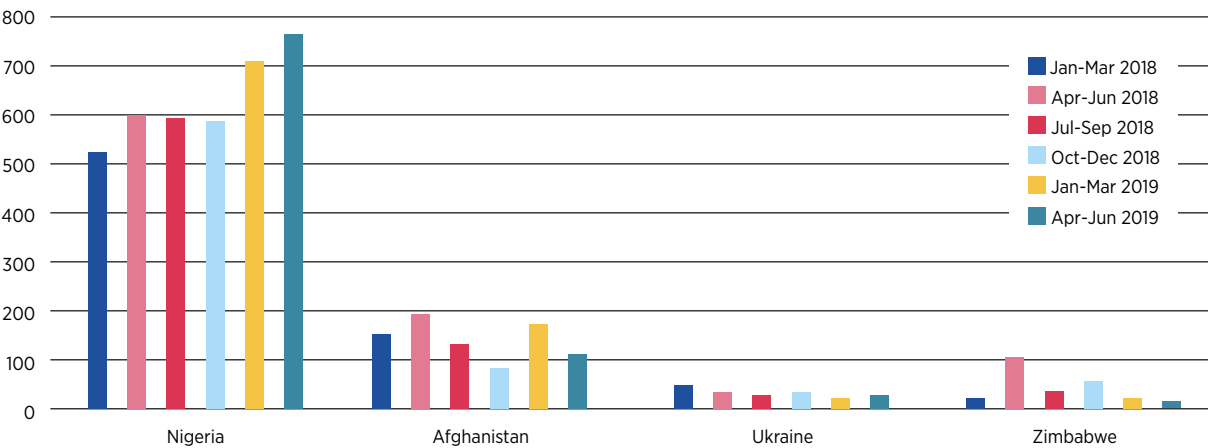
CONTACT INVESTIGATION

In most Challenge TB countries the project supports the roll-out of contact investigation (CI) to increase early case-finding and as an entry point for the treatment of latent TB infection (LTBI). In most countries, household contact listing and screening is implemented in collaboration with community volunteers or community-based organizations (CBOs), with the referral of symptomatic contacts for diagnostic follow-up and LTBI treatment for those eligible. The figure below shows quarterly trends of TB case notifications through CI from Challenge TB-supported areas in four NCE countries, with increasing quarterly trends in Nigeria.

Afghanistan - This quarter, 2,122 TB index cases were registered in five urban DOTS-supported provinces, and the family members of 1,820 (86%) index cases were evaluated. Among the 1,820 index cases, 10,278 household contacts were registered and screened for TB symptoms, which resulted in identification of 1,350 (13%) presumptive TB patients. Ultimately, 118 (9%) TB cases (all forms) were identified, with 87 (74%) bacteriologically confirmed. There were 1,688 children under the age of five, and of those, 1,300 (77%) were put on IPT treatment.

Nigeria - During the reporting period, the homes of 5,356 (86%) patients were visited out of the 6,234 index cases notified cases in Challenge TB-supported LGAs. In total, 19,194 identified contacts were screened for TB symptoms out of which 6,831 (36%) contacts with TB symptoms were tested for TB, resulting in the diagnosis of 765 (11%) TB patients. During the home visits, Challenge TB-supported contact investigators also identified 1,801 contacts of the index TB patients under the age of six who were eligible for isoniazid preventive treatment (IPT), amongst whom 885 (49%) were placed on this treatment.

THE NUMBER OF CASES (ALL FORMS) NOTIFIED THROUGH CI IN CTB AREAS, NCE COUNTRIES, 2018-2019



HOSPITAL ENGAGEMENT/FAST

Nigeria - A total of 4,261 patients were diagnosed with TB out of 42,036 presumptive TB cases tested through the implementation of expanded FAST strategy using the “hub and spoke model”. The 4,261 TB cases diagnosed this quarter represent a drop of 4% in TB notification compared the previous quarter result (4,261 vs. 4,444), but an 8% increase in the number of presumptive TB cases tested for TB (45,616 vs. 42,036).

Through the implementation of the TB Surge Initiative, 1,426 TB cases were diagnosed among 122,989 outpatient attendees screened across 47 health facilities in Akwa Ibom, Kano, Lagos and Katsina states, representing 1.2% of persons screened within the period of implementation (2 months: May-June 2019). The 1,426 TB cases represents a 65% increase in the number of TB cases notified compared to the average of 862 TB patients notified within two months of the previous quarter (Quarter 2 Year 5).

COMMUNITY REFERRAL

Afghanistan - Challenge TB provided continuous support to the NTP to implement CB-DOTS in the catchment areas of 715 health facilities in 15 provinces. A total of 17,206 presumptive TB patients were identified by community health workers (CHWs) in 34 provinces of the country; of these, 12,023 (70%) were identified in 15 Challenge TB-supported provinces. A total of 1,569 (9%) all forms of TB were diagnosed from the presumptive TB cases referred by CHWs in the 34 provinces. A total of 1,068 (9%) TB cases all forms were diagnosed from the presumptive TB cases in supported provinces.

Nigeria - Between April and May 2019, CBOs were engaged to increase the identification of presumptive TB patients. CBOs used LGA TB registers to target communities with a high risk of TB disease. In all, 31,383 people were screened; 10,610 (34%) presumptive TB patients were identified; 9,881 (93%) were tested; and 624 (6%) patients were diagnosed with TB (including 2 with rifampicin-resistant (RR) TB).

PRIVATE PROVIDERS

Afghanistan - In Kabul, TB case notification increased from 1,760 in the previous quarter to 2,000 in this quarter (14% increase). The private sector notified 400 cases, i.e., 20% of all forms TB cases notified in the city during this quarter. In Kandahar, Mazar-i-Sharif, Herat, Jalalabad, and Pulikhumri, between April and June 2019, 14,400 presumptive TB cases were identified and 2,860 TB cases (all forms) were diagnosed (a 6% increase compared to the same quarter in 2018). The role of the private sector is significant, with 540 TB cases (all forms) notified by private providers this quarter, which is approximately 19% of all cases diagnosed in these cities.

Nigeria - Using patent medicine vendors and community pharmacists to strengthen the linkage of community TB care interventions with health facilities, 823 (8%) TB patients were diagnosed and linked to TB care amongst 10,229 presumptive cases identified and referred for TB diagnosis during this quarter.



OTHER ACF/ICF APPROACHES

Nigeria - The mobile diagnostic units mainly performed operations in health facilities implementing the TB Surge Initiative across the states of Akwa-Ibom and Kano to provide immediate access to X-ray screening and same-day GeneXpert tests to outpatient and HIV clinic attendees. Community screening was also done in selected areas. In all, 288 (3%) TB cases were diagnosed and linked to TB treatment and care, of which 8 (3%) were RR-TB, out of the 11,524 people screened.

Zimbabwe - Between April and June 2019, 46 (5%) of 851 clients presumed with TB through targeted screening using mobile trucks were diagnosed with the

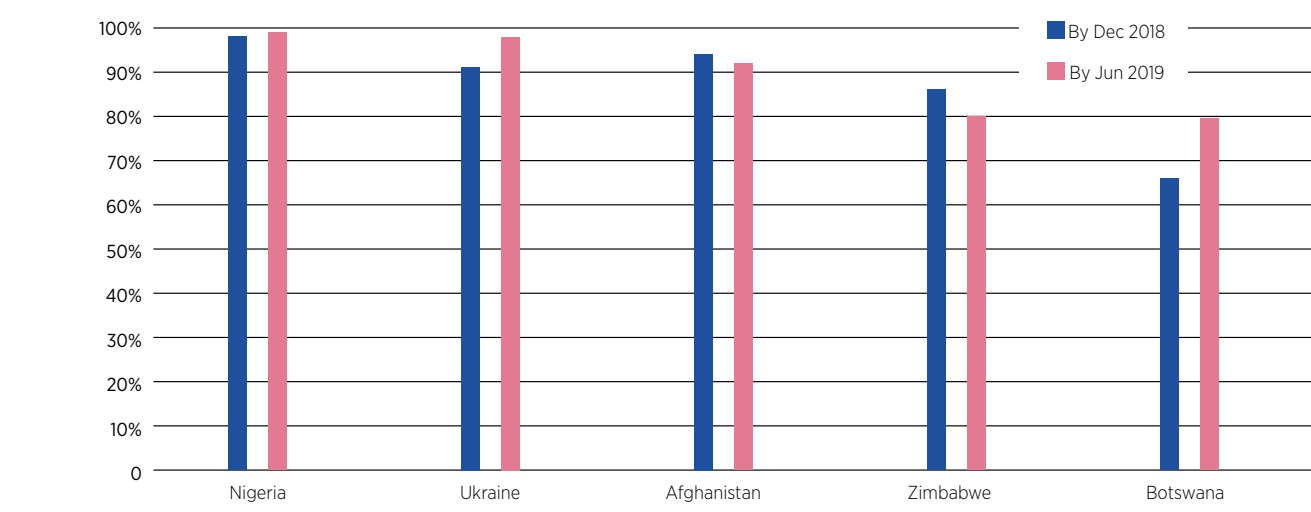
disease, an 84% increase from those diagnosed in the previous quarter. Of those diagnosed, 25 (54%) were bacteriologically confirmed and two (8%) had RR-TB. All diagnosed patients were linked to care. Screening was conducted in four districts (Matobo, Nkayi, Kwekwe, and Kadoma). Among 7,921 clients screened for TB, 4,208 (53%) had unknown HIV status and 4,197 (99%) were offered an HIV test. A total of 2,658 (63%) were tested for HIV and 42 (2%) had a positive result. In addition, all clients were screened for diabetes mellitus (DM), among whom 498 (6%) had symptoms suggestive of DM. A total 463 (93%) had a blood sugar test performed, of whom 10 (2%) were diagnosed with DM.

MANAGING XPERT SCALE-UP

Challenge TB continued to provide TA for the scale-up, utilization, functionality, and connectivity of GeneXpert machines. The scale-up is closely linked to the existence of a well-organized specimen transportation system (STS), with an overall aim of ensuring that Xpert MTB/Rif functions as the primary test.

By the end of June 2019, a total of 4,561 GeneXpert machines were installed in 23 Challenge TB supported countries compared to 4,312 machines in the previous reporting period. Nigeria, Ukraine, and Afghanistan reported a functionality above 90%.

THE PERCENTAGE OF FUNCTIONING GENEXPERT MODULES, NCE COUNTRIES, 2018-2019



GENEXPERT UTILIZATION

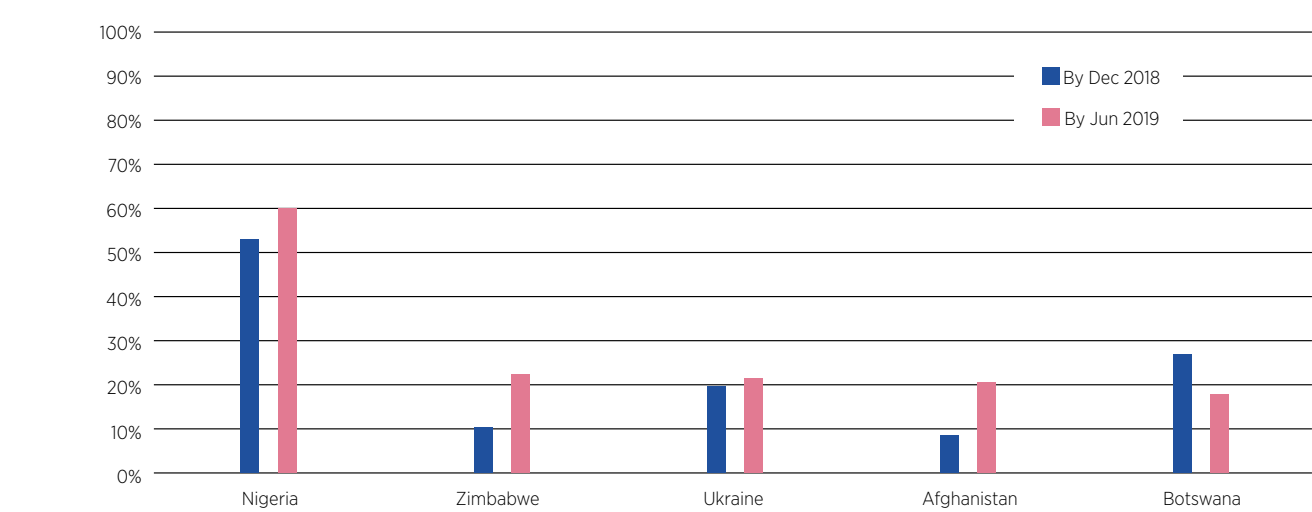
In line with WHO recommendations, the maximum utilization is calculated as the number of modules multiplied by three tests per day multiplied by 240 days per year. In the current quarter (i.e., by June 2019), among the five NCE countries Nigeria reported highest utilization rate of 61%; Zimbabwe, Ukraine, and Afghanistan reported utilization rates higher than the previous quarter.

Nigeria - With improved identification TB presumptive patients across the “surge” health facilities, GeneXpert laboratories improved testing capacity from a baseline of 8,048 tests performed during April 2019 to 10,943 in May, and 9,793 tests recorded in June 2019 respectively, depicting a 26% and 18% increment over the baseline. Similarly, the number of TB cases diagnosed via GeneXpert increased from 838 at baseline to 897 during May 2019 and 883 in June, a slight increase of 7% over baseline in May and 5% in

June respectively. The increase uptake of GeneXpert tests resulted in a rapid consumption of cartridges across the “surge” states. This unfortunately led to a shortfall in supply with stockouts occurring in most facilities. Challenge TB instituted a re-distribution processes to mitigate this challenge. Furthermore, Challenge TB provided high-capacity solar panels and air-conditioners to high-volume sites with pervasive power issues to improve their performance. A total of 13 high capacity solar panels were installed across six states. Baseline data from four such sites showed a remarkable increase in number of tests performed from 806 to 2,195 over a 6-month period. In general, GeneXpert sites receiving such support improved in testing capacity from 8 tests per day per machine to 15 tests per day per machine after installation. Recorded error rates were generally below 5%, meeting national and international quality norms and standards.

Zimbabwe - A total of 70,060 Xpert MTB/Rif tests were done tests from 110 devices connected to GxAlert from October 2018 to June 2019. Of these 68,119 (90%) were successful. Of the successful tests, 7,434 (10%) were MTB positive, and 508 (7%) had R. A total of 1,341 tests on Xpert MTB/RIF ultra were done from Oct 2019 to Jun 2019. Challenge TB-supported training for 157 (81 males, 76 females) HCWs on Xpert MTB/RIF Ultra implementation using the Global Laboratory Initiative implementation package. Those trained included medical officers, nurses and lab personnel. The increased use of Xpert MTB/RIF Ultra is expected to increase case finding especially among PLHIV and children. Between Oct 2018 to Jun 2019, in sites that were using Xpert Ultra cartridges, 1,341 tests were done and 1,249 (93%) were successful; of these 158 (13%) were MTB positive; and 2 (1%) had rifampicin-resistance.

THE PERCENTAGE OF FUNCTIONING GENEXPERT MODULES, NCE COUNTRIES, 2018-2019





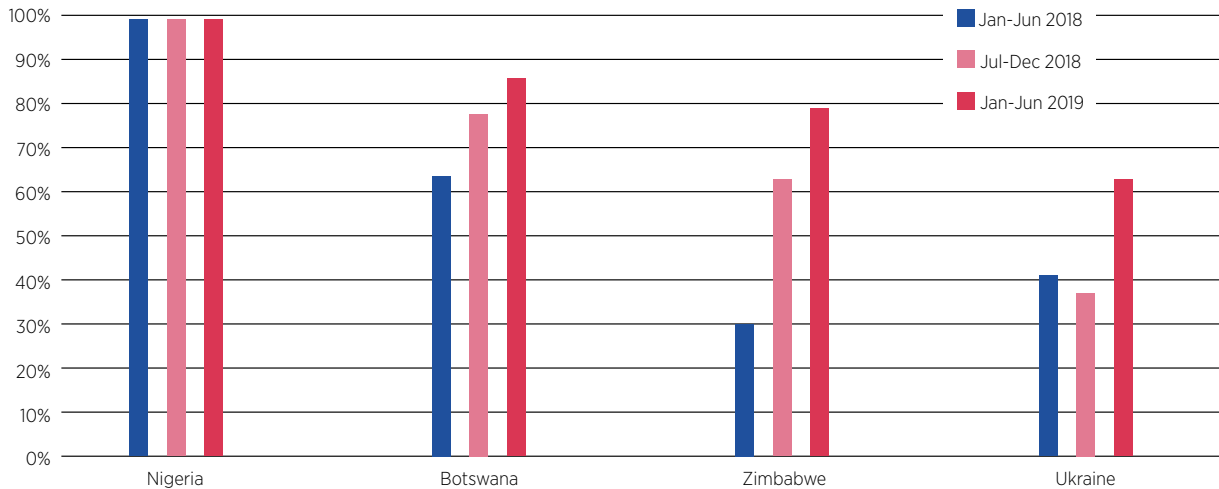
DATA CONNECTIVITY SYSTEMS

Nigeria, Botswana, Zimbabwe, and Ukraine reported a connectivity rate of 99%, 86%, 79%, and 63%, respectively.

Botswana - There are now 31/36 (86%) GeneXpert equipment installed with the GxAlert System; the three new facilities and two private laboratories are not yet connected, pending Government Data Network (GDN) installations. GxAlert system has had positive results when it comes to data management. Districts and facilities are now able to login into the system and extract data to do their monthly or customized reports and TB

patients management through SMS notifications which are sent to laboratory contacts, TB Coordinators, doctors and program managers in real time. This helps the national level management to make informed decisions as all GeneXpert data is sent to the Ministry of Health (MoH) on a daily basis and it is now integrated with patient data/management system OpenMRS. Inventory management is one of the latest additions to the GxAlert system where inventory is monitored within the facility and also nationwide in real-time, which will help to avoid future stockouts.

PERCENTAGE OF GENEXPERT MACHINES CONNECTED TO DATA CONNECTIVITY SYSTEMS, NCE COUNTRIES, 2018-2019



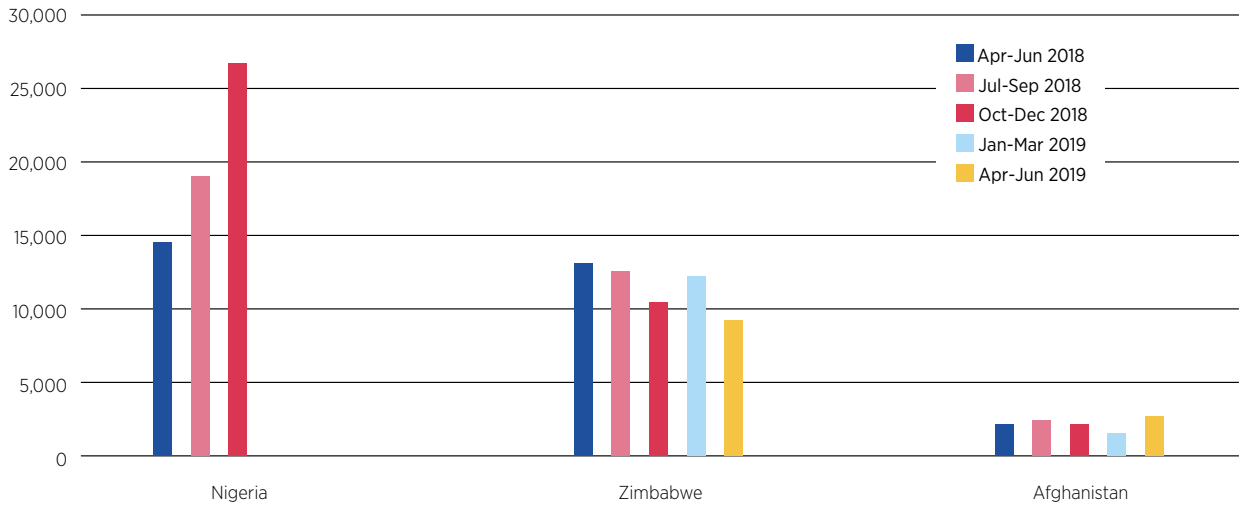
SPECIMEN TRANSPORTATION SYSTEMS

This quarter, Afghanistan transported more samples in Challenge TB supported areas compared to the previous quarter.

Zimbabwe - A total of 65,478 samples were transported through Challenge TB support to improve access to diagnostic services, of which 9,275 (14%) were TB sputum specimens. This represented a 36 percent decline compared to the 89,177 total specimens transported the previous quarter. The decrease in

the specimens transported was attributed to the lack of fuel that has been worsening in the period under review as well as the need for couriers to take outstanding leave days before the end of their contract in June when Challenge TB support was terminated. The system has since been handed over to the MoH. Funding has been secured from Global Fund and PEPFAR under COP 19 to the tune of USD\$ 2,000,000 to support an integrated specimen transport system post Challenge TB.

NUMBER OF SPECIMENS TRANSPORTED, CTB AREAS, NCE COUNTRIES, 2018-2019*



* In Nigeria sample transportation has now been fully integrated into the national integrated sample referral mechanism (NISRM) so information is no longer available at the Challenge TB-level.

PMDT

Challenge TB has supported the strengthening of laboratory systems aiming at improving the diagnostic capacity of MDR-TB. The expansion of the GeneXpert network, the use of GeneXpert as the first diagnostic test, and the strengthening of the sample transportation system has had a significant impact on the number of new and previously treated TB cases tested for RR-TB.

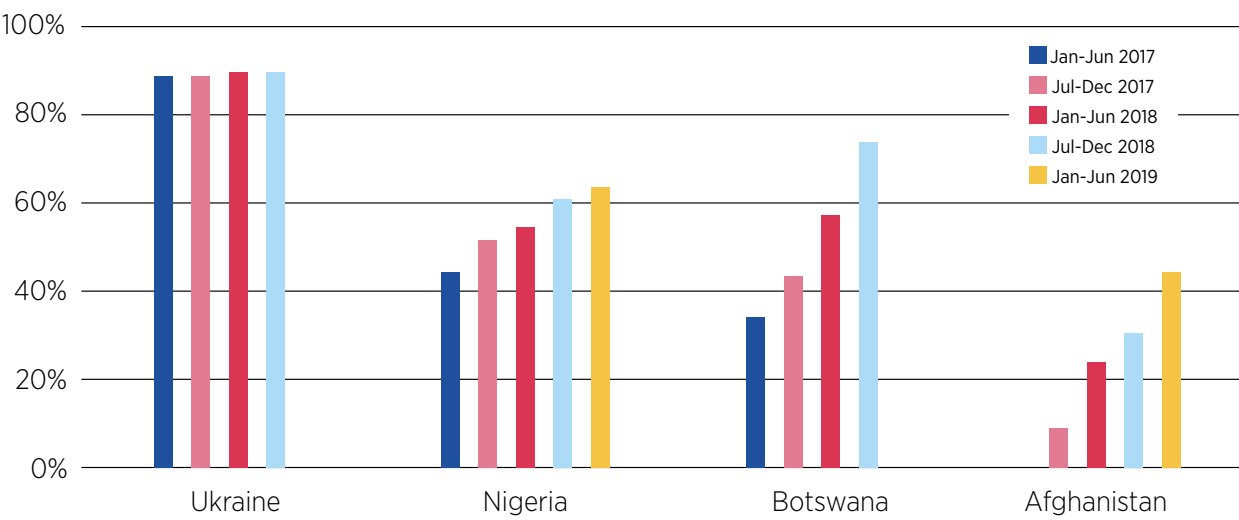
Ukraine reports 90% of new cases tested for RR-TB; Nigeria, Afghanistan, and Botswana have shown a significant improvement in testing new TB cases for RR.

The testing of previously treated TB cases for RR-/MDR-TB has also increased in Ukraine, Nigeria, and Afghanistan.

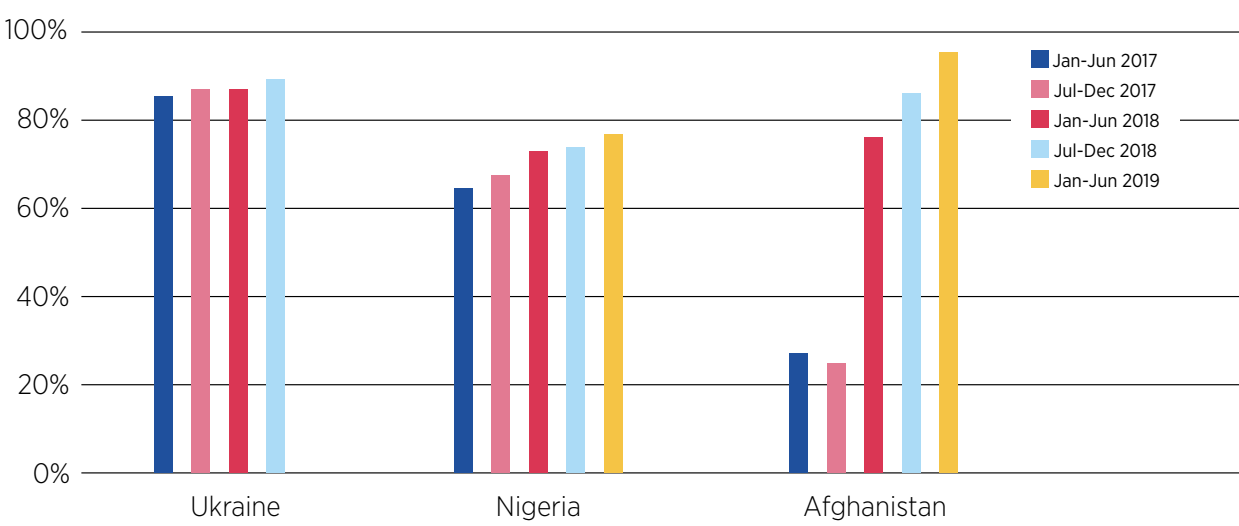
This quarter, total of 7,824 RR-/MDR-TB cases were notified

and 6,279 cases were put on treatment nationwide in 14 countries, which reported complete data. Table 1 below presents progress with the number of RR-/MDR-TB cases notified and put on treatment in Challenge TB areas of five NCE countries, showing increasing trends in Ukraine, Afghanistan, and Zimbabwe.

THE PERCENTAGE OF NEW TB CASES TESTED FOR RR-/MDR-TB, CTB AREAS, 2017-2019



THE PERCENTAGE OF PREVIOUSLY TREATED TB CASES TESTED FOR RR-/MDR-TB, CTB AREAS, 2017-2019



Nigeria - From January to March 2019, 287 RR-/MDR-TB patients were notified across the 12 Challenge TB-supported states (excluding Ogun & Nasarawa). Of the 287 RR-/MDR-TB patients notified, 258 were enrolled on shorter treatment regimen, while 15 were treated with individualized regimens. Across the 36 states including the Federal Capital Territory of Nigeria, 596 RR-/MDR-TB patients were notified, out of whom 519 were enrolled on treatment. Delayed

commencement of treatment, loss to follow-up, and deaths contribute to this enrollment gap. Across the 12 Challenge TB-supported states, 95% of the notified DR-TB patients were enrolled on effective second-line anti-TB medicines while national data revealed 80% DR-TB enrollment rate across non-Challenge TB states. Challenge TB continues to support state TB programs to track patients lost to follow-up and encourage early initiation on treatment.

THE NUMBER OF RR-/MDR-TB CASE DIAGNOSED AND PUT ON TREATMENT, CTB AREAS, NCE COUNTRIES

	# RR-/MDR TB cases notified			# RR-/MDR TB cases started on treatment		
	Oct-Dec 18	Jan-Mar 19	Apr-Jun 19	Oct-Dec 18	Jan-Mar 19	Apr-Jun 19
Afghanistan	72	62	96	58	72	99
Botswana	14	14	17	17	16	16
Nigeria	319	247	287	273	U	U
Ukraine	624	680	761	894	912	706
Zimbabwe	60	49	85	80	56	131
Total	1,089	1,052	1,246	1,322	968	837

NEW DRUGS AND REGIMENS

CTB has assisted countries with the implementation of ND&R aiming at achieving a better treatment outcome to DR-TB patients. By June 2019 bedaquiline (BDQ) and delamanid (DLM) have been implemented in 23 CTB countries, while the shorter treatment regimen (STR) has been implemented in all CTB countries except for Botswana and Turkmenistan. The number of sites offering ND&R as well as the number of patients enrolled in them

continues to increase. As of this quarter, BDQ is available in 433 treatment initiation sites in 23 countries; 1,172 patients were started in a regimen containing BDQ this quarter. DLM is available in 214 treatment initiation sites in 21 countries; 45 patients started a regimen containing DLM this quarter. BDQ and DLM have been used concomitantly in patients with extensively resistant TB (XDR-TB) for whom an appropriate regimen would otherwise not be possible. This off label use

has been authorized by the relevant country authorities. In this quarter, 106 XDR-TB patients started a regimen containing both BDQ and DLM. Across all 23 countries, 1,764 DR-TB patients were started on the STR.

The table below presents the progress with the enrollment on ND&R in the five NCE countries, showing the scale-up of BDQ and the STR in Nigeria and Ukraine over the last three years.

THE NUMBER OF PATIENTS ENROLLED ON ND&Rs, NCE COUNTRIES, 2017-2019

	2017			2018			By Jun 2019		
	BDQ	DLM	STR	BDQ	DLM	STR	BDQ	DLM	STR
Afghanistan	5	6	23	14	7	19	4	1	5
Botswana	0	0	0	13	0	0	7	6	0
Nigeria	20	0	325	95	13	1,784	24	12	484
Ukraine	46	0	0	136	0	29	918	1	224
Zimbabwe	5	0	5	24	7	5	0	0	0
Total	76	6	353	282	27	1,837	953	20	713

Active TB drug-safety monitoring and management (aDSM) is a component of the TB program, serious adverse events (SAEs) are recorded and reported to relevant authorities, and adverse drug reactions are managed quickly. This quarter, 40 SAEs were reported on patients receiving BDQ, one SAE in patient receiving DLM, three SAEs in patients concomitantly receiving both drugs, and 21 SAEs in patients receiving the STR; two patients died while on treatment with BDQ (both in Burma from causes possibly related to BDQ). No patient deaths were reported in patients

receiving DLM, a combination of both drugs, or the STR.

Ukraine - During this quarter, the CTB project continued implementing the BDQ treatment pilot program, and 104 of the 193 patients (including 7 children) that had been enrolled earlier in the BDQ treatment program were continuing treatment. Of the other 92 patients, 82 had finished treatment and were considered treated successfully, five died, four were lost to follow-up, and one patient failed the treatment. Cumulatively, by the end of the reporting period, 1,242 (614 in CTB project sites) patients

started treatment with new drugs, and 253 (162 in project sites) started STR countrywide. This was catalyzed and supported by CTB. The results and lessons of this pilot are key to accumulating a national evidence base and lessons from using BDQ in Ukraine, as well as for establishing the prerequisites for implementing the new WHO-recommended treatment regimens countrywide. In particular, these results helped to quantify the re-purposed drugs needed for WHO-recommended new treatment regimens across the country.





Tackling TB with Music - Nigeria



“I dream of giving a concert to raise awareness about TB. People need to know what kind of impact TB can have on their lives.”

Every day over 400 Nigerians die of TB, a disease that is preventable and curable. The epidemic is fueled by the large number of people with TB that go undiagnosed and untreated. One of the TB-hotspots is Lagos State which has one of the highest TB burdens in the country.

For Lagosian Mutiu Ayinla, who survived multidrug-resistant TB, music is more than just a form of art, it's a form of treatment. “Music really lifted me up and made me feel better when I needed it most,” he says. The singer in a Fuji band - a popular type of Yoruban music with a huge following across Nigeria - Mutiu's story has been one of overcoming adversity, but now that he is cured he wants to share his experience through his music.

the disease are often shunned by family and friends. The disease took his voice and his family too, “My wife divorced me, took the children and sold our house. She thought I was going to die. She took all our savings and left me with nothing.”

Diagnosed with a form of TB resistant to at least one of the most effective anti-TB drugs, Mutiu was put on a treatment regimen of 20 months, requiring him to have several painful injections and take numerous pills.

He thought about giving up more than once. “The thought of stopping my treatment and dying crossed my mind. The medication made me feel very sick, but thankfully the health workers got me through.”

Mutui has written a song about TB which he plans to sing at his next performance. He hopes his music will not only be listened to for its artistic merit, but will educate others about TB as well. He sings a verse from his new song:

“If you're coughing, and it has been more than two weeks, make sure you get tested! If it's TB, you will get cured!”

With the assistance of Challenge TB, many like Mutiu have received free TB diagnosis and treatment. With an estimated 20,000 people infected with multidrug-resistant TB in Nigeria, Challenge TB continues to help prevent the transmission of TB, improve access to TB care services, and strengthen TB platforms.

When Mutiu first started feeling ill and coughing a lot he didn't think too much of it. “I thought I was coughing because of my unhealthy lifestyle. I used to drink and smoke a lot,” he explains. “However, my condition continued to worsen by the day. My voice also started cracking and I was forced to stop singing, that's when I went to the local health center where I was diagnosed with TB.”

Myths and misconceptions around TB abound in Nigeria. People believe that TB is caused by witchcraft, or even that it is inherited. There is a lot of stigma around TB, and those sick with

One of the positive things to come out of his treatment was the recovery of his voice. “Being able to sing again and rejoin the band during my treatment was fantastic! It only motivated me more to complete my treatment and get cured of this terrible disease.”

Today, Mutiu is cured and is back to doing what he loves, making music and performing for others. “I'm grateful for all the help I received during this difficult period in my life. Overcoming TB is not something you can do on your own, I appreciate all the help Challenge TB has provided me,” he says.



Core Projects



CORE PROJECTS

MEASURING STIGMA

Validation of the “code book of emerging stigma themes”, developed as part of the pilot of the measurement tool among health care workers in Ethiopia will be finalized during the next quarter. Additional transcribed interviews provided the necessary input to complete the codebook for patients. The codebooks are now also aligned to the theoretical domains as explained under the protocol, showing how these domains are expressed in the Ethiopian context. KNCV is preparing a report to summarize the findings so far and will also include recommendations for next steps, this will be ready during the next quarter.

PREVENTION

The following achievements were made during the reporting period within the framework of Prevention core project:

- A total of 2,517 participants have completed the study, and an additional 251 have been withdrawn. The remaining 1,259 enrolled participants on the study are in active follow-up at the eight participating sites. The final target M24 visits are scheduled for 20 September 2019.
- All sites are actively seeing participants for their M24 visit.
- The last participants to enroll have completed their M20 visit as of this report date.
- As of the end of this quarter, there are 2,768 participants who are off the study, of which 2517 have completed their participation, and 251 (9.9%) participants have withdrawn their participation. Of the withdrawals, 46 are due to a desire to no longer participate, 58 are due to loss to follow-up, 40 are due to death, and the remainder are due to other reasons (e.g., study clinician decision, moved from study area, erroneously randomized).
- Completion rates at the Month 12, 13, and 14 clinic visits are 92.4%, 84.1%, 84.6%, respectively. Completion rates at Month 15, 16, 18, and 20 visits are 84.9%, 83.4%, 86.2%, and 88.0% respectively.
- At the end of June 2019, the total number of SAEs is 194. The most common SAE is drug induced liver injury.
- Ethiopian and Mozambican site visits completed 1-5 April and 8-10 April 2019 respectively.
- Data quality monitoring visit conducted in Mozambique 3-6 June 2019, with a focus on source data verification (SDV) of critical variables, review of secondary endpoint data, review of off-study participants, and M24 visit procedures. The team found SDV discrepancy rate of 0.4%. Where issues were identified, the data manager discussed proposed resolution of issues with the study coordinator.
- Data and Safety Monitoring Board (DSMB) meeting was held on 3 May 2019. The DSMB recommended that the study continues and congratulated the team for the fast enrollment. A last DSMB will be held toward the end of the study. Since there were no concerns raised, the Trial Steering Committee meeting is not required and a written status update has been shared instead.
- With the departure of Dr Vicky Cardenas from Aurum, Dr. Violet Chihota a Senior Scientist at Aurum assumed responsibility for the oversight of the project from 15 April 2019.
- The Year 6 budget was prepared and approved during this quarter. During the five months extension in Year 6, follow-up will be completed according to the protocol (including follow up on sputum results, vital status and other data), data entry, cleaning and analysis, and writing of papers.





Closeout

CLOSEOUT

TRANSITIONING CHALLENGE TB ACTIVITIES TO THE GLOBAL FUND (NCE COUNTRIES)

During this reporting quarter, the major focus in five NCE countries was on transitioning Challenge TB activities to GF grant projects to ensure sustainability beyond the end of the project:

Afghanistan - Challenge TB extended its assistance to the NTP to ensure leverage of GF funding. Challenge TB started a dialogue with PR/UNDP and the NTP on transitional planning. The plan was also discussed with Medicines Sans Frontiers (MSF) in Kandahar city to support the GeneXpert machines when Challenge TB closes out. Both UNDP and MSF showed interest in filling the gaps that will be created when Challenge TB closes out as long as they have sufficient savings from the current projects. Currently, neither partner has sufficient resources to cover the gap when Challenge TB ends. The transitional plan was discussed in a TB task force meeting, and PR/UNDP is reviewing it and will inform the NTP on the decision. Challenge TB staff provided TA to the NTP lab team to execute joint supervision and calibration of the GeneXpert machines provided by the GF to the NTP, while troubleshooting of inactive machines was conducted by Challenge TB staff.

Botswana - Challenge TB has closely supported the full cycle of GF implementation. The in-country Challenge TB/KNCV long-term technical assistant at the NTP maintained an active role in regular GF meetings between the NTP and the principal recipient (NAPHA) to monitor the implementation of the current GF grant (2019-2021). The activity implementation started during this quarter. Six priority districts were selected for GF support. A national workshop was organized at the beginning of this quarter by the GF project management unit to develop implementation plan for the six districts and the in-country Challenge TB/KNCV LTTA facilitated the planning workshop and supported the development of activity implementation plan for the districts.

Nigeria - During this quarter, GF PPM grant entry meetings were conducted in collaboration with Challenge TB project in three states Akwa Ibom, Benue, and Cross River. Key outcomes was the transition of Challenge TB-supported PMVs/CPs to the GF-PPM. Challenge TB also provided support for the GF-supported national DQA to private facilities in three states of Benue, Nasarawa and Anambra. Challenge TB lab personnel provided support to the NTP in the training of 56 laboratory staff from the selected standalone private laboratories on proper TB diagnostics, record keeping, reporting, TB treatment, and referral.

Ukraine - The project provides TA to the country coordinating mechanism (CCM) and PRs, including the Ukraine Center of Public Health (UCPH), to support the grant implementation process (serving as “first to go” team for responding to questions and discussing issues), and contributes to planning activities. During the reporting period, Challenge TB continued providing TA in implementation of the previously developed strategy on implementation of the new WHO recommendations for treatment of RR-/MDR-TB. Also, special TA was provided in developing the strategy and SOPs to guide the introduction of ND&R into routine practice in close collaboration with the GF grant. Challenge TB specialists served as trainers for all oblasts on the development of the SOPs for implementation of the WHO recommendation into routine practice. Furthermore, Challenge TB provided technical assistance to UCPH in quantification of the needed amount of BDQ, DLM, and repurposed drugs to be procured by the government in 2019 to address requirements of the new WHO-recommended treatment regimens.

Zimbabwe - This quarter, Challenge TB participated in the following GF supported activities: Quarterly Country Coordinating Mechanism TB sub-committee meeting, where a presentation on the implementation of the co-funded targeted screening activity was made. Key concerns noted were on the

closure of Challenge TB which will likely affect implementation coverage through GF support. Challenge TB collaborated with Global Fund to develop integrated sputum transportation system tools and SOPs as a first step towards transitioning the system to be fully managed by MOH. Challenge TB participated in the information, education and communication (IEC) material development workshop for communities on TB. Draft messages were pretested in the communities and revisions made. Packaging and printing of the messages will be done in July with GF support.

MAJOR MILESTONES - CLOSEOUT COUNTRIES

By the end of June 2019, 18 Challenge TB country projects as well as East Africa Regional project had closed their operations. Detailed analysis of Years 1-5 results on all the respective key indicators are presented in individual country-specific end-of-project reports, whereas the below country sections focus on major activities and milestones accomplished this quarter.

Bangladesh

- Analysis of the costing data was completed and the data is available in two manuscripts, one on Child TB Screening and the second one in the Adult TB Screening/FAST.
- Posters for informal providers on verbal screening and referral of persons with possible TB were Developed and distributed.
- TB Transmission model was developed with mapping of hot spots; incidence in major hot spots in Dhaka was estimated. The link of this activity has been uploaded in the NTP website - <http://ntp.gov.bd/notice.php?notice=Notice>.
- Two new specialized child TB screening centers (Mugda Medical College Hospital and Dhaka Medical College Hospital) were inaugurated in May 2019.
- Various case-finding interventions (e.g., TB-DM, CI, FAST) as well as supervision visits and technical meetings continued this quarter.
- Demonstration project on TB preventive therapy using 3HP (Rifapentine and Isoniazid) was completed and technical report shared with the NTP and stakeholders
- Challenge TB closeout event was held on June 25th during which the Government of Bangladesh and USAID signed a partnership agreement to continue supporting TB interventions.

Burma

- In collaboration with TeAM a training of trainers and three cascade trainings on Chest X-ray interpretation were facilitated.
- A two-week Cover Your Cough public awareness campaign on TB and cough etiquette was launched for public buses of the Yangon region and 92% of the public buses participated. This campaign supported the NTP and the Yangon Regional Health Department in prevention of airborne infections transmission in crowded and air-conditioned buses.
- Study results from the conducted ACF study were shared with the NTP; findings from this study will be used by the NTP in developing the 2012-2025 NSP and to draft a concept note for the next Global Fund cycle.

Cambodia

- Intensified TB symptom screening at hospital’s OPDs continued to take place in 11 referral hospitals. Of the 55,725 people presenting at these OPDs, 2,860 were identified as presumptive TB patients, and 589 were diagnosed with TB.
- The implementation of the hospital engagement intervention is being handed over to the NTP, and will continue with GF support.
- A series of meetings was organized between the NTP and the Cambodia Health Committee to discuss the transition of PMDT activities after closure of the project. PMDT activities will be taken over by the Committee, with partial funding from the Global Fund.

DR Congo

- Field visits were carried out in May 2019 to the five Challenge TB-supported provinces to collect additional data for the final report and to discuss next steps for the closure of the project on June 30, 2019.
- The close out of the offices in the five Challenge TB-supported provinces and at the central level on June 30, 2019: materials and equipment received through the project were transferred to the five Challenge TB-supported provinces, the NTP at the central level and the Directorate of Disease Control and Surveillance.

East Africa Region

- Agreements were made on priority action areas and joint action plans were developed following two joint cross border meetings covering Uganda-South Sudan and Kenya-Uganda. The follow-up meetings will be covered through USAID-IGAD bilateral funding. The last sensitization meetings for Pageri district in South Sudan was conducted.
- An inter-country referral roadmap for IGAD member states was developed during the workshop to update the member states on the current WHO LTBI and DR-TB guidelines.

Ethiopia

Transitioning of activities involved key stakeholders at all levels; prominent interventions that were fully handed over to the national system include the following: Activities under TB microscopy services and external quality assurance; Integration of TB services into various primary health care and hospital services including OPD TB screening, and childhood TB-IMNCI (Integrated Management of Neonatal and Childhood Illness) integration; Prison TB screening; Routine contact investigation activities.

India

- The workplace Policy Framework on TB was finalized in consultation with the International Labour Organization and Ministry of Labour and Employment, Government of India, which will be released at the Challenge TB dissemination event on 7th August 2019.
- The Pediatric TB Guidelines 2019 was updated and dissemination is expected in the coming quarter.
- A two-day workshop on Universal Drug Sensitivity Test (UDST) was organized in New Delhi for state and district level staff to plan and implement UDST.
- In collaboration with the Central TB Division, the first national ToT on the revised guidelines of PMDT was organized for 53 key health staff representing the various organizations.

Indonesia

- Transition plans were developed for the NTP (district and province level) and support was provided to ensure smooth transition and more sustainable TB control implementation.
- TA was provided to finalize the technical guidance on C/DST laboratories, updating guidelines on standardized DST package (SDP) and to organize a SDP training in Surabaya for nine participants from eight C/DST laboratories.
- TA was provided to increase the quality of TB drug resistance services in Saiful Anwar Hospital (Malang), Sulianti Saroso Hospital (DKI Jakarta) and Bandung.
- Regular meetings for coordination of the SITB (electronic recording and reporting system) development was held in Jakarta. The software development is completed and tested with good results. Challenge TB provided technical assistance for the initial pilot for SITB implementation in four districts with Global Fund support. The NTP will continue the pilot with Global Fund support.

Kazakhstan

- Following the cohort analysis organized this quarter, the participants identified the weaknesses and agreed on the steps to improve clinical management for treatment outcomes of DR-TB patients. To timely identify any gaps in the clinical practice and programmatic management, the cohort analysis will be performed on a monthly basis.

- Supportive supervision visits were conducted regarding Quan TB. The visits are focused on quantification and forecasting based on the real epidemiological situation, laboratory data, treatment regimens and information about previous enrollment.

Kyrgyzstan

- All TB hospitals and laboratories throughout the county were equipped with scanners, printers, computers, and internet connections. This equipment will enable the hospitals/laboratories to use national databases and speed up the communication of test results.
- Trainings were organized on 1) video observed treatment; 2) prevention and response of side effects; and 3) sample transportation system.
- Together with the NTP, new MDR-/XDR-TB national guidelines were revised based on the latest WHO recommendations, including recommendations on pediatric TB.
- A patient guide for young children was created which includes basic information and a coloring book.

Malawi

- Prison mass screening was done in two prisons, Chichiri and Maula. A total of 4,091 prisoners out of 4,623 targeted inmates were screened, 638 prisoners were identified as presumptive TB, and 48 patients were diagnosed with TB.
- A review meeting for the 16 FTMP health facilities in Blantyre and Lilongwe was held and a transition action plan was developed at facility level.
- All equipment from the FTMP intervention was handed over to the NTP so that they can take up the intervention. The NTP will also continue with the intervention by making use of the mobile diagnostic units; Challenge TB handed over two mobile digital X-ray machines to the NTP/MoH and to the Malawi Prison service.
- EQA review meetings were done in the high volume districts of Mangochi, Blantyre, and Lilongwe; these meetings have subsequently been handed over to the NTP.
- Chikwawa Laboratory, part of the Chikwawa District Hospital, was renovated and four sputum collection booths were established.

Mozambique

- Through community activities 2,017 patients were notified in 15 districts. Although, Challenge TB field activities ended in March, the activists continued to refer presumptive TB patients to HFs and contributed to case notification.
- Challenge TB supported the NTP in the management of four patients on individualized treatment regimens in Zambézia and Nampula provinces. Regular monitoring and follow-up, ensuring drug supply and prompt delivery of lab results to clinicians has contributed to positive interim outcomes, all have culture converted and are doing well. One patient has been declared cured.
- By involving the NTP, HCWs and the Central Laboratory Department, ownership and commitment was embedded to keep the activities ongoing.

Namibia

- Challenge TB support was provided to revise the TB treatment cards line with the WHO guidelines. For aDSM reporting, the team integrated the generic form similar to the one used by WHO into electronic format.
- Technical assistance was offered to the review of ART guidelines, with particular attention paid to TB and TB/HIV integration aspects. In addition, the MOH was supported in adapting the Health Professionals TB/HIV training curriculum for CHWs; assistance was offered in the development of a ToT for CHW training and 29 people were trained to roll-out trainings in all 14 regions of Namibia.
- As part of various technical working groups (TWGs), Challenge TB staff participated in meetings on aDSM/PV and PMDT.
- To compensate for the continued shortage of Xpert cartridges and the lower number of tests performed, 4,000 cartridges were procured.

Tajikistan

- Testing of the GxAlert diagnostic connectivity system was completed and the database was successfully installed. All 46 operational GeneXpert machines were successfully connected to the database. In total, 26 laboratory staff were trained on how to use and work with GxAlert.
- The introduction of e-LMIS was expanded to 15 new sites, and now covers all 40 Challenge TB sites. According to the established procedure, the Excel-based Drug Request Form is completed each quarter. This form also includes drug consumption which ensures timely drug procurement.

Tanzania

Challenge TB provided technical support through KNCV HQ consultant to assess the functionality of the ERR system in the field and at the central level, as well as to assess the data collected so far to monitor the quality of the data and the operational aspects of data collection and processing, explore the linkages of data with the other models of the system, e.g. the GxAlert system. During the mission data monitoring SOPs were developed in collaboration with the in-country M&E staff and the NTP data manager.

Turkmenistan

- A five-day training for TB specialists on the new WHO DR-TB treatment guidelines was conducted. WHO recommendations on treatment of DR-TB (including the STR) as well as the lessons learned in Kazakhstan on the implementation of WHO's latest recommendations for treatment of DR-TB were discussed.
- Twenty-two TB doctors attended a workshop on aDSM where they learned more about the role of Pharmacovigilance (PV) in global and national health systems, the importance of the introduction of aDSM, the WHO strategy on aDSM in the introduction of ND&R, the methods of PV and data collection, and R&R forms on side effects and PV for ND&R.
- TWG meetings were held with the participation of pediatric TB doctors. The NTP is considering the adoption of the WHO-recommended new regimens for the treatment of LTBI in children and adolescents.
- An international study course on management of TB cases in the penitentiary system in Baku, Azerbaijan was organized for two TB doctors from the penitentiary system.

Uzbekistan

- Efforts were focused towards sustainability of the project accomplishments and handover of activities to the NTP.
- During the quarter, 71 patients were enrolled on the STR, and 125 on BDQ containing regimens.
- The US Ambassador Daniel Rosenblum handed over the Challenge TB-funded modern laboratory worth over USD \$120,000 to improve detection and treatment of DR-TB cases during the celebration ceremony of five-year U.S. Government program to fight TB.
- 185 Health care providers were trained on ND&R, Labs, and human resource development activities.

Vietnam

- Continued TA was provided to the roll-out of GeneXpert testing for key affected populations. Trainings on Xpert software and upgrade of Xpert Ultra were organized for lab technicians in all Xpert laboratories. GXDX software was upgraded in all 58 machines and Ultra cartridges arrived in the country and were put into use in all machines in the country. The transition from Xpert MTB/Rif to Xpert MTB/Rif Ultra has been successful.
- Trainings were conducted for 209 NTP and HIV program staff in Hanoi, Tien Giang, and Quang Ninh, on:
 - The acceleration of uptake of Xpert MTB/Rif, particularly for PLHIV
 - Strengthening transportation of sputum samples
 - Diagnosis chain analysis and patient triage based on molecular tests (Xpert and SL-LPA)

- Together with the provincial AIDS centers, provincial TB hospitals and district health centers, technical support was provided on various TB infection control measures and the development and implementation of TBIC improvement plans (which were implemented in nine district health centers in HCMC and Tien Giang province to support the implementation of TB-HIV integrated services and PMDT).

Zambia

- ACF activities in four communities in Ndola district (Copperbelt province) were conducted; of the 2,811 people screened (1,439 symptom screening, 1,372 CXR/CAD4TB screening), 188 were tested by Xpert, and 26 people were bacteriologically confirmed and initiated treatment. In addition, one RR-TB patient was notified and 13 patients were clinically diagnosed, who also initiated treatment. In total 10 patients were co-infected with TB/HIV.
- Renovations to the Kabwe MDR-TB ward were completed and officially handed over to the MoH. The new facility incorporates various infection control measures, such as good ventilation, germicidal ultraviolet irradiation to kill infectious TB particles, and personal protective equipment for both staff and patients. The hospital staff were trained on the use of the personal protective equipment.
- Thirty-five community MDR-TB nurses and pharmacists were trained on aDSM to equip them with MDR-TB patient monitoring and reporting skills. Community MDR-TB nurses are a new cadre of health workers recently employed by the MoH to improve care and support on MDR-TB and to improve treatment outcomes by monitoring and reporting on AEs.



New Publications



NEW PUBLICATIONS

Generic ND&R Training Modules (Zipped Package)

The curricula for the “New Drugs and the Shorter Treatment Regimen” training includes PowerPoint presentations and facilitators guides on the programmatic management of drug resistant TB, including diagnostics, treatment and care, supply chain, monitoring and evaluation, and interim cohort analysis, and upgraded for use of all staff at the NTPs and other organizations. This updated version (July 2019) replaces all earlier versions of the training package. (KNCV 2019)

https://www.challengetb.org/publications/tools/pmdt/Generic_NDandR_Training_Modules.zip

Job Aid – Drug Dosage Tables (Zipped Package)

Following the release of the updated 2019 WHO policy guidelines for the treatment of drug-resistant TB (DR-TB), these two handy job aids have been developed to assist health care providers with weight-based DR-TB dosages for patients up to the age of 14 years and older than 14 years respectively. (KNCV 2019)

https://www.challengetb.org/publications/tools/pmdt/Challenge_TB_Dosage_Tables.zip

Introduction of active TB drug-safety monitoring and management for new drugs and regimens (Ukrainian)

This is a technical guidance document on the introduction of active drug safety monitoring and management (aDSM) for new drugs and regimens used in the treatment of drug-resistant TB patients. This document outlines the definitions related to aDSM, the agreed essential activities, and key steps in implementing aDSM in patients on treatment for DR-TB. (KNCV 2019)

https://www.challengetb.org/publications/tools/pmdt/Introduction_of_active_TB_drug-safety_monitoring_and_management_for_new_drugs_and_regimens_Ukr.pdf

Job aids for the diagnosis of TB and DR-TB

With the recent development in laboratory testing for TB and drug resistance, there is a need for easy guidance for testing algorithms and description of the varied tests for drug-resistant tuberculosis. For guidance to attending physicians and other health care providers, Challenge TB has developed this set of job aids for this purpose. (KNCV 2019)

https://www.challengetb.org/publications/tools/pmdt/Job_AID_DR-TB-HIV_Ukraine.pdf

Drug-Resistant TB/HIV Algorithm (Russian)

This job aid is to guide health care workers in the management of DR-TB patients with HIV co-infection. (KNCV 2019)

https://www.challengetb.org/publications/tools/pmdt/Job_AID_DR-TB-HIV_Russian.pdf

Job aid for detection and management of hearing loss during the management of DR-TB

As anti-TB injectables remain among the options for DR-TB treatment, it is important to have guidance on the detection and management of hearing loss during their use in DR-TB treatment. To assist health care workers in this area, Challenge TB has developed a job aid for this purpose. (KNCV 2019)

https://www.challengetb.org/publications/tools/pmdt/Audiometry_Job_Aid.pdf

Guide to detect and manage hearing loss during the management of drug-resistant TB

This guide is intended to help health care providers use audiometry to make informed and patient-centered decisions to prevent and manage hearing loss resulting from the anti-TB injectables for the treatment of drug-resistant TB (This document replaces the 2017 Challenge TB document “Audiometry in the management of drug-resistant tuberculosis”). (KNCV 2019)

https://www.challengetb.org/publications/tools/pmdt/Guide_to_Detect_and_Manage_Hearing_Loss_During_the_Management_of_Drug-Resistant_TB.pdf

Drug-Resistant TB Self-reporting of Drug-related Adverse Events During Treatment

All TB drugs can have harmful effects – commonly known as “adverse events”. Serious adverse events are more frequent with the so-called second line drugs used in the treatment of TB that is resistant to the commonly used drugs (“drug-resistant TB” or DR-TB). This information note has been prepared for people with DR-TB to help them understand TB drug-related problems and how to act accordingly. This document is to be piloted, with feedback from end users very welcome and changes will be incorporated in the next version of the document. (KNCV 2019)

https://www.challengetb.org/publications/tools/pmdt/SAE_Reporting_Form.pdf

Guide for QTc monitoring and management of drug-resistant TB patients with QT-prolonging agents (Version 2- Ukrainian)

This document describes the steps necessary to determine the corrected QT (QTc) interval in ECG monitoring of patients receiving QT-prolonging medicines for the treatment of DR-TB. It also provides guidance in the management of QTc prolongation. (KNCV 2019)

https://www.challengetb.org/publications/tools/pmdt/Guidance_on_ECG_monitoring_in_NDR_Ukraine_V2.pdf

Contact Investigation – The Missing Link to Finding and Treating the Missing Persons With TB

Nigeria is struggling to make adequate progress in addressing its TB epidemic. In 2016, the NTP identified contact investigation as a key intervention for finding ‘missing’ patients. This technical brief describes how the Challenge TB project initiated a systematic contact investigation intervention in 76 high burden local government areas across the 14 supported states in the country. (KNCV 2019)

https://www.challengetb.org/publications/tools/briefs/CTB_Technical_Brief_Contact_Investigation.pdf

Using mHealth to Self-Screen and Promote TB Awareness in Tanzania

Through Challenge TB, PATH partnered with the NTLP and Cardno Tanzania to develop a mobile application that allows people to self-screen for TB using a basic mobile phone to increase knowledge and awareness. This technical brief describes the development process, how the app was implemented, and the results (PATH 2019)

https://www.challengetb.org/publications/tools/briefs/CTB_Tanzania_mHealth.pdf

Cambodia – Contact Investigation for Early Detection and Treatment of TB

This fact sheet describes how Challenge TB worked to promote early diagnosis and treatment among close contacts of infectious TB patients in Cambodia. (FHI 360 2019)

https://www.challengetb.org/publications/tools/briefs/Cambodia_CI_Early_Detection_Treatment.pdf

Cambodia – Intensified Case Finding in Hospitals

This fact sheet describes how Challenge TB worked in Cambodia to improve TB case detection by screening for TB among all patients seen at outpatient and inpatient wards of referral hospitals. (FHI 360 2019)

https://www.challengetb.org/publications/tools/briefs/Cambodia_Intensified_Case_Finding_Hospitals.pdf

Cambodia – Finding Missing Patients

This fact sheet describes how Challenge TB worked in Cambodia to improve TB case detection through screening for presumptive TB among hard to reach populations, particularly among the elderly. (FHI 360 2019)

https://www.challengetb.org/publications/tools/briefs/Cambodia_Finding_Missing_Patients.pdf

Cambodia – Intensified Case Finding in Closed Settings

This fact sheet describes how Challenge TB worked to improve case detection and treatment and to close the diagnosis gap among prisoners in Cambodia. (FHI 360 2019)

https://www.challengetb.org/publications/tools/briefs/Cambodia_Intensified_Case_Finding_Closed_Settings.pdf

Institutionalizing Infection Prevention and Control in a TB and Lung Disease Hospital in Bangladesh

This technical highlight describes the managerial, administrative, and environmental control measures taken to reduce the risk of TB infection to patients and staff at the National Institute of Diseases of the Chest & Hospital in Bangladesh. (MSH 2019)

https://www.challengetb.org/publications/tools/briefs/CTB_Bangladesh_Institutionalizing_Infection_Prevention_and_Control.pdf

Program: Lessons from Bangladesh

Bangladesh is one of the world’s high MDR-TB burden countries, through Challenge TB, the standard operating procedure for shorter treatment regimen were revised, incorporating active drug safety monitoring and management and adapting current recording and reporting forms to accommodate shorter treatment regimen data resulting in increased patient enrollment in shorter treatment regimen under national DR-TB Program. (MSH 2019)

https://www.challengetb.org/publications/tools/briefs/CTB_Bangladesh_Highlight_Shorter_Treatment_Regimen.pdf

Institutionalizing a prefabricated Bio-Safety Level-3 laboratory: Lessons from Bangladesh

This technical highlight describes the implementation process to establishing a high-quality Bio-Safety Level-3 Laboratory (BSL-3 lab) in Sylhet, Bangladesh as a center of excellence to provide TB and DR-TB diagnostic services, build staff capacity at the regional level, conduct operational research, and serve as a TB education center. (MSH 2019)

https://www.challengetb.org/publications/tools/briefs/CTB_Bangladesh_Highlight_Bio-Safety_Level-3_Lab.pdf

Introduction of New Pediatric TB Drug Formulations in Ethiopia

Challenge TB has supported the Ethiopian NTP and other government organizations at different levels on introducing and transitioning to quality, affordable, and child-friendly medicines in the correct internationally recommended dosages for drug-sensitive TB. This technical highlight describes the strategic response, implementation, and lessons learned. (MSH 2019)

https://www.challengetb.org/publications/tools/briefs/CTB_Brief_Ethiopia_New_Pediatric_Drugs.pdf

Technical Approaches to TB: Challenge TB, SIAPS & TRACK TB

MSH has developed materials highlighting the technical approaches, results, and lessons from across their TB projects with multiple partners. These technical documents have been collected in this compendium to share their experiences and insights with other partners and implementers. (MSH 2018)

https://www.challengetb.org/publications/tools/briefs/MSH_TB_Tech_Docs_Compiled_2018.pdf

Optimizing and Understanding the Use of Xpert MTB/RIF® Testing

Molecular testing for TB and rifampicin- resistant TB using the Xpert MTB/RIF® assay has been a game changer since its endorsement by the World Health Organization in 2010. While it has been rolled-out in high burden countries at large-scale, many challenges remain, including accessibility and the availability of services. Using examples from Nigeria and Tajikistan, this technical brief describes successful approaches to optimize Xpert MTB/RIF® testing through the Challenge TB project. (KNCV 2019)

https://www.challengetb.org/publications/tools/briefs/CTB_Technical_Brief_GeneXpert.pdf

Resource-Constrained Areas in Nigeria

Mobile applications play an important role in field data collection in developing countries. However, poor infrastructure remains a challenge to fully utilizing mobile services. This technical brief documents the implementation of e-TB Manager offline mode mobile application to manage data entry in areas where there is no network. (MSH 2019)

https://www.challengetb.org/publications/tools/briefs/CTB_Brief_Nigeria_ETB_Strategic_Implementation.pdf

Expanding Ambulatory Care To Treat Drug-Resistant TB in Ethiopia

The National TB Program in Ethiopia is committed to decentralizing and scaling up implementation of drug resistant TB (DR-TB) management by using an alternative ambulatory model to increase access to care. This technical brief describes the core areas of programmatic management of DR-TB and how the ambulatory model of care has increased access to treatment. (MSH 2019)

https://www.challengetb.org/publications/tools/briefs/CTB_Brief_Expanding_Ambulatory_Care_DR-TB_Ethiopia.pdf

Taking Supply Information Systems to the Next Level: Regional Collaboration in TB Medicines Supply Chain

To operationalize the TB control strategy in ECSA countries, USAID, through Challenge TB and MSH, has facilitated technical and financial support for pilot cross-border TB interventions that span the region, including border areas. Among the challenges requiring intervention were prompt detection and treatment of TB among mobile populations crossing the borders, harmonization of TB treatments, and design and implementation of a supply chain information system that allows stock information sharing among member countries to ensure continuous availability of TB medicines. (MSH 2019)

https://www.challengetb.org/publications/tools/briefs/CTB_Highlight_East_Africa_Regional_Dashboard.pdf

From Lessons to Action: Expanding TB Contact Investigation across Five Afghanistan Provinces

The primary goal of the Challenge TB project in Afghanistan is to assist the NTP to reach its strategic objective of increasing TB case notifications by at least 8 percent annually through comprehensive TB care and prevention activities. This technical brief explores the expansion of an active contact investigation strategy across the country. (MSH 2019)

http://www.challengetb.org/publications/tools/briefs/CTB_Brief_Afghanistan_From_Lessons_To_Action.pdf

Blended learning to build the capacity of TB program officers and clinicians: Experience from Ethiopia

For many years, the Ethiopian TB program relied on off-site, workshop-style trainings to meet human resource training needs in its national TB program. This off-site training approach was expensive and often led to staff attrition as health workers were required to stay away from their duty station for several days. With increasing pressure for domestic resource mobilization, new and cost-effective training solutions needed to be explored. (MSH 2019)

http://www.challengetb.org/publications/tools/briefs/CTB_Blended_Learning_to_Build_Capacity-Experience_from_Ethiopia.pdf





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TB Doctor Vo Van Tam examines a patient, Vietnam - KNCV
Village Health Support Group reviewing data in the contact investigation record - Cambodia - Ngo Menghak
GeneXpert Operator, Zambia - Jan van Mil
DOTS Clinic, Indonesia - Rembrandt Sulistiawan
School children playing a game to educate them about the TB, Myanmar - Hein Htet
Boy, Malawi - Tristan Bayly
TB Patient at DOTS Center, Indonesia - Tristan Bayly
Cured TB Patient Julekha, Bangladesh - MSH
Contact Investigation, Cambodia - - Tristan Bayly
Cured TB Patient Gobena Beriso, Ethiopia - Berhan Teklehaimanot
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Specimen Transport Motorbike, Mozambique - Mbuto Machili
TB Medication, Vietnam - KNCV
School children playing a game to educate them about the TB, Yangon - Myanmar - Hein Htet
TB Patient Receiving Support During DOT, Indonesia - Rembrandt Sulistiawan
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Woman with TB at DOTS center, Indonesia - Tristan Bayly
GeneXpert Testing, Indonesia - Tristan Bayly
Back Cover - Young Girl with TB and her sisters, Malawi - Tristan Bayly



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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 and layout - Tristan Bayly

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