

CHALLENGE TB

PERFORMANCE MONITORING REPORT
YEAR 5 JAN - MAR 2019



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KNCV
TUBERCULOSIS FOUNDATION

CHALLENGE TB



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:
Children, Nigeria - Photo: Tristan Bayly

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ABBREVIATIONS

ACF	Active Case Finding	IPT	Isoniazid Preventive Therapy
aDSM	Active Drug Safety Monitoring	MDR	Multidrug-resistant
BDQ	Bedaquiline	MoH	Ministry of Health
CB-DOTS	Community-Based DOTS	MTB	Mycobacterium Tuberculosis
C/DST	Culture & Drug Susceptibility Testing	ND&R	New Drugs & Regimens
CI	Contact Investigation	NTP	National TB Program
CP	Community Pharmacist	PLHIV	People Living with HIV
CTB	Challenge TB	PMDT	Programmatic Management of Drug Resistant TB
DLM	Delamanid	PMV	Patent Medicine Vendor
DOTS	Directly Observed Treatment Shortcourse	PPM	Public Private Mix
DPPM	District Public Private Mix	PTE	Pre-treatment Evaluation
DR	Drug-Resistant	RR	Rifampicin Resistant
DSMB	Data Safety and Monitoring Board	SAE	Severe Adverse Event
DST	Drug-Susceptibility Testing	SL-DST	Second-Line Drug Susceptibility Testing
EPHI	The Ethiopian Public Health Institute	SL-LPA	Line Probe Assay for Second-Line Drugs
GF	Global Fund	SNRL	Supranational Reference Laboratory
HCW	Healthcare Worker	STR	Shorter Treatment Regimen
HIV	Human Immunodeficiency Virus	STTA	Short-term Technical Assistance
ICF	Intensified Case Finding	TB	Tuberculosis
IGRA	Interferon-gamma Release Assays	USAID	United States Agency for International Development

EXECUTIVE SUMMARY

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

monitoring report summarizes project progress and achievements for the first quarter of Year 5, January – March 2019, across projects in 23 countries, the East Africa Regional project, and three core projects.

PROGRESS ON KEY PERFORMANCE INDICATORS

CASE-FINDING

In this reporting quarter, more than 62,000 cases (all forms) were notified in Challenge TB areas. The following interventions continued to show a significant yield: intensified case-finding (ICF) through hospital engagement/FAST, public-private mix, community interventions, and childhood TB. A total of 18,304 cases were notified through hospital engagement/FAST (including 7,659, 4,444, and 1,292 TB patients identified in Indonesia, Nigeria, and Bangladesh, respectively); 8,498 TB cases were notified through collaboration with the private sector; 7,632 TB cases were notified through community efforts; and 7,400 children were notified in Challenge TB supported areas through specific interventions focusing on pediatric TB. These activities are currently mainstreamed into the National TB Program (NTP) and Global Fund (GF) mechanisms. An additional innovation was the introduction of the LF-LAM (lateral flow lipoarabinomannan) urine test in Mozambique, increasing the diagnosis of TB among people living with HIV (PLHIV).

GENEXPERT

By the end of March 2019, a total number of 4,367 GeneXpert machines were installed in the 23 Challenge TB supported countries. Ten countries reported a functionality higher than 90 percent. A total of 469,352 MTB/RIF tests were conducted between January and March 2019. Nigeria and Tajikistan reported utilization rates of 60 and 73 percent, respectively, and the average utilization (across ten countries) was 34 percent. In the current reporting period (i.e., by March 2019) 47 percent of the GeneXpert machines were connected; this data is based on information submitted by 10 countries. Namibia, Nigeria, and Malawi reported a connectivity rate of above 95 percent with 100, 99, and 96 percent, respectively.

PROGRAMMATIC MANAGEMENT OF DRUG-RESISTANT TB (PMDT)

The average proportion of new cases tested for rifampicin-resistant (RR) TB in all Challenge TB countries was 63 percent, with Kazakhstan and Tajikistan exceeding 85 percent of new cases tested for RR. The average proportion of previously treated cases tested for RR-TB in all Challenge TB countries was 75 percent. Previously treated TB cases for RR-/Multidrug-resistant TB (MDR-TB) have also increased with Tajikistan, Afghanistan, and Ukraine now above 85 percent. The average proportion of RR-TB cases tested with line probe assay for second-line drugs (SL-LPA) in all Challenge TB countries was 41 percent. Cambodia and Zambia have managed to test 100 percent of RR-TB cases with SL-LPA, and Botswana and Tajikistan surpassed 80 percent. Indonesia and Ukraine have not yet reached high levels of coverage, but have significantly increased the testing rate over the last two years. Within the reporting period more than 4,200 MDR-TB cases were notified.

The number of sites offering new drugs & regimens (ND&R) as well as the number of patients enrolled in them continues to increase. As of this quarter, bedaquiline (BDQ) is available in 420 treatment initiation sites in 23 countries; 972 patients were started in a regimen containing BDQ this quarter. Delamanid (DLM) is available in 201 treatment initiation sites in 21 countries; 99 patients started a regime containing DLM this quarter. In this quarter, 69 extensively drug-resistant TB (XDR-TB) patients started a regimen containing both BDQ and DLM. The shorter treatment regimen (STR) continues its expansion, being available in 911 treatment initiation sites in 21 countries this quarter; 1,470 patients started a shorter MDR-TB regimen this quarter. However, data for India is not yet available at the time of reporting.

All six PEPFAR supported countries reached close to 100 percent of registered new and relapse TB patient with documented HIV test results in Challenge TB areas by March 2019. Malawi and Namibia exceeded their national targets of 97 and 96 percent respectively, whereas Tanzania and Ukraine are getting close to their national targets of 100 percent. All countries reported that more than 90 percent of registered TB cases with a documented HIV-positive status started or continued ART (excluding Malawi where the data are not yet ready). Tanzania consistently reports close to 100 percent.

WORLD TB DAY

World TB Day was celebrated across many countries, which provided for an opportunity to follow-up on the UN High-Level Meeting with the participation of high government representatives, US Ambassadors, and Mission Directors. During the 2019 World TB Day commemoration in Mozambique the President of the country gave Challenge TB Mozambique a certificate of honor for being the best partner to the NTP. In Nigeria, the First Lady of the Federation organized a dinner event with many distinguished guests, TB survivors, and partners working in TB care and prevention.



SHORT-TERM TECHNICAL ASSISTANCE AND SUB-AWARDS

Out of 144 short-term technical assistance missions planned for Quarters 1 and 2, 73 (51%) were implemented. The majority were implemented as part of patient-centered care and treatment and

quality data, surveillance and M&E. Out of the total 59 committed sub-awards, 17 have been already closed as of the end March 2019. The remaining 42 will be closed-out by the end of June 2019.

TRANSITION PLANNING

By using a standardized template across all countries, the project is continuously engaging the USAID Missions and NTPs to ensure effective and quality transitioning of key interventions (with a focus on

patient support) into other USAID TB portfolios as well as the NTP and Global Fund mechanisms.

MAJOR CHALLENGES

Countries have to adjust to the new WHO guidelines for MDR- and RR-TB (2018), which have a lot of practical implications related to current national guidelines, planned training and forecasting of drugs.

Namibia experienced challenges with an erratic supply of anti-TB drugs, resulting in inadequate

quantities to meet the projected forecasts. There were inadequate quantities of amikacin, delamanid, linezolid as well as interruptions in the supply of isoniazid. Procurement was limited because of the ongoing national financial crisis, and partly inflexible national procurement regulations.

ACTIONS

Challenge TB is supporting countries to make national plans to follow-up on the release of the WHO guidelines for MDR- and RR-TB (2018) through the revision of country-level guidelines, adjustment of forecasting/procurement plans, and staff training at all levels.

In Namibia, the PEPFAR country office was

approached to assist with the situation. Engagement of the Minister of Health and Social Services has led to a promise to ask for exemption of standing procurement procedures for pharmaceuticals, which, for example will enable the NTP to acquire both first- and second-line Global Drug Facility drugs, at much more favorable prices.

REPORT DEVELOPMENT PROCESS

The main focus of this report is on the quarterly trends of the achievements of Challenge TB key priority interventions in all supported countries, including case-finding, Xpert scale-up, PMDT, new drugs and regimens (ND&R), TB/HIV, the Challenge TB contribution to Global Fund requests/implementation, and the transition of Challenge TB activities to national/international stakeholders.

The organization of this report is based on the Challenge TB M&E framework, mandatory indicators, and some key process indicators. For each of the thematic areas/indicators, the number of

countries is a subset of the 23 countries data based on the interventions approved in the country work plan and the availability of data for the reporting period. The completeness of the most recent quarter data still remains a challenge – e.g., many NTPs need a few months for data validation before releasing it to partners. It is especially difficult for the Challenge TB teams in Botswana, Burma, DR Congo, Ethiopia, India, Indonesia, Malawi, Nigeria, Uzbekistan, Turkmenistan, and Zambia to report Oct-Dec 2018 data. In this report, we analyze and present quarterly results and trends for all the indicators based on complete data (i.e. in some cases up to Jul-Sep 2018 quarter only), by country.



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 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, 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:

- 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.

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 March 31 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 three core projects (see page 42).



CHALLENGE TB
COUNTRIES

1	Nigeria	6	Malawi	11	Ukraine	16	Kazakhstan	21	Cambodia
2	DR Congo	7	Zimbabwe	12	Turkmenistan	17	India	22	Indonesia
3	Namibia	8	Mozambique	13	Uzbekistan	18	Kyrgyzstan	23	Vietnam
4	Botswana	9	Tanzania	14	Afghanistan	19	Bangladesh		
5	Zambia	10	Ethiopia	15	Tajikistan	20	Burma		

KEY ACHIEVEMENTS

CASE-FINDING

This section presents the quarterly trends and key activities in Challenge TB countries on case-finding, grouped by priority interventions. TB case notifications from Challenge TB-supported areas based on complete data for 20 countries resulted in: 107,340 cases in Jan-Mar 2018; 149,782 cases in Apr-Jun 2018; 128,416 cases in Jul-Sep 2018; 125,456 cases

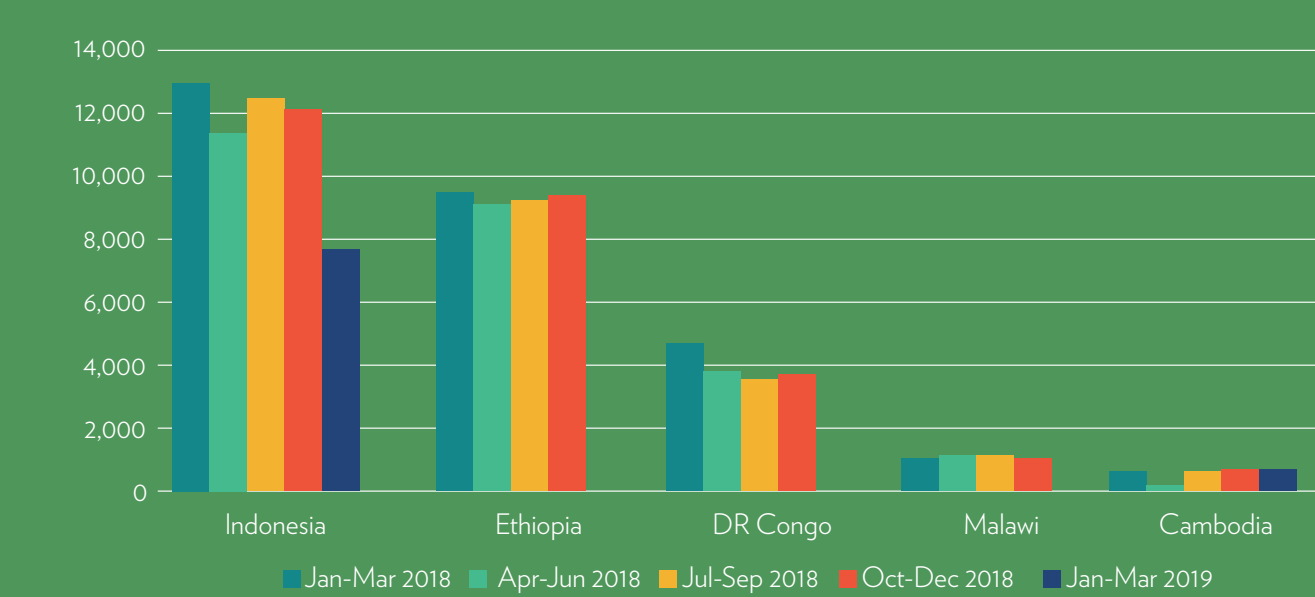
in Oct-Dec 2018). The following interventions show the highest yields: intensified case-finding (ICF) through hospital engagement/FAST, community interventions, childhood TB, public-private mix, and contact investigation (CI). In this reporting quarter, 14 countries reported a total of 62,300 cases (all forms) notified in Challenge TB areas.

HOSPITAL ENGAGEMENT

Challenge TB supports intensified case-finding at health facilities by implementing two approaches: (a) hospital engagement (i.e., strengthening presumptive patient referral networks and TB screening among outpatients/inpatients) implemented in Indonesia,

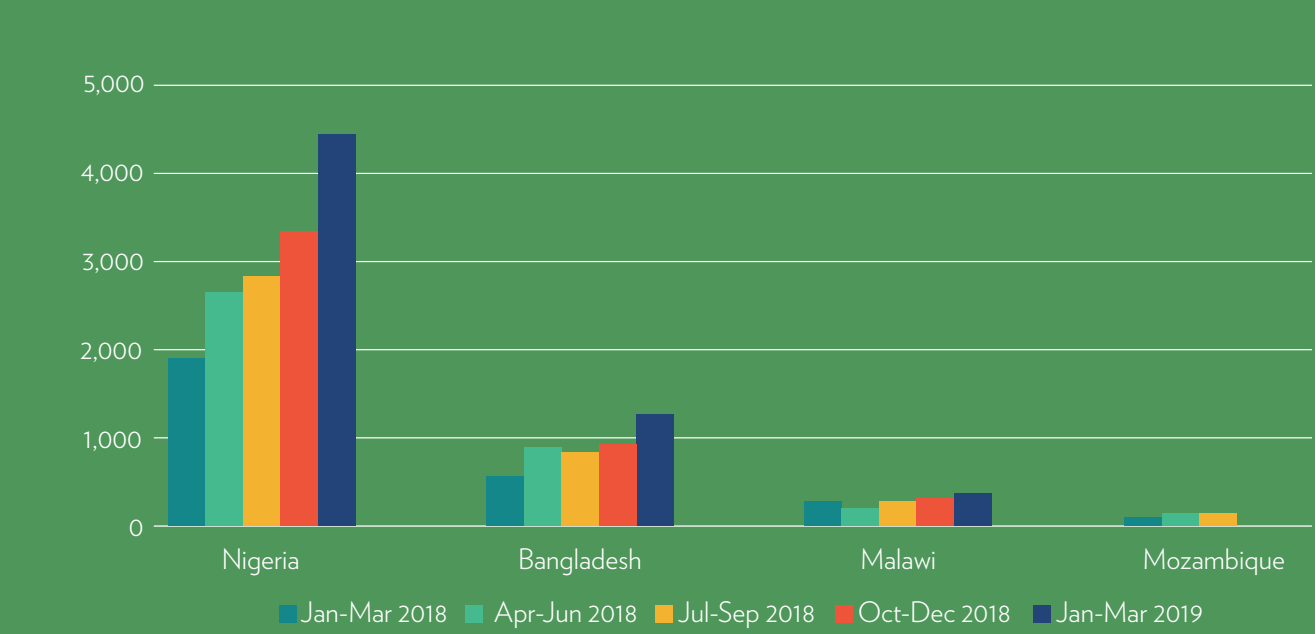
Ethiopia, DR Congo, Malawi, and Cambodia; and (b) the FAST strategy (i.e., facilitating prompt diagnosis and treatment of TB patients coming to the facilities) implemented in Nigeria, Bangladesh, Malawi, and Mozambique.

THE NUMBER OF CASES (ALL FORMS) NOTIFIED THROUGH HOSPITAL ENGAGEMENT IN CHALLENGE TB AREAS (2018-2019*)



*Indonesia data for Jan-Mar 2019 is not complete.

THE NUMBER OF CASES (ALL FORMS) NOTIFIED THROUGH FAST IN CTB AREAS (2018-2019*)



*From Oct-Dec 2018 this activity did not take place in Mozambique..

COUNTRY HIGHLIGHTS

Ethiopia - Across all Challenge TB regions there were 5,485,096 out-patient department (OPD) visitors in the health centers and hospitals; 5,272,920 (96%) of them were screened for TB, and 9,325 (0.2%) TB cases (all forms) were diagnosed. The OPD TB screening contribution to the total TB notifications reported in DHIS2 was 37 percent (9,325/25,089).

Cambodia - Challenge TB continued to implement TB prevention and care activities in 11 referral hospitals, by expanding the ‘hospital linkages’ approach to identify ‘missing’ patients through intensified TB symptom screening in hospitals. Challenge TB provided technical assistance to set-up and improve the flow of presumptive TB patients and build the capacity of healthcare providers on TB screening and chest X-ray reading. As a result, the number of TB cases identified has gradually increased and reached 774 TB cases (all forms) notified this quarter (710 cases were notified in the previous quarter).

Bangladesh - Challenge TB supported the screening of 221,727 (95%) outpatients in 12 tertiary level hospitals and seven NGO clinics. Of those screened, 10,019 (5%) people with presumptive TB were identified and referred for further evaluation; out of these 9,163 (91%) were investigated and: 1,292 (14%) were diagnosed with TB. Of these, 1,292 TB patients,

487 (38%) were bacteriologically confirmed, 138 (11%) were clinically diagnosed, 665 (51%) were EPTB, and two (0.2%) were DR-TB; all diagnosed patients were initiated on treatment.

Nigeria - The proportional contribution of FAST strategy to TB case detection continues to increase with 4,444 TB patients diagnosed during the reporting period, and 3,938 started on treatment in 639 health facilities implementing FAST strategy across 184 Challenge TB-supported local government areas (LGAs). This represents a 34 percent increase in the number of TB patients notified through FAST strategy implementation compared to the previous quarter (4,444 vs. 3,313).

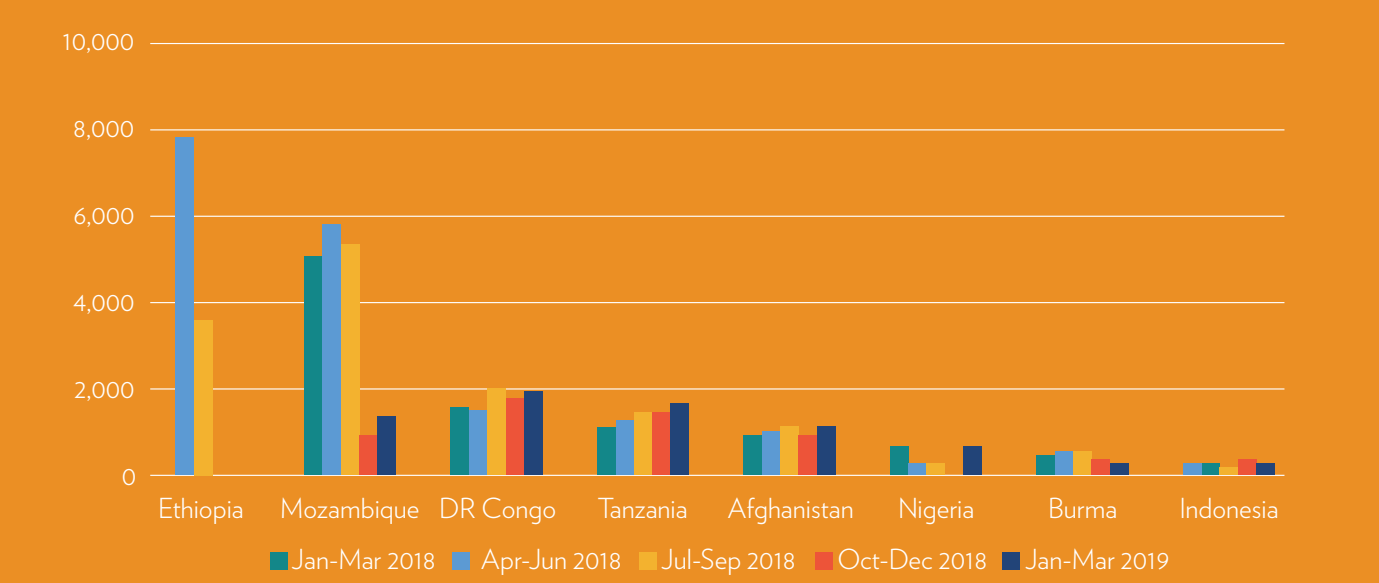
Malawi - Through a Challenge TB sub-award, the FAST strategy has been implemented by a local NGO DAPP Malawi since May 2018. The approach is based on the engagement of FAST promoters (volunteers) who assist hospital staff to find and treat missing patients in four health facilities: Chikwawa, Machinga and Mangochi District Hospital, and Zomba Central Hospital. This quarter, Challenge TB and the NTP technical team provided supportive supervision and mentoring to all FAST sites. There was an increase of 20 percent in case notification from 307 in the period of Jan-Mar 2018 to 367 in the period of Jan-Mar 2019.

COMMUNITY REFERRAL

Quarterly trends on TB cases notified through community referrals are presented for eight countries, which implement respective interventions and reported complete data; Afghanistan, DR

Congo, and Tanzania reported increasing trends of cases notified through community referrals in Challenge TB areas.

THE NUMBER OF CASES (ALL FORMS) NOTIFIED THROUGH COMMUNITY REFERRAL IN CTB AREAS (2018-2019*)



*Ethiopia Apr-Jun 2018 data is for a six-month period (i.e., Jan-Jun 2018); Indonesia data for Jan-Mar 2019 is not complete; In Nigeria no activities were done by CBOs in Oct-Dec 2018, CBO community screening activities recommenced in Jan 2019; Mozambique, Oct-Dec 2018 and Jan-Mar 2019 data reflect a decrease in geographic area.

COUNTRY HIGHLIGHTS

DR Congo - Three NGOs continued to play an important role in community TB sensitization, CI and sample transportation. The local NGO LNAC extended the area of its coverage by implementing activities in Lomami and Sankuru provinces. In total, 2,405 TB cases were detected by NGOs in Quarter 2 (433 through CI and 1,972 through ACF among other risk groups); 111 percent of the Quarter 2 target was reached (1,972/1,701 TB cases all forms expected).

Tanzania - This quarter, the community activities were conducted in 42 out of the 47 Challenge TB districts and contributed 21 percent (1,683/8,108) of the overall TB case notifications. The number includes 544/1,683 (32%) contributed by other implementing partners that are working in some of the Challenge TB regions. The Challenge TB contribution was 1,139/1,683 (68%) TB cases. Among the TB patients notified, 13 were found to have DR-TB and all were put on treatment. Of the total number of TB patients identified via the community activities, the community-based organizations

(CBOs) contributed 43 percent (487/1,139). The community interventions are strategically focused on expanding ACF by targeting the key populations defined by the NTP at the community level (i.e., miners, people who inject drugs, contacts of bacteriologically confirmed TB patients, fisherfolk, and people living in slum areas).

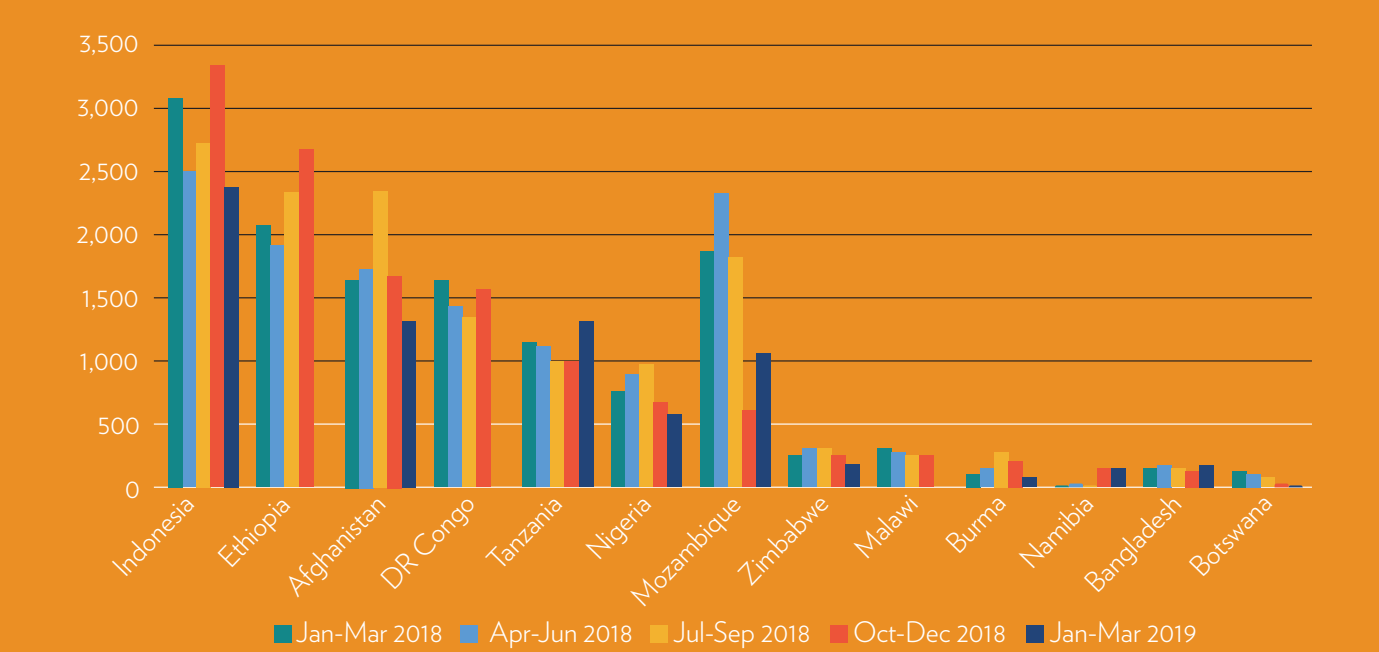
Afghanistan - Challenge TB continued CB-DOTS implementation in 715 health facilities in 15 provinces. CB-DOTS was implemented through 613 trained health staff, 612 trained community health supervisors, and 14,655 community health workers (CHWs). In the last quarter, CHWs and community members identified and referred 11,727 presumptive TB patients; among these 1,131 (10%) were diagnosed with TB (all forms) and initiated on treatment. In CB-DOTS health facilities the treatment success rate was sustained at 95 percent.

CHILDHOOD TB

There is a focus on the notification of childhood TB through a variety of approaches in all Challenge TB countries. Quarterly trends on TB cases notified among children in Challenge TB areas are presented for 13 countries, which implement the respective

interventions and reported complete data; DR Congo, Bangladesh, Ethiopia, Indonesia, and Tanzania report increasing trends of cases notified among children in Challenge TB areas.

THE NUMBER OF CASES (ALL FORMS) NOTIFIED AMONG CHILDREN IN CTB AREAS (2018-2019*)



*Indonesia data for Oct-Dec 2018 and Jan-Mar 2019 not complete; Namibia Challenge TB was operating at above site level for previous two quarters, therefore notifications are national data.

COUNTRY HIGHLIGHTS

Afghanistan - Challenge TB assisted the NTP to implement TB diagnosis and care among children in five urban DOTS areas; among 3,869 TB cases detected this quarter, 779 (20%) were children under the age of 15, all of whom started treatment. Challenge TB assisted the NTP to train pediatricians and health facility staff (especially in pediatric hospitals) on the management of TB among children and on how to interpret X-rays, both in Kabul and in other urban DOTS areas where Challenge TB has installed digital X-ray machines. A special focus was placed on improving the referral of patients and their follow-up in the community during the treatment period, particularly for TB patients transferred to other treatment sites. This led to improved treatment success rate for child TB patients, reaching 80 percent of those children who started treatment in the first quarter of 2018, and a 40 percent improvement between 2014 and 2018.

Nigeria - Challenge TB continued to improve TB diagnosis by providing access to chest X-ray services, which has resulted in a continuing increase in the number of children being diagnosed with TB. The contribution of active screening of children in the pediatric outpatient departments to TB case detection continues to increase with 601 childhood TB patients diagnosed during the reporting period, and 515 started on treatment across health facilities located in Challenge TB-supported local government areas (LGAs). Through pediatrician-led reviews implemented in health facilities during the reporting period, 6,831 presumptive child TB patients were identified, out of whom 5,748 were tested for TB, resulting in the diagnosis of 513 childhood TB patients.

ALFIYAH'S STORY

"Alfiyah is very smart, out of all the children in her school, she is the only one able to write well," says her mother. Sixteen-year-old Alfiyah completed her treatment for multidrug-resistant TB (MDR-TB) in August 2018. She was treated with a new shorter treatment regimen, which is revolutionizing TB treatment in Indonesia.

Although she cannot speak, Alfiyah doesn't let this get in her way. During her treatment, she was able to tell her mother about any side effects from the medication she was experiencing using body language, "When she had ear pain, she held her ears with her hands. When she had back pain, she tapped her back, and I would massage her," says her mother, "it made the difficult process a lot easier for her."

According to her mother, Alfiyah was really good at taking her medication, although Nurse Nurul, who was looking after Alfiyah in the health center, said that she sometimes hid under the polyclinic's bed because she wanted to avoid the painful injections. As Nurul's daughter is a special needs teacher, she

knows a thing or two about working with people who have Down's syndrome. "After each injection, I gave Alfiyah stickers that she could collect and when she had enough she could trade them in for a bag or toys as a reward," she explains.

Alfiyah is not the only one in the family who was treated for TB. Her older sister Aliyah is also on treatment for MDR-TB. However, she is on the conventional treatment which takes an eye-watering 20 months to complete. "Why do I still need to take medication, when Alfiyah has finished?" Aliyah says to her mother when she is feeling tired of all the pills. Her mother says: "I just keep supporting her and reminding her that she must take her medication every day and eat healthy food because she is a kind of a picky eater."

Aliyah's studies were interrupted by the first 6 months of her TB treatment, so she is currently doing extra study so that she can finish her high school degree. "I want to study Visual Communication Design after I graduate because I love drawing," says Aliyah. Her mother knows about her daughter's passion and she is proud: "She recently won third place in a drawing competition at her school, she is talented." Alfiyah and Aliyah's parents are both very supportive:

"I always reminded them, the important thing is to take the treatment seriously and never miss a dose," says their dad.

Patients with drug-resistant TB need all the support they can get if they are to make it through their treatment. Even the shorter treatment takes nine long and often difficult months to complete.

The Setiabudi health center is one of the public health facilities that work closely with the USAID-funded Challenge TB project. In Jakarta, the project provides assistance to the TB program by strengthening the TB service network both inside and outside the health center, helping to find people with TB in the community, and intensifying TB screening in the health center itself. Challenge TB has also educated and trained health staff to provide patients with courses of treatment that best fit their situation, and also with the provision of psychosocial support, side effect monitoring, and tests to check how each patient is responding to the medication.

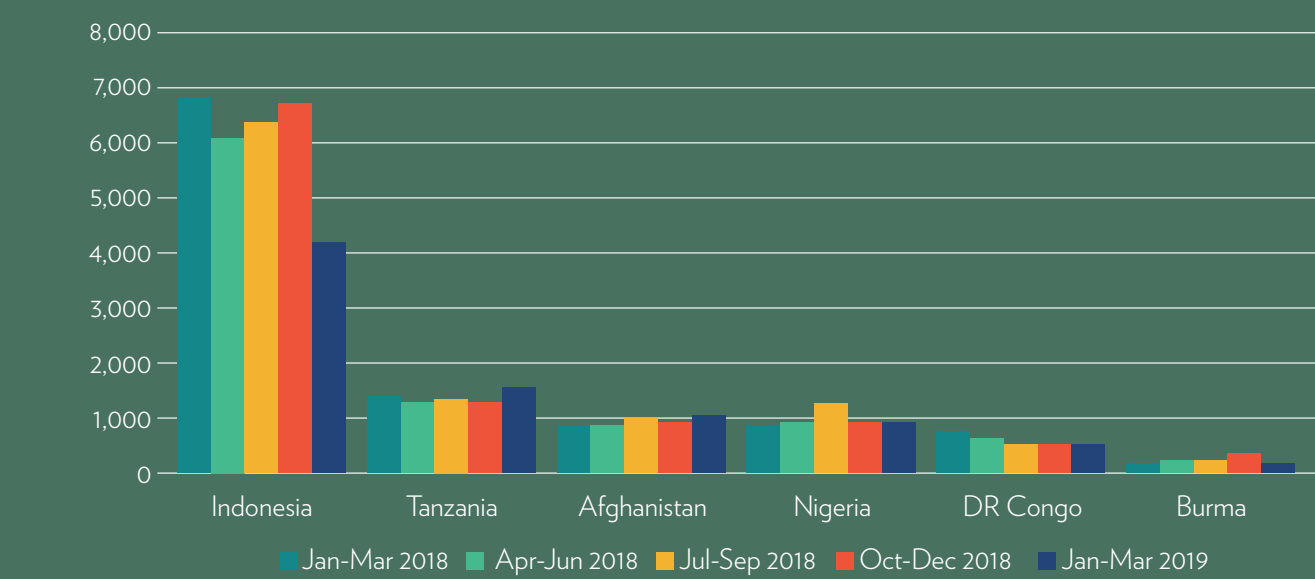


PRIVATE PROVIDERS

In Indonesia, Tanzania, Afghanistan, Nigeria, DR Congo, and Burma private provider engagement

forms an important strategy to increase case-finding and notification.

THE NUMBER OF CASES (ALL FORMS) NOTIFIED BY PRIVATE PROVIDERS IN CTB AREAS (2018-2019*)



* Indonesia data for Jan-Mar 2019 is not complete.

COUNTRY HIGHLIGHTS

Indonesia - The implementation of the district public-private mix (DPPM) approach at sub-districts level now covers all 280 (out of a total of 485) selected Puskesmas (PKM) in 16 Challenge TB districts. The district health offices (DHO) took the lead in the expansion of DPPM approach to cover all health facilities in their respective district. In March 2019, Jember district became the role model for DPPM and shared lessons learned with other districts in East Java. The DPPM team in Jember was invited to facilitate DPPM implementation in other districts. The number of patients with presumptive TB referred from the various departments within the PKM in Jember increased by 37 percent as compared to the same quarter last year. This resulted in an increase of TB notification of 1,144 in this quarter as compared to 952 in the same quarter last year in Jember district, an increase of 20 percent.

DR Congo - Seventy-five private healthcare facilities (100% of the expected target) were engaged with the NTP to reduce the TB notification gap in the five Challenge TB -supported provinces during this quarter; 525 patients with TB (all forms) were identified by private healthcare workers (HCWs), all of whom were put on treatment.

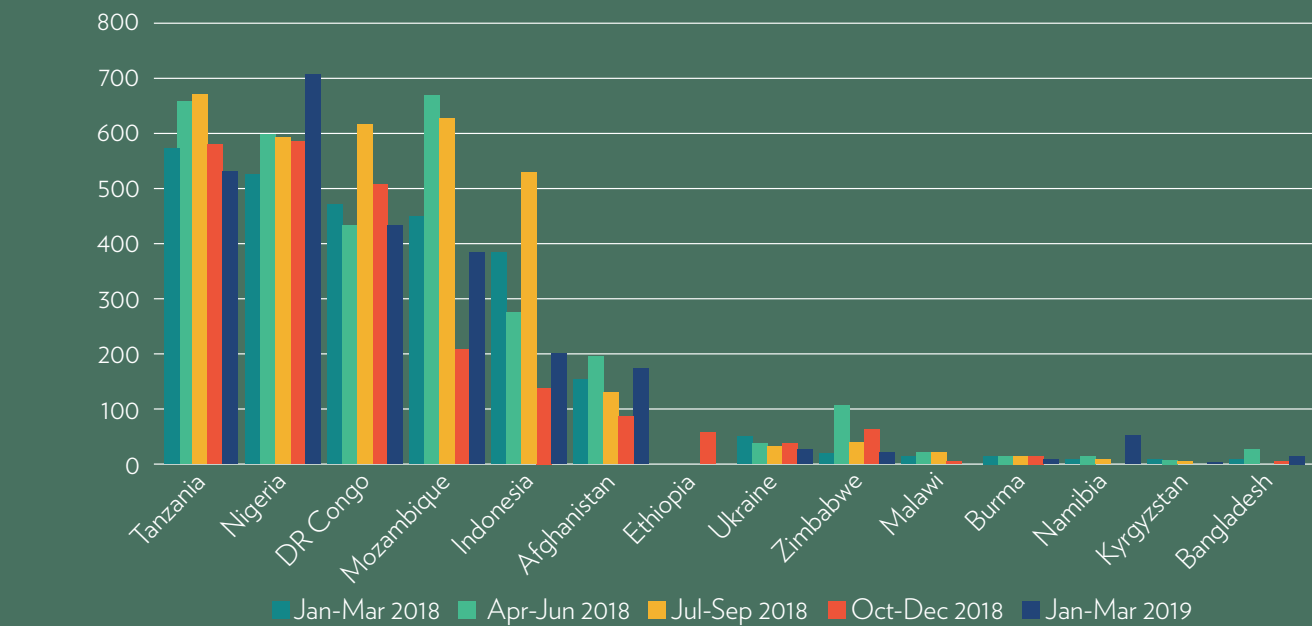
Afghanistan - Challenge TB expanded the urban DOTS program to an additional six public and private health facilities (four diagnostic and two referral centers) and the total coverage reached 339 health facilities in nine urban DOTS supported cities. Challenge TB enabled NTP to cover 55 percent of all types of health facilities in nine cities. This led to a 5 percent increase in TB case notification in nine urban DOTS cities, i.e., 3,869 TB patients (all forms) notified this quarter compared to the previous quarter.

CONTACT INVESTIGATION

In most Challenge TB countries the project supports the roll-out of 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 CBOs, with the referral of symptomatic contacts for diagnostic follow-up and LTBI treatment for those

eligible. Quarterly trends on TB cases notified through CI in Challenge TB areas are presented for 14 countries, which implement the respective interventions and reported complete data; Indonesia, Namibia, and Nigeria report increasing trends in the numbers of cases notified through CI in Challenge TB areas.

THE NUMBER OF CASES (ALL FORMS) NOTIFIED THROUGH CONTACT INVESTIGATION IN CTB AREAS (2018-2019*)



* Indonesia data for Oct-Dec 2018 and Jan-Mar 2019 not complete; Bangladesh, in Year 5 Quarter 2, the case notification rate decreased due to a reduction in CI efforts related to city corporation elections; Mozambique data for Oct-Dec 2018 and Jan-Mar 2019 reflect a decrease in geographic coverage.

COUNTRY HIGHLIGHTS

Nigeria - During the reporting period, the homes of 5,184 out of 6,162 notified index cases were visited. Through these home visits, 18,569 contacts were screened for TB symptoms out of whom 6,918 contacts were identified with presumptive TB and tested, resulting in the diagnosis of 711 new TB patients. The home visits enabled Challenge TB-supported contact investigators to identify 1,463 contacts under the age of 5 eligible for isoniazid preventive therapy (IPT), 518 of whom were started on this preventive treatment.

DR Congo - This quarter, 24,401 close contacts of 5,971 bacteriologically confirmed index cases were identified, of whom 22,186 (91%: 22,186/24,401) were visited, among whom 5,225 presumptive TB

patients (24%) were identified, 5,166 (99%) were tested, and ultimately 433 TB cases (all forms) were diagnosed (8%). Among those diagnosed, 324 (75%) had bacteriologically confirmed TB, 34 (8%) were clinically diagnosed, and 75 (17%) had extra-pulmonary TB (EPTB).

Namibia - Among 1,142 index patients eligible for CI, 1,093 (96%) had a documented CI action; 860 children (contacts) under the age of 5 were documented, of whom 689 (80%) were screened for TB, and 403 (58%) were started on IPT. Of the 4,627 adult contacts identified, 4,062 (88%) were screened for TB and 267 (7%) were started on IPT.

Ethiopia - Among 7,765 index TB cases, a total of 23,958 (all age group) household contacts were registered in the quarter across all the Challenge TB supported regions. Of these, 23,797 (99%) were screened, and 60 were diagnosed with TB.

Ukraine - The first-ever training curriculum for a three-day training on CI based on the algorithm was

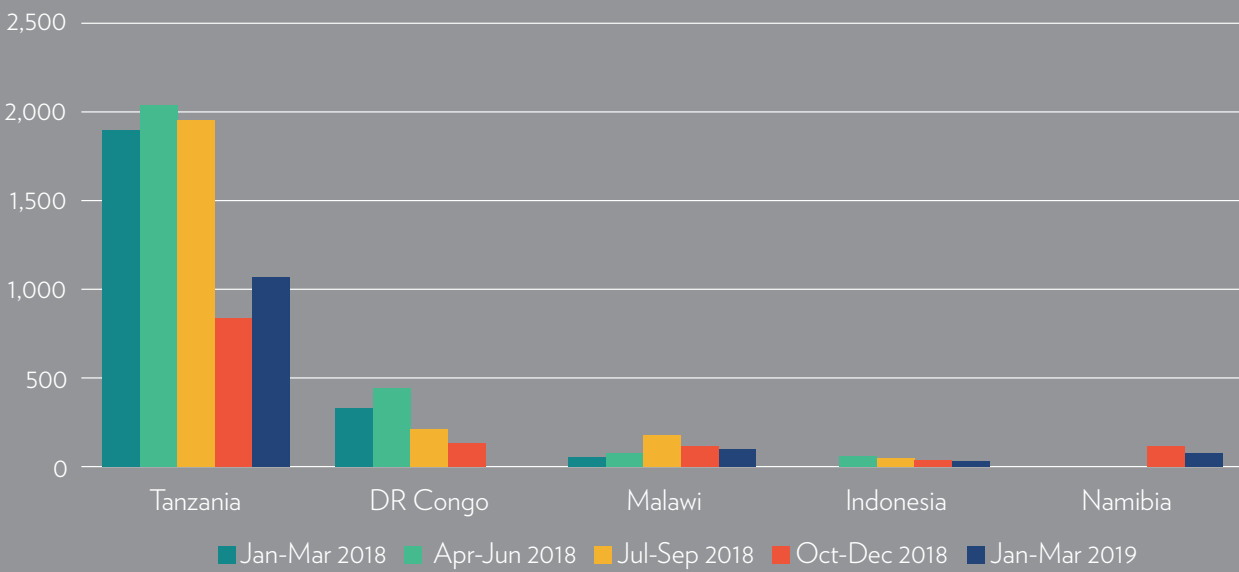
developed by the project. The first three trainings were conducted by the project for 42 participants from the Dnipropetrovska, Odessa, and Donetsk oblasts. The trainings received positive feedback from participants and other oblasts expressed an interest in receiving the same training. The curriculum will be provided to the NTP to be used to build capacity in implementing CI throughout the country.

ACTIVE/INTENSIFIED CASE-FINDING AMONG PEOPLE LIVING WITH HIV

Quarterly trends on TB cases notified through ICF among PLHIV are presented for five countries, which implement the respective interventions and reported complete data. The decreasing trend in the number

of TB cases among PLHIV observed in Tanzania, reflects a decreasing HIV prevalence in the country. In DR Congo, the decrease is due to stockouts in Xpert cartridges and HIV tests.

THE NUMBER OF CASES (ALL FORMS) NOTIFIED AMONG PLHIV IN CTB AREAS (2018-2019)



COUNTRY HIGHLIGHTS

Tanzania - Targeted screening yielded 1,077 TB cases among PLHIV compared to 852 cases in the last quarter. To facilitate the TB diagnosis among this population, Challenge TB has incorporated the LF-LAM (lateral flow lipoarabinomannan) urine test in the revised national TB manual, as the current symptomatic screening mean there is a high possibility of missing TB patients among PLHIV with advanced immune-suppression.

Namibia - In March 2019, rapid assessments were conducted in 13 Antiretroviral Therapy (ART) units in three regions. A total of 122 (96%) out of the 127

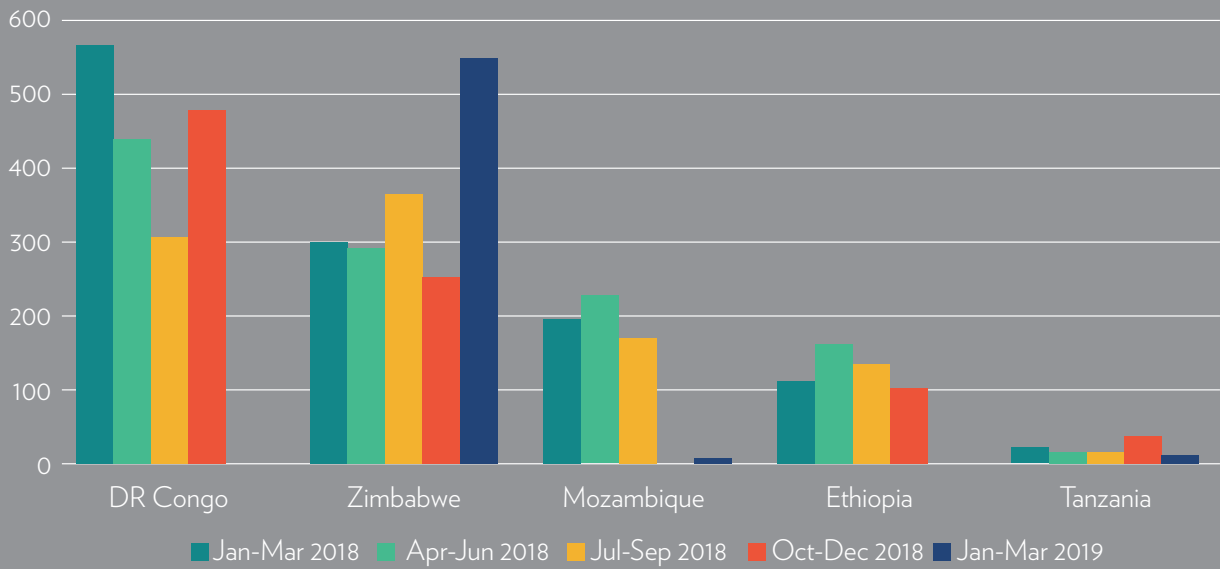
patients reviewed during the visit were screened for TB at the last visit; of whom eight (7%) screened positive for TB and were investigated; five (63%) of the eight were diagnosed with TB and four (80%) started on TB treatment. The one patient who did not start TB treatment at the time of the assessment, received results three months later due to a lack of GeneXpert cartridges. The very high positivity rate among the PLHIV tested for TB indicates that the screening criteria are too tight, this was discussed with the programs, along with issues around delays in the start of treatment and the availability of Xpert tests.

ACTIVE/INTENSIFIED CASE-FINDING AMONG MINERS

In DR Congo, Ethiopia, Mozambique, Tanzania, and Zimbabwe Challenge TB supports ACF/ICF among miners. This quarter, there was a substantial increase in the number miners diagnosed with TB in Zimbabwe, which was due to the revision of

standard operating procedures (SOPs) of targeted screening for active TB, including changing the hours of screening to later in the day to accommodate artisanal miners who prefer to be screened after working hours.

THE NUMBER OF CASES (ALL FORMS) NOTIFIED AMONG MINERS (2018-2019*)



* Challenge TB in Mozambique no longer supports ACF among mining communities; In Tanzania the observed decrease is due to inadequate funds to support this activity in Quarter 2.

COUNTRY HIGHLIGHTS

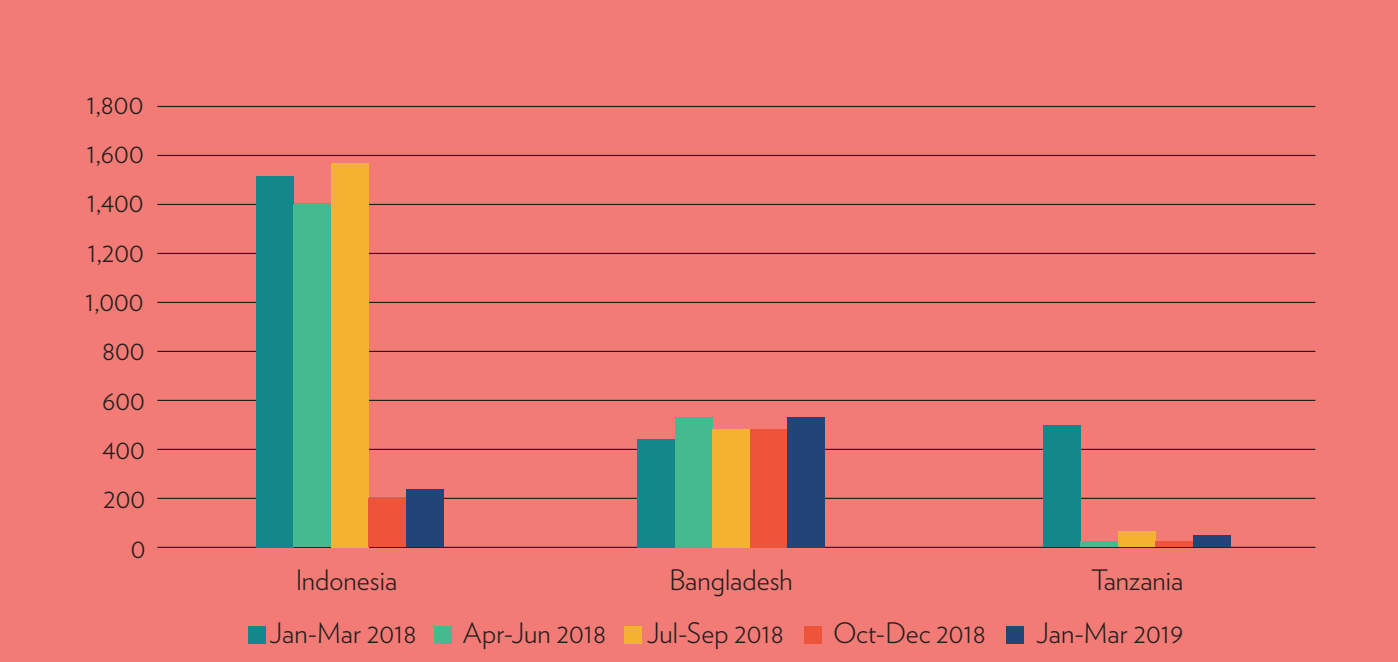
Ethiopia - Mineworkers and their families in six woredas of the Oromia region have been given health education sessions on TB, TB/HIV, and infection control practices. A total of 6,573 mineworkers and their families have been screened for TB, 778 (12%) presumptive TB cases were identified and 102 (1.5%; 1,551/100,000 population) active TB cases were diagnosed and put on treatment.

Tanzania - Six CBOs and 355 community TB volunteers implemented advocacy, communication, and social mobilization (ACSM) community initiatives. The interventions are strategically focused on expanding the ACF targeting the key populations defined by the NTP at the community level (i.e., miners, people who inject drugs, contacts of bacteriologically confirmed TB patients, fisherfolk, and people living in slum areas).

ACTIVE /INTENSIFIED CASE-FINDING AMONG PEOPLE WITH DIABETES

In Bangladesh, Indonesia, and Tanzania Challenge TB supports ACF/ICF among diabetes melitus patients as such co-affected patients have a three times higher risk of developing active TB compared to persons without diabetes.

THE NUMBER OF CASES (ALL FORMS) NOTIFIED AMONG DIABETES PATIENTS (2018-2019*)



* Indonesia data for Oct-Dec 2018 and Jan-Mar 2019 comes from PHC implementing DPPM network and are incomplete; Re-organization of diabetes services in Tanzania caused difficulties in getting data.

COUNTRY HIGHLIGHT

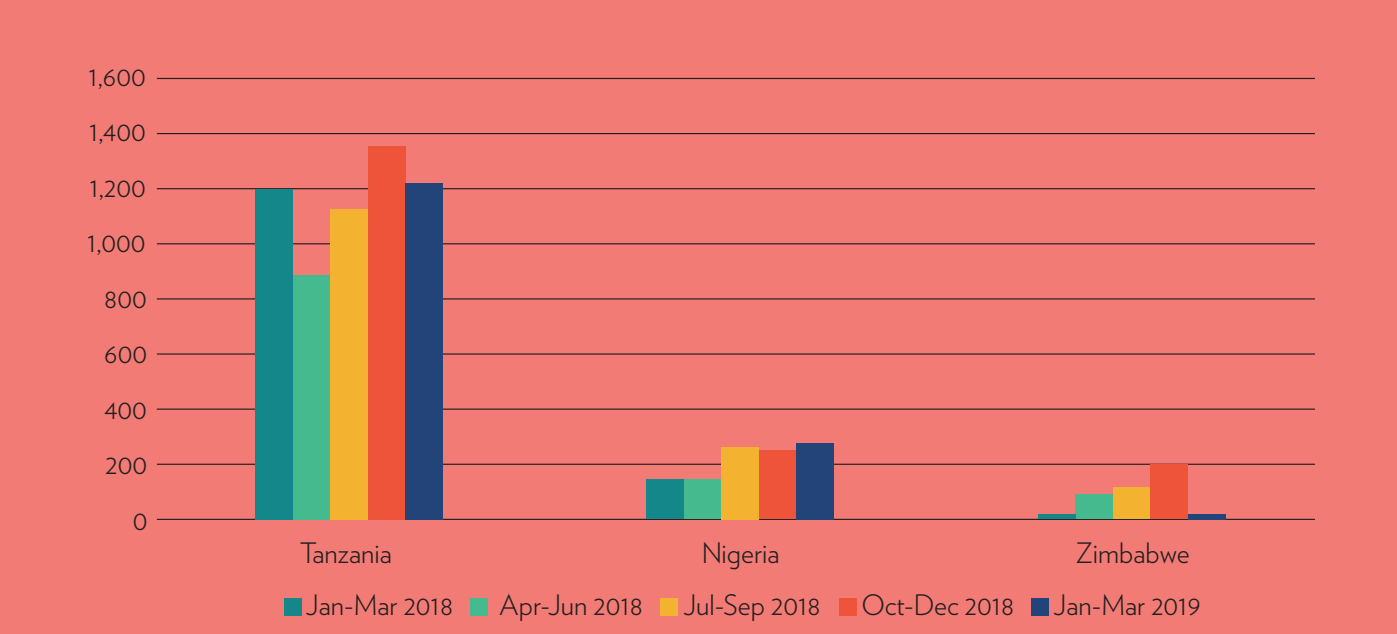
Bangladesh - Challenge TB provided financial and technical support to local NGO BADAS in delivering integrated TB and diabetes care services to diabetes melitus patients. In this reporting quarter, BADAS identified 5,684 presumptive TB patients and diagnosed 529 (9%) patients with TB (bacteriologically confirmed: 386; clinical diagnosis: 76; EPTB: 67). Among these, 298 (56%) were male and 231 (44%) were female; the majority (513 [97%]) were adults. All 529 diagnosed TB patients were initiated on treatment.



ACTIVE/INTENSIFIED CASE-FINDING OTHER APPROACHES

Challenge TB supports contexts specific outreach approaches for TB case-finding and care, especially in urban slums and other populations with limited access to healthcare in Nigeria, Tanzania, and Zimbabwe.

THE NUMBER OF CASES (ALL FORMS) NOTIFIED THROUGH OTHER ACF/ICF ACTIVITIES (2018-2019*)



* Tanzania – ACF/ICF among key populations (slums areas, drug users, elderly); Nigeria - WoW campaign was implemented in four States; Zimbabwe - targeted screening for active TB using mobile trucks.

COUNTRY HIGHLIGHT

Tanzania - Through community-based ACF among key populations (i.e., people living in slum areas, people who inject drugs, and the elderly), a total of 6,597 were identified as presumptive TB patients; 5,327 (81%) were referred for TB testing; and 4,843 (91%) were tested for TB. Of those tested, 599 (12%) were diagnosed with TB (with 79% bacteriologically confirmed), and 593 (99%) of those diagnosed started of anti-TB medication. In addition, health-facility based TB screening yielded 618 TB cases among the elderly in this quarter compared to 547 in the previous quarter.

Nigeria - In Lagos and Kano states, the Challenge TB-funded Wellness on Wheels (WoW) trucks (equipped with digital CXR, CAD4TB, and GeneXpert) were deployed to high volume health facilities, resulting in significant yields in number of TB patients diagnosed each week. During this period, 15,300 persons were screened for TB with digital X-ray and of this number, 2,057 (13%) presumptive TB cases were identified and 1,990 (97%) were tested with GeneXpert resulting in the diagnosis of 275 MTB+ TB patients; representing 2 percent (275/15,300) of persons screened. Of the total 275 diagnosed MTB+ patients, ten were RR-TB.

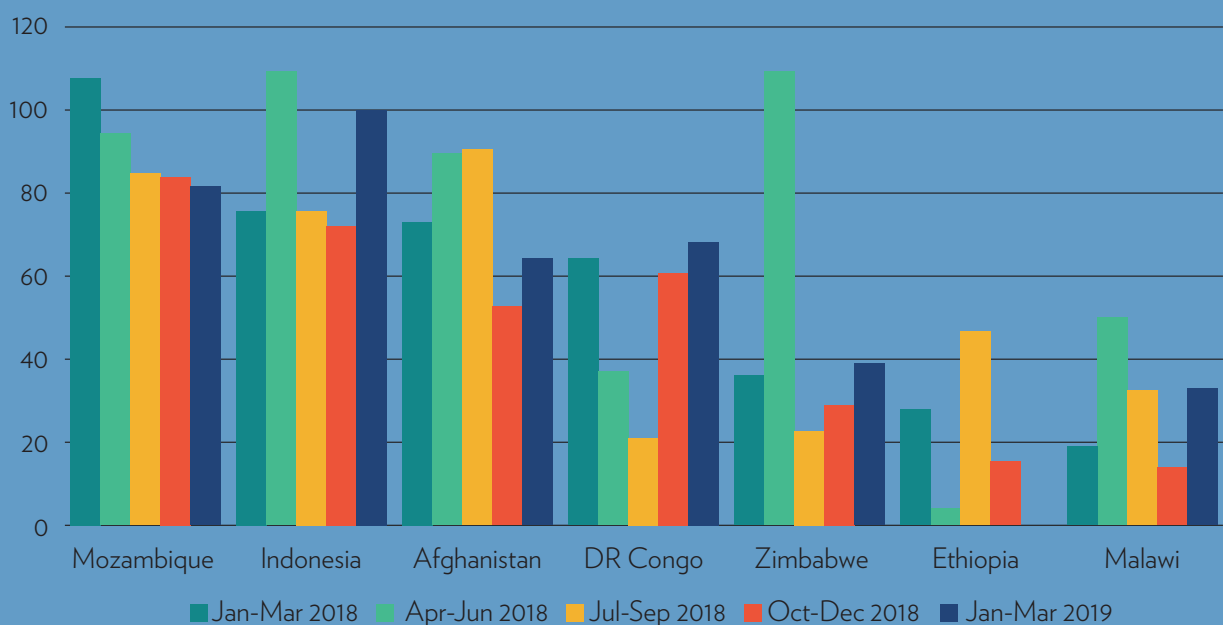


PRISONS

Challenge TB continued to support the implementation of TB care and prevention in prisons, by implementing entry, periodic, and exit screening of inmates. The overall screening participation and

treatment uptake are high. Quarterly trends on TB cases notified from prisons in Challenge TB areas are presented for seven countries, which implement the respective interventions and reported complete data.

THE NUMBER OF CASES (ALL FORMS) NOTIFIED FROM PRISONS IN CTB AREAS (2018-2019)



* Indonesia data for 2018 Jul-Dec 2018 and Jan-Mar 2019 is not complete; In Malawi the decreasing case notifications from two prisons suggest the positive effect of repetitive bi-annual screening.

COUNTRY HIGHLIGHTS

Afghanistan - Challenge TB and the NTP are committed to strengthening TB services in prisons. Six prisons (Pul-i-Charkhi/Kabul; Bagram/Parwan; Kandahar; Balkh/Mazar-i-Sharif; Herat; and Nangarhar/Jalalabad) implemented routine TB activities during this quarter. In total, 14,099 prisoners were screened for TB; of them 63 (0.4%) TB cases (all forms) were diagnosed; 30 of them were bacteriologically confirmed. The treatment success rate for prisoners is higher and remains at 94%. This is mostly due to patients who are taking their anti-TB medicine without interruption and the fact that patients are under direct observation by medical staff.

DR Congo - Challenge TB conducted entry, periodic and exit screening in the 12 prisons in Challenge TB supported provinces. This quarter, all 4,246 prisoners (100%) were sensitized and screened, 514 presumptive TB cases were identified (12%:

514/4,246), 358 (70%: 358/514) were investigated, and a total of 68 TB cases (all forms) were identified and started on treatment (19%: 68/358); 66 were bacteriologically confirmed (97%: 66/68) and 2 were clinically diagnosed (3%: 2/68).

Malawi - Challenge TB supported targeted screening of prisoners and prison staff in Nkhotakota, Kasungu, and Chikwawa prisons. During these screening sessions, a total of 1,179 people were screened for TB and other conditions such as sexually transmitted infections and HIV. From this total, 33 (3%) TB patients were diagnosed and put on treatment. This means that the number of people needed to be screened to find one TB patient (NNS) is low at 36. The largest contribution to this was by Chikwawa prison.

MANAGING GENEXPERT SCALE-UP

Challenge TB provides technical assistance 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

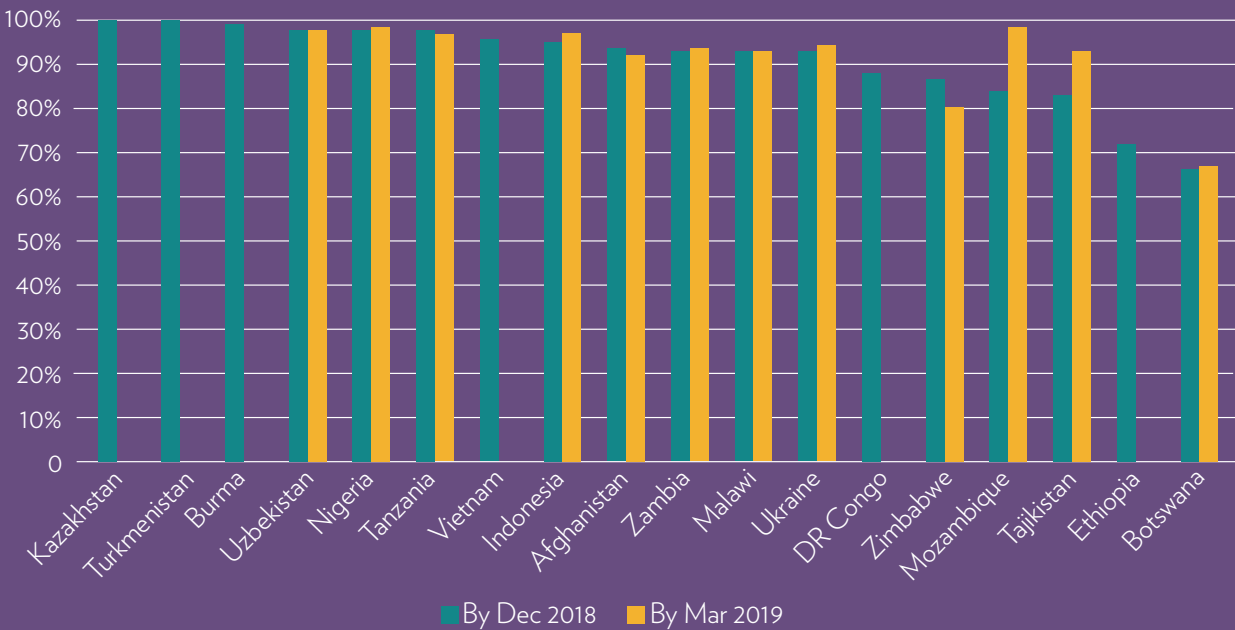
transportation system (STS), with an overall aim of ensuring that Xpert MTB/RIF functions as the primary test.

NUMBER OF GENEXPERT MACHINES AND FUNCTIONALITY

By the end of December 2018, a total of 4,322 GeneXpert machines were installed across all countries compared to 3,842 in the previous

reporting period. Out of 19 countries reporting complete data on functional modules, 14 reported a functionality higher than 90%.

PERCENTAGE OF GENEXPERT MODULES FUNCTIONING, 2018-2019*



* Bangladesh, Cambodia, India, and Kyrgyzstan are excluded due to incomplete data.

COUNTRY HIGHLIGHTS

Bangladesh - With support from Challenge TB, the NTP organized a workshop on introduction of Xpert ultra cartridges, GeneXpert network optimization and the development of a guiding document. A total of 52 participants from the NTP, the national/regional TB reference laboratories, BRAC, iccdr, Damien Foundation, and the Cepheid local agency attended the workshop. They were trained on introduction of Ultra cartridges and the Cepheid local agency was involved in preparing the network by upgrading the software. In this workshop, major achievements included: revision of the algorithm, updating the Standard Operating Procedures (SOPs), and revision of recording and reporting formats.

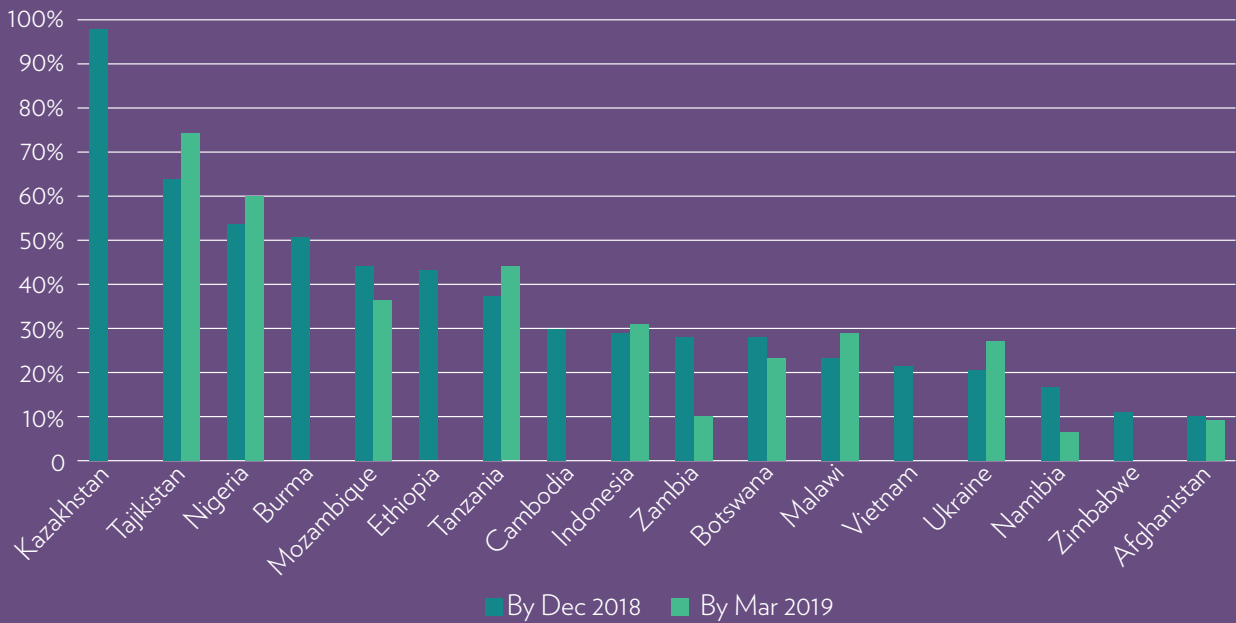
Malawi - Twice a year a set of EQA proficiency test panels for Xpert MTB/RIF test are provided to each enrolled testing site through the support from the Centers for Disease Control and Prevention (CDC - Atlanta, USA). For the two rounds in 2018, 63 (98%) out of 64 sites that submitted proficiency test results in the Round A and 57 (92%) out of 62 sites in Round B had an acceptable performance of more than 80%. Root cause analysis was conducted for the six sites that underperformed. The reasons for the underperformance was poor functioning backup batteries and transcription errors. New batteries were provided, and two sites were mentored on proper and accurate documentation.

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 process of scale-up of the GeneXpert system, utilization rates may vary, especially between existing and new sites. In the current quarter (i.e., by March 2019), Nigeria and

Tajikistan reported utilization rates of 60 percent and above (60% and 73% respectively). The average utilization (n=10) was 34 percent. Six countries reported utilization rates higher than the previous quarter.

GENEXPERT UTILIZATION RATE, 2018-2019*



* Bangladesh, DR Congo, India, Kyrgyzstan, and Uzbekistan are excluded due to incomplete data.

COUNTRY HIGHLIGHTS

Malawi - GxAlert data on errors was reviewed in 11 sites between Jan-March 2019 to determine the effectiveness of the mentoring program. There were no errors in two sites (Mulibwanji Mission Hospital and Sister Tereza Clinic), a less than 5 percent error rate in five sites, and four sites showed no significant change in error rate.

Nigeria - Challenge TB lab staff carried out continuous quality improvement initiatives to enhance performance and ensure optimal quality of laboratory services across their supported LGAs. TB data fellows were trained to translate GxAlert data into meaningful insights for data driven decision-making using Tableau software. Post-training, the data fellows track machine utilization rates and report to the NTP routinely. They also monitor and report the quality of test (error rates) at any given time

resulting in a significant reduction in error rate from 6 percent in the previous quarter to 4 percent in the current quarter in 128 Challenge TB-supported GeneXpert sites. Challenge TB Laboratory Officers provided on-site mentoring to GeneXpert machine end users in order to reduce the number of errors.

DATA CONNECTIVITY SYSTEMS

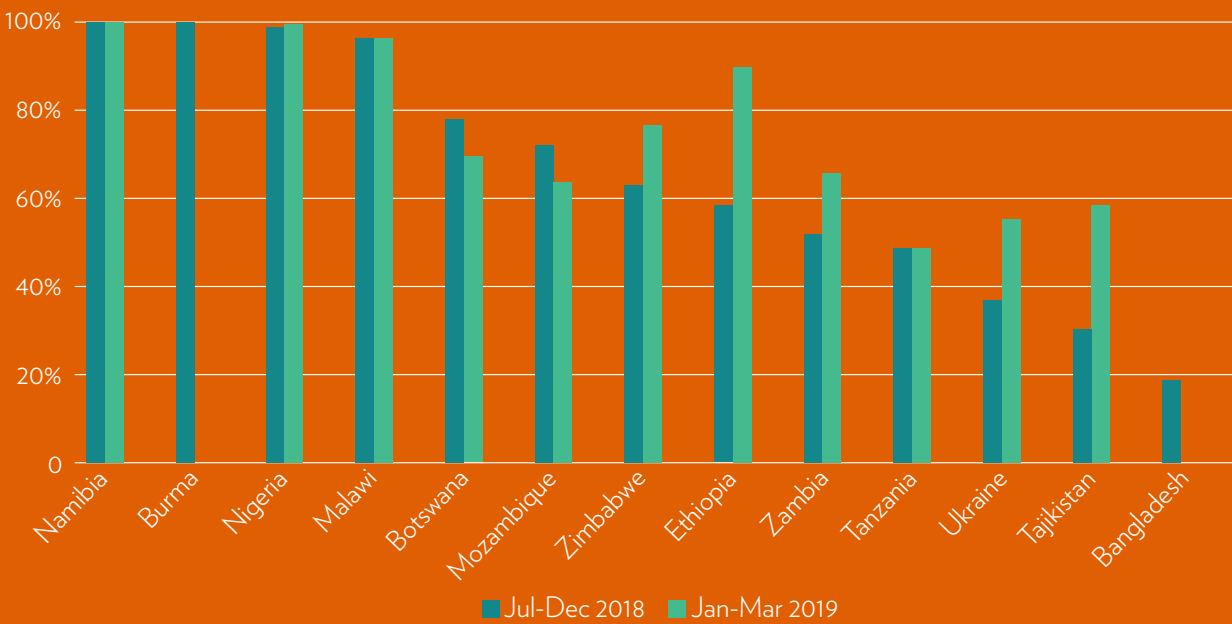
In the current reporting period (i.e., by March 2019), 31 percent of the GeneXpert machines were connected; this data is based on information submitted by 12 countries. Namibia, Nigeria, and Malawi reported a connectivity rate of above 95 percent with 100, 99, and 96 percent respectively.

Challenge TB supported the development and submission of the GLI Diagnostic Connectivity Symposium for 2019 Union Conference. The focus of this symposium is to take participants through the building blocks for the implementation of diagnostic connectivity, share Challenge TB experiences and lessons learned on how connectivity solutions strengthen diagnostic capacity, and assess the strategies on how countries can interpret and utilize this diagnostic data.

Remote support has been provided for the development of the 'GLI Diagnostic Connectivity Task Force Guide' that lists the essential components, fundamentals, and characteristics of connectivity solutions, along with variants and options available in order to identify and evaluate them. It is expected that this guide will be available during 2019 Union conference.

A list of generic data elements/indicators was developed which can be obtained directly from the connectivity system and be used for informed decision-making at all levels (health facility, district, provincial, and national), this will be piloted in Botswana in the next quarter.

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



* Kyrgyzstan, Burma, and Bangladesh excluded due to incomplete data; Indonesia not shown due to the low figures reported.

COUNTRY HIGHLIGHTS

Ethiopia - Among the 314 GeneXpert systems installed in the country, 281 of them were connected to the server through GxAlert (i.e., 89% machines are connected by Mar 2019, which is a significant increase from the 59 percent reported in the previous reporting period). All regions are reporting actively on the GxAlert dashboard, except for the Somali regional state.

Zambia - Challenge TB continued to support DataToCare implementation and scale-up in its six target provinces. The project completed software installations in ten GeneXpert sites, and a total of 85

out of 95 (89%) GeneXpert sites are now connected to DataToCare in Challenge TB-supported sites. The remainder of the machines will be connected in Quarter 3 of 2019. By the end of the quarter a review of data on DataToCare showed improvements. GeneXpert utilization improved from 9 to 31 percent while error rates reduced from 20 to 8 percent on average across the six facilities. The activity provided an opportunity to mentor provincial Ministry of Health (MoH) staff on effective supervision to improve service delivery. Challenge TB plans to mentor more MoH staff in Quarter 3 to strengthen the GeneXpert network in the provinces.



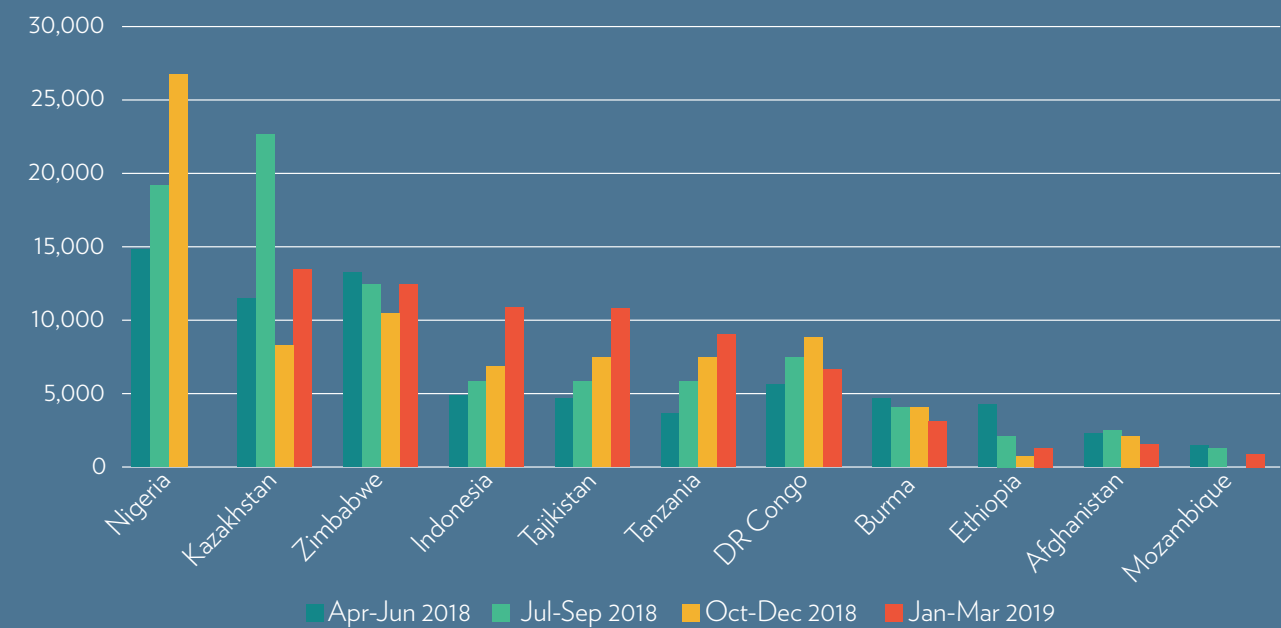


SPECIMEN TRANSPORTATION

Between January and March 2019, a total of 70,117 samples were transported in Challenge TB supported areas in 10 countries. Kazakhstan,

Zimbabwe, Indonesia, Tajikistan, and Tanzania transported more samples compared to the previous quarter in Challenge TB supported areas.

NUMBER OF SPECIMENS TRANSPORTED FOR TB DIAGNOSTIC SERVICES, CTB AREAS, 2018-2019*



* India excluded due to incomplete data; Nigeria has no data for Jan-Mar 2019 because the activity was transferred to other IP's implementing integrated sample transfer supported by USAID; Ukraine not shown due to the low figures reported.

COUNTRY HIGHLIGHTS

Tajikistan - Due to the expansion of the transportation system to 15 new sites, the number of specimens transported to the TB laboratories for diagnostic purposes has increased, with 60 percent of specimens transported to TB laboratories nationally, were through contribution of Challenge TB. A well-established sample transportation system allowed a reduction in the time from diagnosis to the start of treatment from 2-3 months at the beginning of the Challenge TB project to a maximum of 12 days in the reporting quarter.

Indonesia - Access to high quality diagnostics for presumptive TB has been expanding significantly at the district level. The implementation of SITRUST to facilitate specimen transportation in 12 Challenge TB districts resulted in an 83 percent utilization rate, with 8 out of the 16 Challenge TB districts reaching more than 90 percent.



HOME IS WHERE THE HEART IS

Someone once said that a family can only thrive with a loving woman at its center.

Family is the heart of Shyrynkul's world, she has three sons and one daughter. Sadly, she lost her husband to a heart attack, only two years ago. The oldest son and daughter live in the south capital, Almaty, and her other two sons and their five grandchildren all live with her in one big house in the village Talsuat near to Kyzylorda city, Kazakhstan.

Shyrynkul was one of the first patients in the Kyzylorda region with multidrug-resistant TB (MDR-TB) who was offered treatment with the shorter treatment regimen, a new, cost-effective, and above all, faster method of treating patients with MDR-TB. These new treatments cut the treatment time from 20 months to a more manageable 9 months. With the technical support of USAID's Challenge TB project, enrollment of MDR-TB patients on these new treatments started in five regions of Kazakhstan in April 2018.

Shyrynkul's story began at work:

"I was working as a cleaner in the TB dispensary. The work was not difficult, but it was dangerous, there was the ever-present danger of TB. But life is like that, you have to take some risks to support your family.

When I got a cough and a fever, I thought maybe I had bronchitis, or that perhaps I just had a cold. For a month I took antibiotics and a traditional remedy prepared from grass, but neither worked.

I decided to visit a doctor where I was given an X-ray, and my sputum was tested with GeneXpert, a rapid test for drug-resistant TB. This was how they confirmed that I had a form of the TB which was resistant to the drug Rifampicin.

I was in shock, I couldn't believe that I had TB. I was absolutely sure that it couldn't happen to me. It was so hard for me to hear, you can't imagine how scared I was when the doctor told that I had TB and not just that, it was drug-resistant and I know from experience, that this form of TB can take years to cure. I immediately, thought of my family, about my children and grandchildren. Who would support them? Who would take care of them?

When my doctor said that I could be treated with the newly introduced shorter treatment regimen my first reaction was that I couldn't believe that it was possible to be cured in nine months. But when the news sank in, I was so happy. He told me about the new drugs and how they had just been launched in my region, so I was lucky too. My family could not be without me for two years, it was too long. With this new kind of treatment, I had the chance to be cured in half the time and return to normal life.

The faster I could be cured, the sooner I would be back to my family, I was afraid that they could not survive without me for two years.

My children always supported me and motivated me to complete my treatment. They visited me in the hospital whenever my doctor allowed. They kept my spirits up by sharing their news and telling me everything which was happening in their lives during my absence. Thankfully, all of my colleagues also supported me too, you can't ask for more than that. All of my family and colleagues were also tested, and thankfully they are TB free.

Before I got TB I loved nothing more than to cook for my family, but the four long months I was in the hospital, meant I couldn't. Now, I'm back home, I am making food for them again. I love to cook them Plov – a traditional dish made with rice, onion, carrots, and meat - the dish symbolizes identity, hospitality, community, all important qualities for my people. Joy for any mother is to see her children happy, healthy, and enjoying a good meal. I am proud of my children, they give me wings and have always been there to support me.

In March 2019, I completed my treatment, and I was cured. I immediately returned to my job in the dispensary, and I hope that I will stay healthy. I am scared, but it is very difficult to find another job, and I have received so much support from my colleagues. Now, I'm much more careful about my health, we all use respirators, and carefully monitor each other's health.

I hope that every other TB patient can finish their treatment successfully and as quickly as I did so that they can get back to their families as soon as possible."

Since November 2017, the Challenge TB project has supported the National TB Program with the scale-up new drugs and shorter treatment regimens in five out of the seventeen regions in the country.

By March 2019, 119 MDR-TB patients were enrolled on the shorter regimen and 258 on individualized

treatment with new drugs. Of the first 25 patients who completed the shorter regimen, 24 have already been cured. New drugs and shorter regimens to treat drug-resistant TB are now available across the whole country, which means more people like Shyrynkul can be cured and reunited with their families without delay.



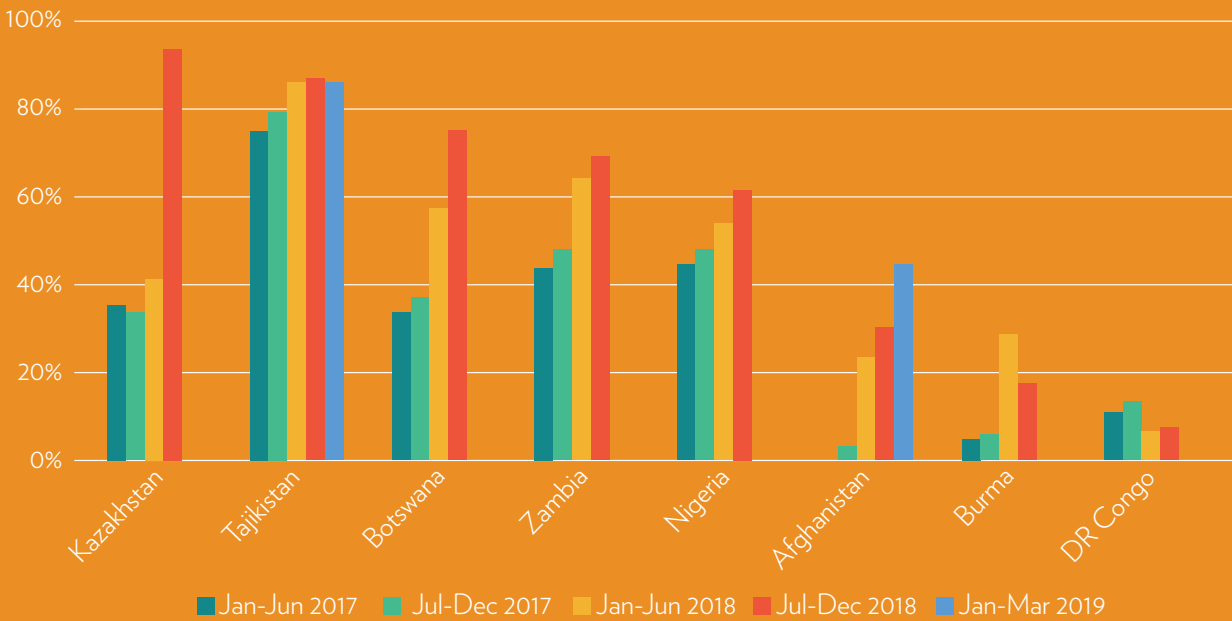
PROGRAMMATIC MANAGEMENT OF DRUG RESISTANT TB (PMDT)

DIAGNOSIS OF RR-/MDR-TB

Challenge TB has supported the strengthening of laboratory systems aiming at improving the diagnostic capacity of TB and also 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.

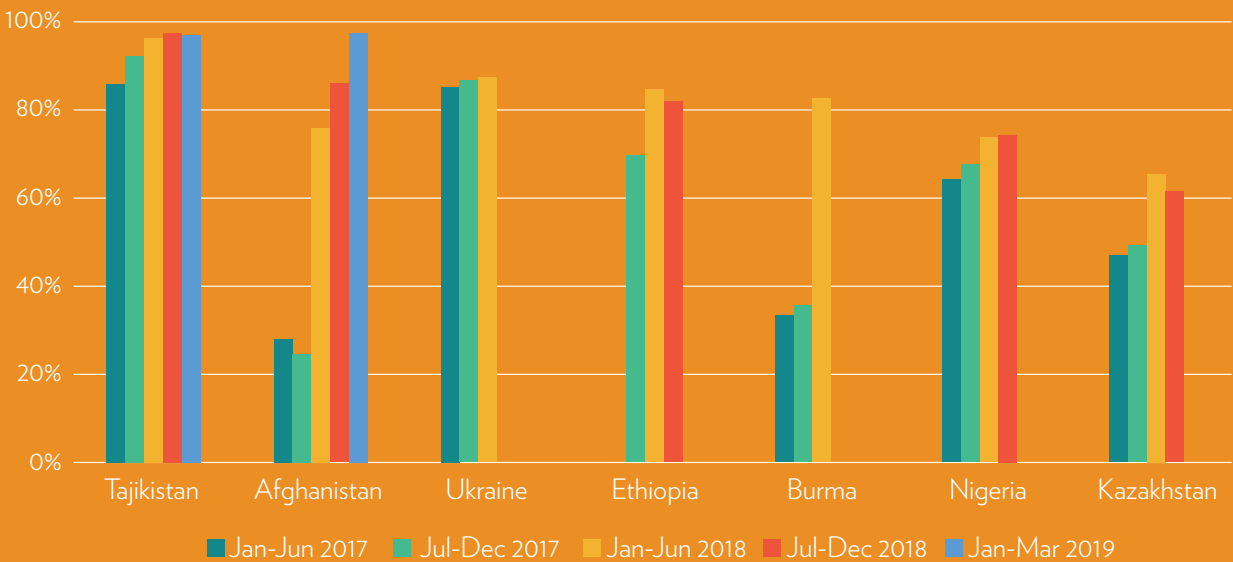
Two Challenge TB countries now have more than 85 percent of new cases tested for RR-TB (Kazakhstan and Tajikistan). Afghanistan has also shown a significant improvement as it has only recently started testing new TB cases for RR and has now reached 45 percent of new TB cases tested for RR-TB.

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

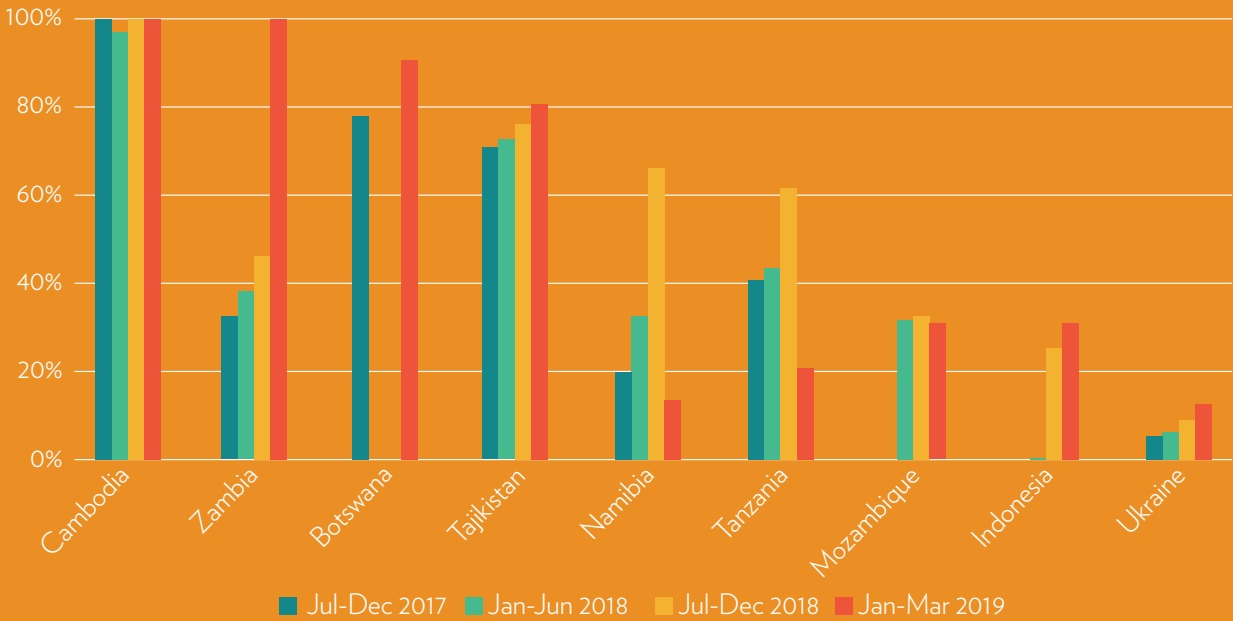


The testing of previously treated TB cases for RR-/MDR-TB has also increased with three countries now above 85 percent (Tajikistan, Afghanistan, and Ukraine), and with Ethiopia and Burma testing more than 80 percent of previously treated patients for RR-/MDR-TB.

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



PERCENTAGE OF RR-TB CASES TESTED WITH SL-LPA, CTB AREAS, 2017-2019



* Decreasing percentage reported in Namibia and Tanzania for this quarter is due to a stockout of SL-LPA reagents.

COUNTRY HIGHLIGHTS

Zambia - An increase in the number of patients (new and previously treated) being tested at the national level for DR-TB was observed. From 7,259 between January-June 2018 to 9,466 between July-December 2018, while in Challenge TB areas, the number increased from 3,896 to 4,583 during the same period. The proportion of TB patients tested for RR-TB by GeneXpert increased by 7 percent from 53 to 60 percent in Challenge TB supported provinces while at the national level it increased by 9 percent from 42 to 51 percent. This increase coincided with the implementation of several key activities by the NTP and its partners such as improved reporting

and the deployment of more GeneXpert machines. Challenge TB also supported activities to strengthen PMDT such as training in Xpert testing and the expansion of DataToCare utilization.

Indonesia - Challenge TB assists in the set-up of a specimen network from GeneXpert sites to the respective culture and SL-LPA labs in Challenge TB supported provinces. A total of seven SL-LPA labs have been established to support the implementation of the shorter treatment regimen, and a technical guideline for SL-LPA is available.

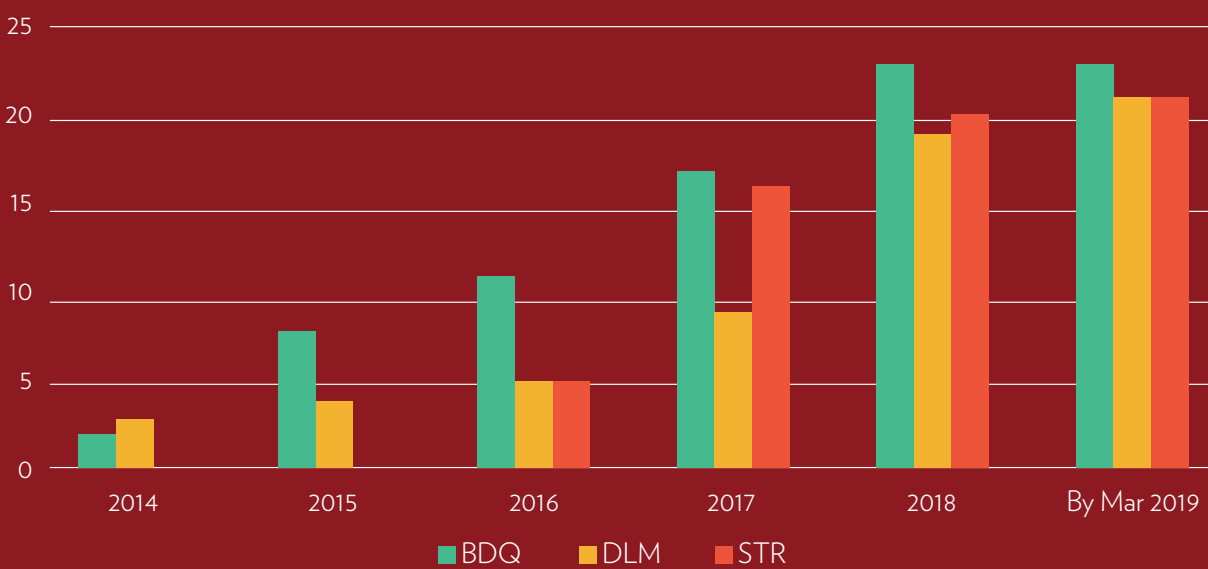


NEW DRUGS AND REGIMENS (ND&Rs)

Challenge TB has assisted countries with the implementation of ND&R aiming at providing a better treatment outcome to DR-TB patients. Bedaquiline (BDQ) has been implemented in 23

Challenge TB countries, while the shorter treatment regimen (STR) and delamanid (DLM) have been implemented in 21 Challenge TB countries

NUMBER OF COUNTRIES INTRODUCING ND&Rs, 2014-2019



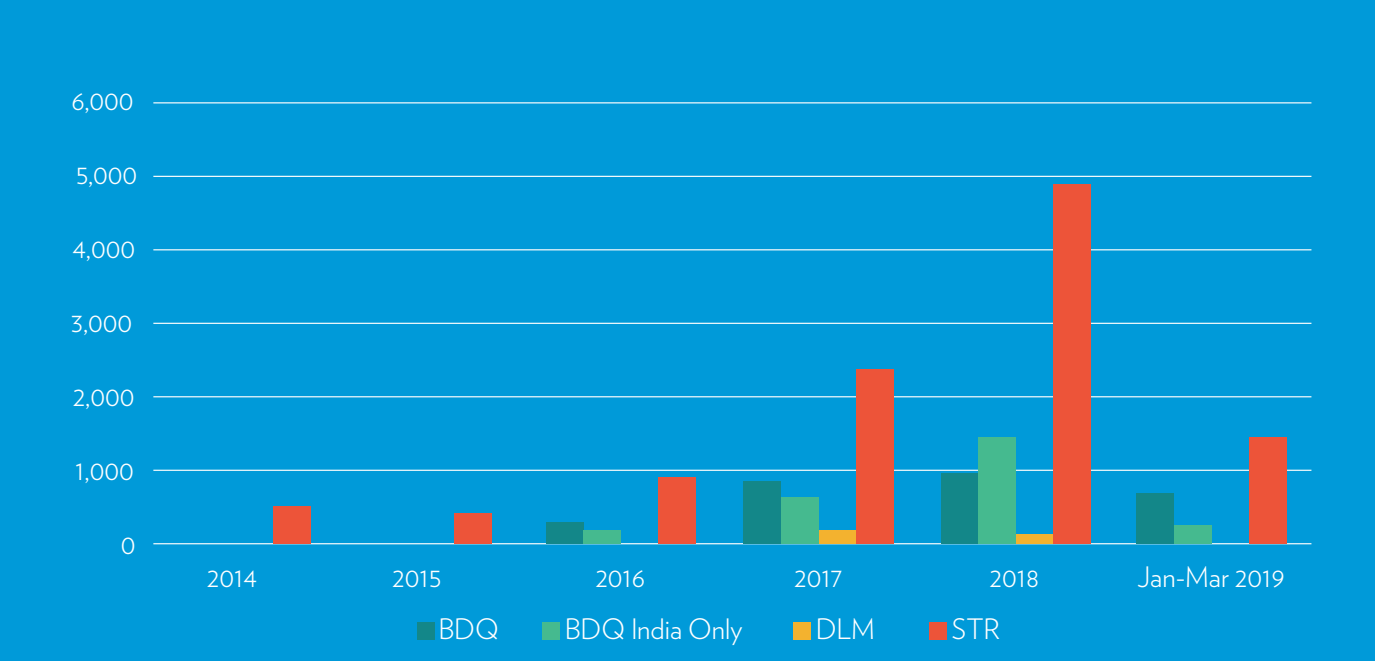
The number of sites offering ND&R as well as the number of patients enrolled at them continues to increase. As of this quarter, BDQ is available in 420 treatment initiation sites in 23 countries: 972 patients started a regimen containing BDQ this quarter. DLM is available in 201 treatment initiation sites in 21 countries; 99 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 have been possible. This off label use has been authorized by the relevant country authorities. In this quarter, 69 XDR-TB patients started a regimen containing both BDQ and DLM. The STR continues to be expanded, this quarter it was available in 911 treatment initiation sites in 21 countries: 1,470 patients started a shorter MDR-TB regimen this quarter. The data for India is not currently available.

reported in patients receiving BDQ, three SAEs in patients receiving DLM, eight SAEs in patients concomitantly receiving both drugs, and 23 SAEs in patients receiving the STR; 18 patients died while on treatment with BDQ, however, no causality assessment has been completed. No patient deaths were reported in patients receiving DLM, and one death was reported in patients using a combination of both drugs.

Active TB drug-safety monitoring and management 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, 56 SAEs were



CUMULATIVE NUMBER OF PATIENTS ENROLLED ON ND&Rs IN 23 CTB COUNTRIES, 2014-2019*



* The number of patients started on BDQ in India is presented separately

COUNTRY HIGHLIGHTS

Tajikistan - This quarter the Challenge TB project focused on the preparation of 15 new sites for the implementation of the new treatment regimens in the Bokhtar area of Khatlon oblast. The preparation included building the clinical capacity in TB and primary healthcare (PHC) facilities through trainings, the establishment of the regional Centers Doctors Concilium, putting a sample transportation system in place, and establishing clinical and biochemical laboratory for the clinical monitoring of patients on treatment. Challenge TB supported trainings on DR-TB clinical management, Childhood TB, specimen collection and transportation, drug management, laboratory diagnostics, GxAlert use, active TB drug safety monitoring and management (aDSM), and DR-TB recording and reporting. In total, 872 specialists were trained between January-March 2019 in 15 new sites.

Ethiopia - Due to the new guidelines from WHO on the management of DR-TB patients, Challenge TB supported the development of a transition plan and an addendum to the national guidelines taking the new changes into consideration. Challenge TB is currently supporting the revision of the training materials for DR-TB as per the new WHO guidelines, which will be followed by training of trainers and cascade trainings for all treatment initiation centers.

Ukraine - The project continued providing technical assistance in developing the strategy on implementation in the country of the new WHO recommendations for treatment of multidrug- and rifampicin-resistant TB (MDR/RR-TB). Technical assistance was provided to develop the strategy and standard operating procedures to guide the introduction of new drugs and treatment regimens into routine practice.

Botswana - Following the release of new WHO recommendations for MDR/RR-TB treatment in Q1 and Q2, Challenge TB in collaboration with NTP organized a stakeholder meeting to discuss the transition plan with regards to the new WHO policy change for MDR/RR-TB treatment. The country decided to adopt fully oral regimens: a modified short treatment regimen under operations research will be offered to all patients meeting the eligibility criteria, all other patients will receive a full long oral regimen. The country developed a transition plan with a timeline to submit the protocol for ethical review in May 2019, train HCWs in August 2019, and start enrollment from October 2019.

TB/HIV

Six countries out of the 23 Challenge TB countries received PEPFAR funding and reported on one or more TB/HIV MER indicators. In Malawi, Tanzania, Ukraine, and Vietnam technical assistance is provided at the site and above-site levels, whereas in Botswana and Namibia Challenge TB provides technical assistance to the NTP at the above-site level only. Challenge TB Namibia changed their support to an above site level only as of October 2018. This quarter the frequency of reporting on TB_STAT and TB_ART changed from semi-annual to quarterly. Challenge TB Vietnam was requested to stop reporting on TB_STAT and TB_ART as of October 2018.

TB_STAT (registered new and relapse TB cases with a documented HIV test result)

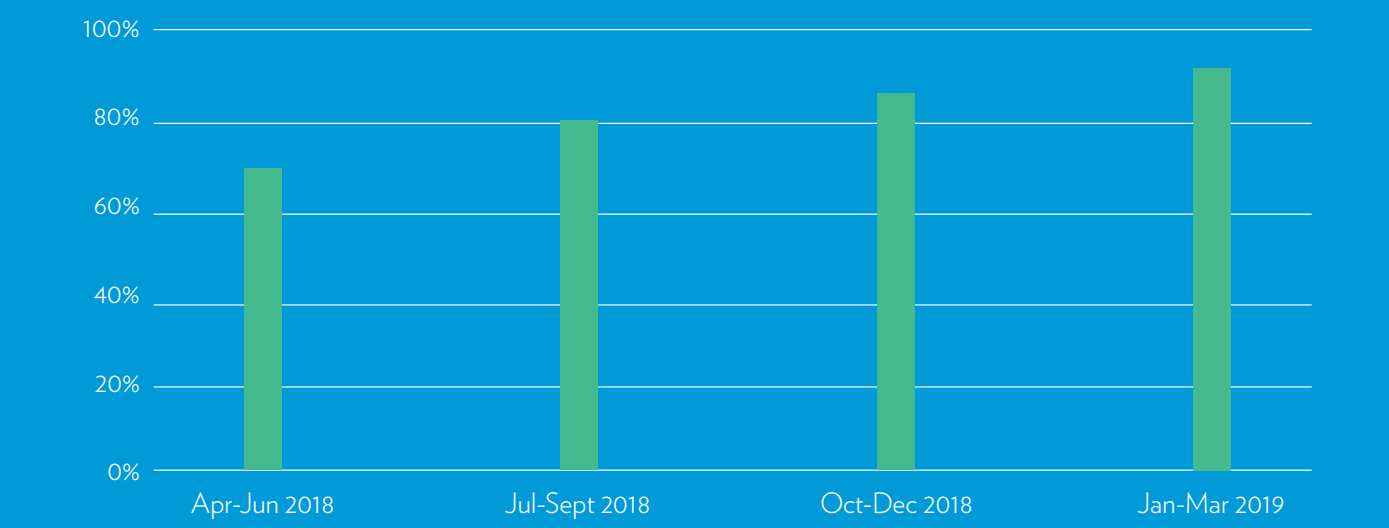
Most countries are close to reaching 100 percent in Challenge TB areas - during this quarter the

performance of Malawi and Namibia exceeded the national targets of 97 and 96 percent respectively, whereas Tanzania and Ukraine are getting close to their national targets of 100 percent. Botswana started using DHIS2 and OpenMRS to report on TB_STAT as of October 2018, the current data are under review and might change in the future

TB_ART (the percentage of registered TB cases with a documented HIV-positive status who started or continued ART)

Four countries (Malawi, Namibia, Tanzania, and Ukraine) were able to report results for the TB_ART indicator this quarter. The first three countries are reporting results close to 100 percent consistently over time and Ukraine is showing a steady increase and reported 91 percent of registered TB cases on ART during Jan-Mar 2019, exceeding their target of 90 percent.

PERCENTAGE OF REGISTERED TB CASES WITH DOCUMENTED HIV-POSITIVE STATUS WHO STARTED OR CONTINUED ART (TB_ART) IN CTB AREAS IN UKRAINE



TX_TB (Percentage of ART patients started on TB treatment)

Namibia reports on TX_TB on a quarterly basis and reported that 83 patients on ART (i.e. 3%, out of 2,698 screened for TB) started on TB treatment this reporting quarter. From January 2018 to March 2019, 6,387 patients on ART were started on TB treatment in Malawi, Namibia, and Vietnam cumulatively, out of 1,093,203 patients on ART screened for TB (0.58%) in Challenge TB areas.

TB_PREV (Percentage of patients who completed TB preventive therapy)

Namibia reports that TB_PREV increased from 1,311 (40%) last quarter, to 2,031 (55%) between Jan-Mar 2019.

Challenge TB Vietnam is waiting for the USAID/SHIFT project to share the data and could not yet report on TX_TB and TB_PREV.



COUNTRY HIGHLIGHTS

Botswana - Logistic preparations (mainly electronic data management system) were supported for the field pilot of the integrated TB/HIV national prevalence survey. Recommendations were made to the system developers to rectify technical errors in the system and prepare another simulation before the start of the field operation.

Malawi - Discussions are ongoing with the NTP on the transition of the GeneXpert network support. The Clinton Health Access Initiative (CHAI) is supporting TB/HIV integration on the use of GeneXpert platforms and has the resources needed to support regular mentoring.

Namibia - Together with NTLP, the National AIDS Control Program, and the MoH Quality Assurance Unit, joint supervision and mentoring visits were conducted in 18 health facilities in 5 out of the 14 regions. The supervision and mentoring visits helped 95 HCWs with the management of TB, TB/HIV, MDR-TB, TBIC, recording and reporting, community-based TB care, quality assurance, and overall health systems strengthening. The supervision and mentoring tool was updated for monitoring the aspects of HIV testing for TB patients and TB diagnostics for PLHIV.

Ukraine - The collaborative TB/HIV programs were expanded to all PEPFAR regions. All oblasts received

45 mentoring visits by joint TB/HIV monitoring teams followed by analytical review meetings. 482 specialists received feedback and capacity building at the workplace for the diagnosis, timely detection, and treatment of TB/HIV patients.

Tanzania - A high-level meeting was organized with the objective of finalizing the *National Integrated TB/HIV Specimen Referral Guidelines*. These guidelines will harmonize the implementation of the laboratory specimen referral system countrywide, by using a standardized and integrated system to improve access and effectiveness of laboratory services for TB and HIV care and treatment. At the request of stakeholders and ART partners, a 3I's (ICF, IPT, and IC) training at the University of Maryland in Tanga region was facilitated, and support was provided to review the National TB/HIV policy.

Vietnam - NTP staff training on Provider Initiated Testing and Counseling (PITC) in health facilities improved the staff's HIV testing and counseling skills. Intensive support is provided in Challenge TB project districts only, however four of the trainings were provided to 153 NTP staff from the provincial and district levels from all districts in Tay Ninh, Ho Chi Minh City, and Da Nang.



CORE PROJECTS

CORE – MEASURING STIGMA

Challenge TB continued providing support to the Stop TB Partnership on the development of a country assessment tool. The framework was agreed upon in November and during this quarter KNCV provided feedback on the assessment tool. The Stop TB Partnership is finalizing the tool with the aim of finalizing in time for the next Union conference.

Validation of the ‘*Codebook of emerging stigma themes*’, developed as part of the pilot of the measurement tool among healthcare workers in Ethiopia, was started and will need to be followed up on during the next quarter. Initial coding and

back translation indicated issues with translation and potential conceptual understanding of phrasings, requiring further validation. KNCV is preparing a report that summarize the findings so far and includes recommendations for next steps. This will be ready during the next quarter.

CORE – PREVENTION

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

- A total of 1,084 participants have completed the study, and an additional 187 have been withdrawn. The remaining 2,756 enrolled participants on the study are in active follow up at the eight participating sites. The final target Month 24 visits are scheduled for 20 September 2019.
- Six of the eight sites are actively seeing participants for their Month 24 visit. The remaining two sites are scheduled to begin their Month 24 visits in April/ May 2019.
- The last participants enrolled have completed their Month 18 visit as of this report date.
- As of the end of this quarter, there are 1,271 participants who are off the study, of which 1084 have completed their participation, and 187 withdrew their participation. Of the withdrawals, 45 because of a desire to no longer participate, 34 are due to loss to follow-up, 33 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 visits are 92.4, 84.1, and 84.6 percent, respectively.
 - At the end of March 2019, the total number of SAEs is 175. The most common SAE is drug-induced liver injury.
 - A Challenge TB monitoring mission was held from March 5 – 9, 2019 in South Africa. All five study sites in South Africa were visited and findings were shared in a separate short mission report. Findings include an update on compliance and branding/ marking (further details can be found in the report).
 - Site staff refresher trainings on proper Month 24 procedures and case report form completion were held in January and February 2019 in the three participating countries. From the South African sites, 40 staff attended. Fifteen staff from Mozambique and 12 from Ethiopia attended.
 - A drug safety monitoring board meeting has been scheduled for May 3 2019.

CORE – BEDAQUILINE COORDINATION

The monthly mechanism of monitoring progress of the introduction of ND&R continued during the reporting period (see below) and the generic ND&R training package developed under the core BDQ project, is currently being updated to align with the WHO “Consolidated guidelines on drug-resistant tuberculosis treatment” released in March 2019. The monthly mechanism of monitoring progress initiated in early 2018 has continued, namely:

- a. Revised monthly online ND&R questionnaire – from the November 2018 country profiles onwards, the monthly country-specific profiles have been generated directly from the ND&R dashboard in the Tableau software platform. Country specific monthly profiles were generated for all 23 countries for January and March 2019, and 22 for February 2019. All profiles were shared with the respective country offices and the USAID. Updates of the quantitative data from the restructured Challenge TB M&E database were included in the March 2019 country profiles;
- b. Overall Challenge TB ND&R progress dashboard, including all 23 Challenge TB supported countries, and time trend graphs/ maps for the respective countries has been restructured. The dashboard includes the information provided via the monthly online ND&R questionnaire and will be updated quarterly with the required quantitative data from the overall Challenge TB M&E database.

Using the information gathered from the monthly monitoring activities, Namibia (mission conducted in November 2018 and already reported on) and Vietnam were identified for targeted additional short-term technical assistance (STTA) missions. The additional targeted STTA mission to Vietnam was conducted in January 2019 under the core project (funds carried over from 2018 to support the mission). The main focus of the mission was to support the NTP with the implementation of aDSM systems.

Three technical documents (one in English, one in Russian, and one in Ukrainian), nine job aids (eight in English and one in Russian) and one fact sheet were finalized and published on the Challenge TB website during the reporting period. The draft scientific manuscript is being revised for re-submission to the European Respiratory Review journal (see Annex 2). All the technical documents, job aids and fact sheets developed under the project are available on the

Challenge TB website (<https://www.challengetb.org/library/pmdt>), and will also be made available on the KNCV website in the near future.

In February 2019, a webinar on DR-TB patients cohort analyses was conducted (in English) with 24 participants calling in. The presentations and transcripts from this webinar and the three PMDT/ ND&Rs related webinars conducted in October and December 2018, are available on the Challenge TB and KNCV websites and thus available to the global audience.





GLOBAL FUND

During this reporting quarter, most countries reported the implementation of their 2018–2020 grants. The major focus 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 the GF funding. Challenge TB started a dialogue with PR/UNDP on transitional planning. Some key activities will be handed over to GF/UNDP when Challenge TB ends. The transitional plan was discussed in a TB task force meeting and PR/UNDP is reviewing it and will inform NTP on the decision. The Challenge TB staff provided technical assistance to the NTP lab team to execute joint supervision and calibration of the GeneXpert machines provided by GF; 37,800 GeneXpert cartridges were handed over to the NTP to ensure that the machines are fully functional when the project ends, the NTP has also secured the cartridges from the GF grant for 2020 as well. SL-LPA equipment installation is pending, and all the relevant activities will be handed over to the NTP, which will be covered by GF through reprogramming.

Botswana - In addition to supporting the implementation of the current grant, Challenge TB also supported the application for the next funding

cycle (2019–2021). The in-country Challenge TB long-term technical assistant at the NTP was a member of the proposal development committee. Challenge TB supported the grant-making process: development of performance framework, funding landscape, and funding gap analysis, detail activity, and budgeting. The grant was signed in January 2019 and disbursement of the funding started during this quarter. Challenge TB supported a 2-day planning workshop organized to develop an implementation plan for the current grant. Five priority districts were selected for the GF support and all the selected districts participated in the workshop.

Bangladesh - Challenge TB continued the evidence-based advocacy of diagnostic connectivity by producing a one-pager with schematic diagrams summarizing the results of all machines connected to GxAlert, demonstrating the depth of analysis that can be conducted and the other benefits of this software. This has facilitated the GF decision to provide support to the NTP by procuring GxAlert for 187 GeneXpert machines lacking the software.

Cambodia - In close cooperation with the NTP, Challenge TB organized a two-day workshop from 3 to 4 April 2019 to share lessons learned with GF implementing partners (Catholic Relief Services, Health Poverty Action, RHAC, Op-ASHA,

and Committee Health Committee) and other stakeholders (Department of Hospital Services and WHO) on Challenge TB-implemented CI and TB screening among elderly in pagodas and communities as well as through hospital linkages intervention. The transition plan for PMDT at the community level was also discussed. Following these discussions, these activities will continue under GF support. The NTP will organize a follow-up meeting to discuss the implementation of the transition plan.

India - The patient support systems toolkit developed by Challenge TB (including ICT systems for treatment adherence tracking, monitoring and support) has been used to train the GF staff and will be utilized routinely by the GF supported JEET program.

Nigeria - Challenge TB continued to co-locate with GF programs across 14 states with a sharing of LGAs arrangement. Three CBOs are currently subcontracted to carry out community ACF activities in 42 LGAs across 14 Challenge TB-supported states. This activity was to be discontinued by March 31 2019 but has been extended till May 2019 based on its success in targeted LGAs (contributes an average of 377 new TB cases per quarter to Challenge TB results). The current GF grants will continue support for community-based ACF activities, discussions are underway with the NTP to transition this activity from June 2019. Similarly, it is planned to transition Challenge TB PMV/CP platforms in nine states (Nasarawa, Enugu, Rivers, CRS, AKS, Benue, Ondo, Osun, and Ogun), which is being negotiated between the NTB and IHVN the principal recipient of this GF grant. This activity will be transitioned to GF sub-recipients from May 2019, when the CBO contracts are terminated.

Kyrgyzstan - Challenge TB handed over 45 DR-TB patients from the Bishkek and Chui oblasts to the GF-supported National Red Crescent Society (NRCS) to continue the video DOT. Next quarter, Challenge TB will train the NRCS nurses on PMDT including AE management and will hand over 100 mobile phones in order to continue patients' enrollment on Video DOT in all regions.

Ukraine - The Challenge TB patient-centered care model for MDR-TB patients was included as the main model to support patients in the GF grant. During the reporting period, Challenge TB continued assisting principal recipients in planning to

scale-up the model to all oblasts of Ukraine, advising specifically on the operational aspects of building sustainable, patient-centered TB services based on outpatient case management, and appropriate patient support. The NTP started using Challenge TB hubs model for GF-supported trainings. Contact investigation algorithm is transferred to the NTP and Challenge TB is working to ensure its use throughout Ukraine by including it into an MoH order.

Tajikistan - Challenge TB closely collaborated with the GF project to use a unique approach in the introduction of new regimens. The 'National Expansion Plan' was developed with the geographical distribution of project sites and responsibilities of the Challenge TB and the GF PIU/NTP. In addition, Challenge TB developed and submitted to the NTP and GF/PIU a plan for the transition of its activities after the closure of the project in August 2019. The GF allocated some funds to cover the needs for transition time. According to the preliminary agreement, the GF will cover the cost of the GxAlert database system.

Uzbekistan - The NRL and GF PIU are planning to rehabilitate the regional TB laboratories and the request to allocate funds for the rehabilitation has been included in the GF re-programming request. In February 2019, a Challenge TB consultant provided technical assistance to GF/PIU and the NRL to assess Fergana laboratory and create a new architectural design for the laboratory premises.

Zimbabwe - The NTP has secured USD \$2,000,000 (\$1,200,000 from Global Fund and \$800,000 from PEPFAR - COP 19) to support an integrated STS post Challenge TB. The modular laboratory and renovation plans supported through Challenge TB will be handed over to MoH who have committed to ensuring supplies for sample processing and funding for actual renovations are secured through GF. The Challenge TB Childhood TB intervention package initiated through Challenge TB has been adopted by new partners, such as EGPAF who are rolling out the package to four new districts, namely Beitbridge, Bulawayo, Chipinge, and Harare. In addition, there is funding secured from GF for quarterly clinical mentorship (integrating childhood TB) by provincial teams to districts as well as for district teams to health facilities till 2020. GF will also continue to support contact investigation and targeted screening for active TB, with the remaining available resources until December 2020.



TRANSITION PLANS

The country teams have had continuous discussions with NTPs, USAID Missions, and partner organizations in the country on the transitioning process of priority activities. These discussions will continue until the end of the project. The discussions focus on ensuring that key interventions, with a focus on direct patient care, will not be interrupted.

Botswana - Some of the quality data, surveillance, and M&E activities have transitioned and others are likely to be transitioned to the NTP. The transitioning of key activities aimed at improving OpenMRS functionality is ongoing and will be completed by end of May 2019. Integration of GxAlert and OpenMRS has been completed and the system maintenance and support fully handed over to the NTP. The in-country data scientist from SystemOne has oriented the NTP officer counterpart who has been working closely with him on a skill transfer program. The MoH has created a position in its structure to absorb the in-country data scientist seconded by SystemOne.

Ethiopia - Challenge TB ensured that teams of experts at EPHI are able to take over the capacity building activities of regional and GeneXpert sites; that all communications are handled by the EPHI team with CEPHEID and with regional and GeneXpert sites; that a pool of lab technologists are once again created at regional levels (through advanced GeneXpert maintenance training) to ensure seamless maintenance of GeneXpert machines. However, the issue of procurement of cartridges and modules beyond Challenge TB life is not yet resolved. The support to the culture laboratories (e.g., annual calibration and certification of BSC and negative pressure) is also to be transitioned. The MoH and EPHI now have the required budget proposal for the aforementioned activities to start mobilizing resources from GF and partly from the government during the next fiscal year (from July 2019)

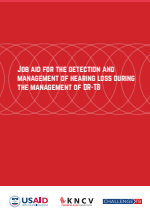
Malawi - The final product was a transition matrix where Challenge TB and the NTP committed towards sustainability of project interventions. Currently, no final hand over of any activity has been done, but the transition process is ongoing through engagement meetings with the NTP and other implementing partners. Challenge TB had several meetings with USAID mission to discuss the transition of PMDT and Procurement Supply Chain

Management after June 2019. USAID discussed with Challenge TB on transiting of GxAlert to other implementing partners after August 2019. In Year 5 Quarter 3, Challenge TB will begin the handover of activities and equipment.

Nigeria - The project team continued to engage with the NTBLCP at national and state levels to communicate the transitioning timelines for Challenge TB activities in the 14 supported states. Challenge TB officers also engaged USAID Mission officials on the transition plan and identified priority high threat Challenge TB activities may have an impact on patient care, treatment initiation, and continuation, such as the care and support for DR-TB patients under the PMDT program area. The project provided details to the USAID Mission on the numbers of patients that could be potentially affected, associated costs, personnel structure for managing PMDT, and the information needed to assist the Mission to make an informed decision on how these activities can be continued. Several scenarios were explored and it is believed that the USAID Mission is making progress towards transitioning the PMDT activities by the end of June 2019. The platform to continue this activity has not been officially communicated to Challenge TB.

Ukraine - PATH continued the implementation of the transition plan on national and oblast levels. Several meetings with the NTP and oblast health authorities on transition were conducted. During those meetings sources of financial support to continue high importance activities after project end were identified (GFATM, central government, local communities, etc.). The following platforms were used for transition: Stop TB Partnership Ukraine and the Working Group on the National Scale-Up plan of ND&Rs. The project developed a package of service documents for ND&Rs were transferred to NTP with the transparent inclusion of other stakeholders into the transition. Thus local health authorities, local and international NGOs investing in fighting TB in Ukraine are aware of all project developments and are revising their approaches in line with PATH recommendations. Besides providing service documents packages to the NTP at the central level, the packages were adjusted to each individual oblast needs, the number of patients, and the availability of drugs.

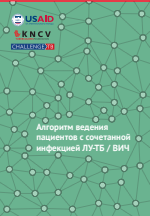
NEW PUBLICATIONS



JOB AID FOR THE 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 healthcare workers in this area, Challenge TB has developed a job aid for this purpose.

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



ALGORITHM FOR THE MANAGEMENT OF PATIENTS WITH TB/HIV CO-INFECTION (RUSSIAN)

This job aid is to guide healthcare workers in the management of DR-TB patients with HIV co-infection.

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



INTRODUCTION OF ACTIVE TB DRUG-SAFETY MONITORING AND MANAGEMENT FOR NEW DRUGS AND REGIMENS (RUSSIAN)

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.

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



GUIDE TO DETECT AND MANAGE HEARING LOSS DURING THE MANAGEMENT OF DRUG-RESISTANT TB

This guide is intended to help healthcare 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 tuberculosis (This document replaces the 2017 Challenge TB document “Audiometry in the management of drug-resistant tuberculosis”).

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.

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.

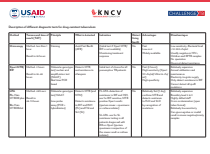
https://www.challengetb.org/publications/tools/pmdt/Guidance_on_ECG_monitoring_in_NDR_Ukraine_V2.pdf



aDSM FACTSHEET

Active pharmacovigilance and proper management of adverse drug reactions and prevention of complications from drug–drug interactions is an essential component of any programmatic care of patients being treated for drug-resistant TB. This fact sheet provides an overview of aDSM and an example of aDSM introduction in Myanmar.

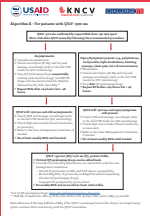
https://www.challengetb.org/publications/tools/pmdt/aDSM_Factsheet.pdf



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 TB, this set of job aids is designed for this purpose.

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



QTcF JOB AIDS

Prolongation of the QTcF is a well-known side effect of a number of drugs used in the treatment of drug-resistant TB. To assist in the awareness, calculation and management of such side effect, Challenge TB has developed a set of job aids for this purpose.

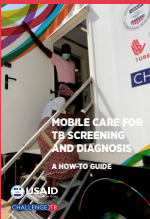
https://www.challengetb.org/publications/tools/pmdt/QTcF_Job_Aids.zip



SPECIMEN TRANSPORT – A HOW-TO GUIDE

The transportation of tuberculosis (TB) specimens in a reliable and efficient manner is essential for effective TB patient care, allowing for faster diagnosis, initiation of treatment, and patient follow- up. This document shares the experiences of Challenge TB supported countries who have developed and implemented a specimen transportation system for TB.

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



MOBILE CARE FOR TB SCREENING AND DIAGNOSIS – A HOW-TO GUIDE

One of the primary goals of the Challenge TB project is to increase TB case-finding and notifications by finding more of the missing patients. This document serves as a guide to which steps and what preparations need to be undertaken to successfully organize a mobile truck for TB diagnosis and the team needed to staff it.

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



PHOTOS

Community TB Education, Mozambique - Mbuto Machili
TB Education, Myanmar - FHI 360
Boy, Nigeria - Tristan Bayly
Alfiyah cured MDR-TB, Indonesia - Tristan Bayly
Diabetes/TB patient, Bangladesh - Tristan Bayly
TB Patient, Kazakhstan - Nadira Osmanova
GeneXpert testing, Nigeria - Tristan Bayly
Specimen transport box, Mozambique - Mbuto Machili
Specimen transport motorbike, Mozambique - Mbuto Machili
Shyrynkul, MDR-TB patient, Kazakhstan - Nadira Osmanova
TB patients enrolled in the bedaquiline pilot on the way to being cured, Ukraine - Andrii Gorb
MDR-TB patients Aidana and Almaz, Kyrgyzstan - Marion Biremon
Healthworker 'I Know My HIV Status', Nigeria - Alu Azege
Run to End TB, World TB Day Event, Kyrgyzstan - Marion Biremon
Bedaquiline - Tristan Bayly
DR-TB patient, Tajikistan - Sayora Ziyoyeva
Cured TB patient Maryam, Nigeria - Alu Azege
TB Dispensary, Zambia - FHI 360
MDR-TB patient, Indonesia - Tristan Bayly
Back Cover - Varell cured TB patient, Indonesia - Tristan Bayly



CHALLENGE>TB

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

Design and layout - Tristan Bayly

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