CHALLENGE TB YEAR 3

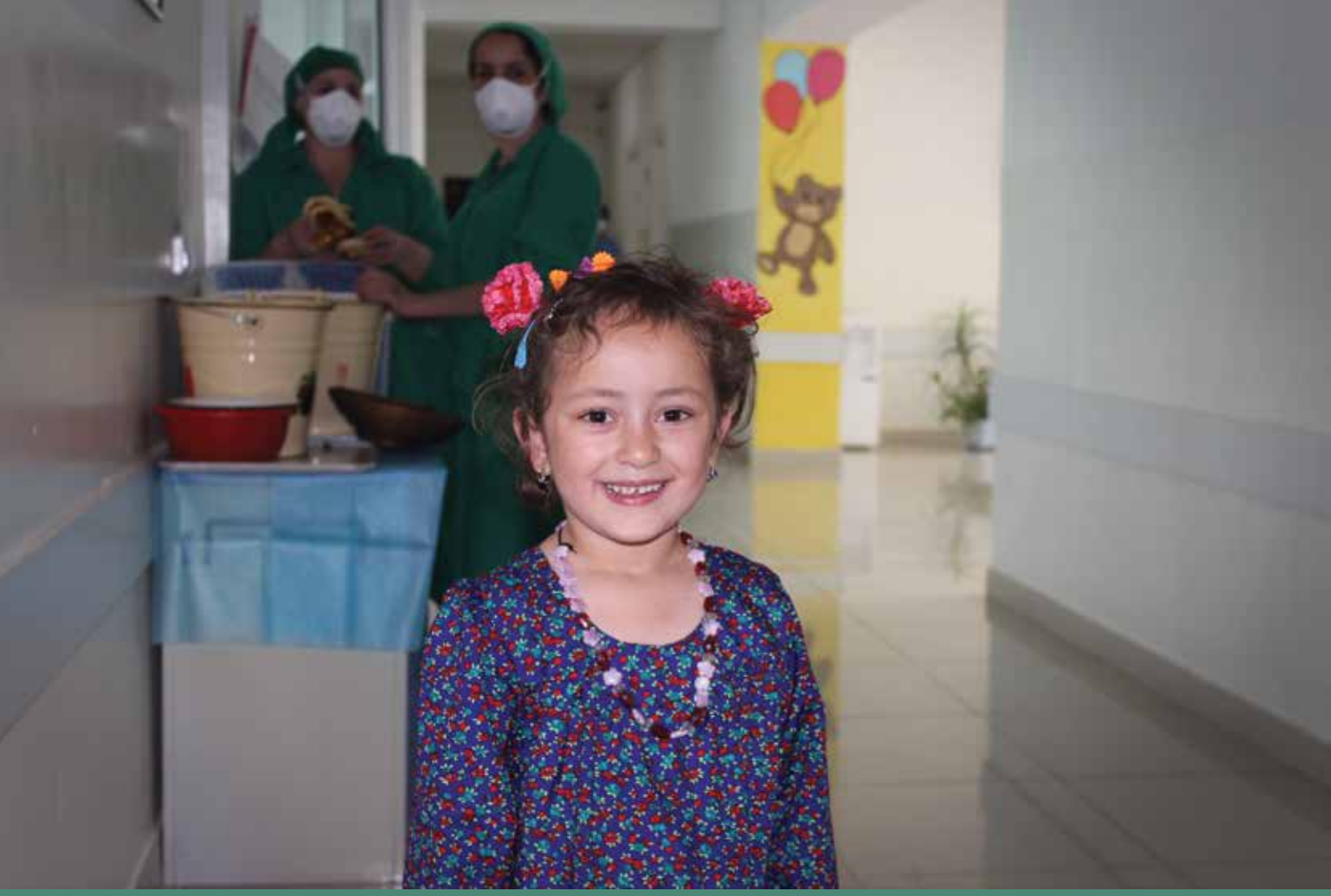
SUMMARY REPORT

Welcome to the Challenge TB Year 3 Annual Report Summary which brings you highlights of the projects' work, significant achievements, and success stories from the third year of implementation.

USAID
FROM THE AMERICAN PEOPLE

KNCV TUBERCULOSIS FOUNDATION

CHALLENGE TB



INTRODUCTION

In partnership with governments, national TB programs, USAID, partners, the private sector, and civil society – and with the participation of patients themselves – Challenge TB is committed to the vision of a world free of TB.

The project is aligned with the United States Government strategy to prevent and control TB, and has three main objectives:

- Improving access to high-quality patient-centered TB, drug-resistant TB and TB/HIV services
- Preventing transmission and disease progression
- Strengthening TB service delivery platforms.

Challenge TB implements projects at the country, regional and global level with the majority of the project's work being done through country-specific projects (22 in Year 3).

At the regional level, Challenge TB continued implementation of the East Africa Region project. Through core funding, the project is also working on six projects that have implications for global TB prevention and care.

This report a snapshot of results and inspiring stories that show how Challenge TB, together with partners, is working to end the global TB epidemic.

More information, stories, and the full report on which this summary is based, can be found on our website.

www.challengetb.org

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.

Global Fund:
Challenge TB assists countries with the full Global Fund life cycle, from epi-analysis and national strategic plans, to concept notes and full implementation.

Overarching:
Challenge TB is a cost-effective and efficient mechanism with a particular emphasis on reaching out to vulnerable communities. It assists countries to move towards universal access through a patient-centered approach that identifies and addresses the needs of all patients including women and children.

KEY RESULTS

The number of people being infected by TB continues to decline in Challenge TB countries, with an overall drop of 4 percent.

The number of people dying from TB across all 22 Challenge TB countries decreased by 4 percent between 2014 and 2016 and the estimated number of TB deaths among people living with HIV has decreased by 24 percent, compared to the rest of the world.

The number of new and relapse TB patients being notified in Challenge TB countries is much higher than the rest of the world. The number of TB patients notified increased by 9 percent between 2014 and 2016.

Among TB patients who also have HIV, 87 percent are on antiretroviral treatment, which is above the global average of 84 percent.

The number of GeneXpert machines in Challenge TB countries increased from 992 in 2015 to 2,569 in 2017.

Over the last three years, a total of 172,597 drug-resistant TB patients have been diagnosed across all Challenge TB countries, 90 percent of whom accessed treatment.

Ten countries are using the shorter treatment regimen for multidrug-resistant TB, seventeen countries are using the new TB drug bedaquiline, and seven are using the new TB drug delamanid.

FINDING AND TREATING THE MISSING TB PATIENTS

Of the 10.4 million people who get sick with TB each year, around 40 percent are missed by health services and do not receive the treatment and care they need and deserve.

Challenge TB is working hard to find these missing TB patients by improving access to care, checking the household members of diagnosed TB patients (contact investigation), implementing community-based screening programs for people at high risk of getting the disease, implementing triaging in health facilities, training health care workers, and educating the public.

CHILDHOOD TB

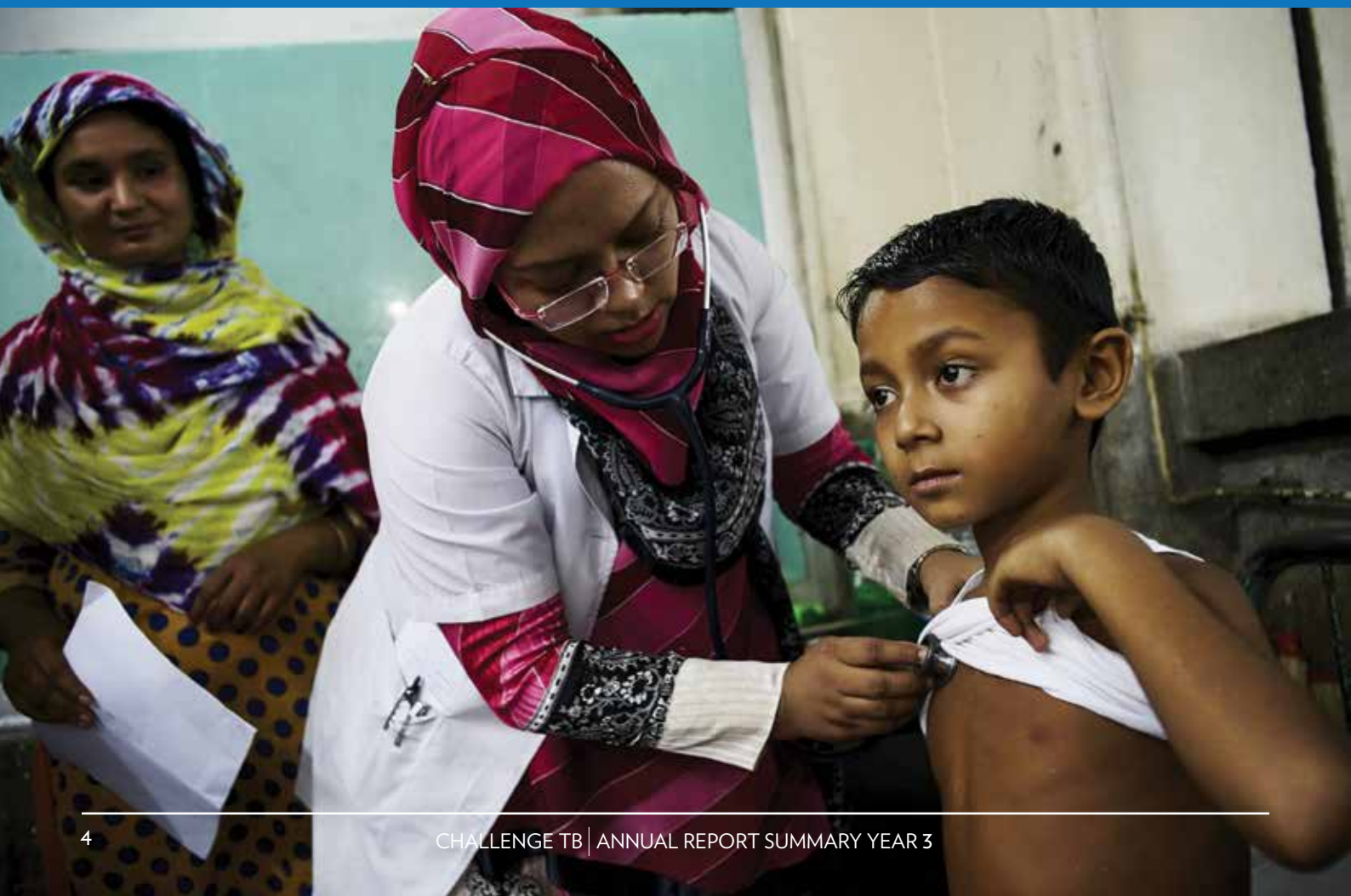
Every year an estimated 1 million children become ill with TB and an estimated 250,000 children die, but the actual numbers are likely higher as diagnosing childhood TB is difficult. In 2016, there were an estimated 1.3 million children under the age of 5 who were eligible for treatment to prevent TB, but only 13 percent were actually put on isoniazid preventive therapy (IPT).

In eight Challenge TB countries, the number of children being diagnosed with TB is 10 percent or above, while in 12 countries the share of childhood TB notifications matches or is above the global level of 7 percent.

At the start of the project only nine countries provided IPT for a total of 54,066 children, these figures have grown to 15 countries in 2016 with 89,196 children starting IPT.

COUNTRY HIGHLIGHT BANGLADESH

An active screening system was implemented in the pediatric outpatient departments of selected tertiary health facilities, and a mobile phone app for Childhood TB screening was developed. As a result, 588 children were diagnosed and put on treatment. A total of 520 children started IPT from March-September 2017.



ACTIVE CASE-FINDING

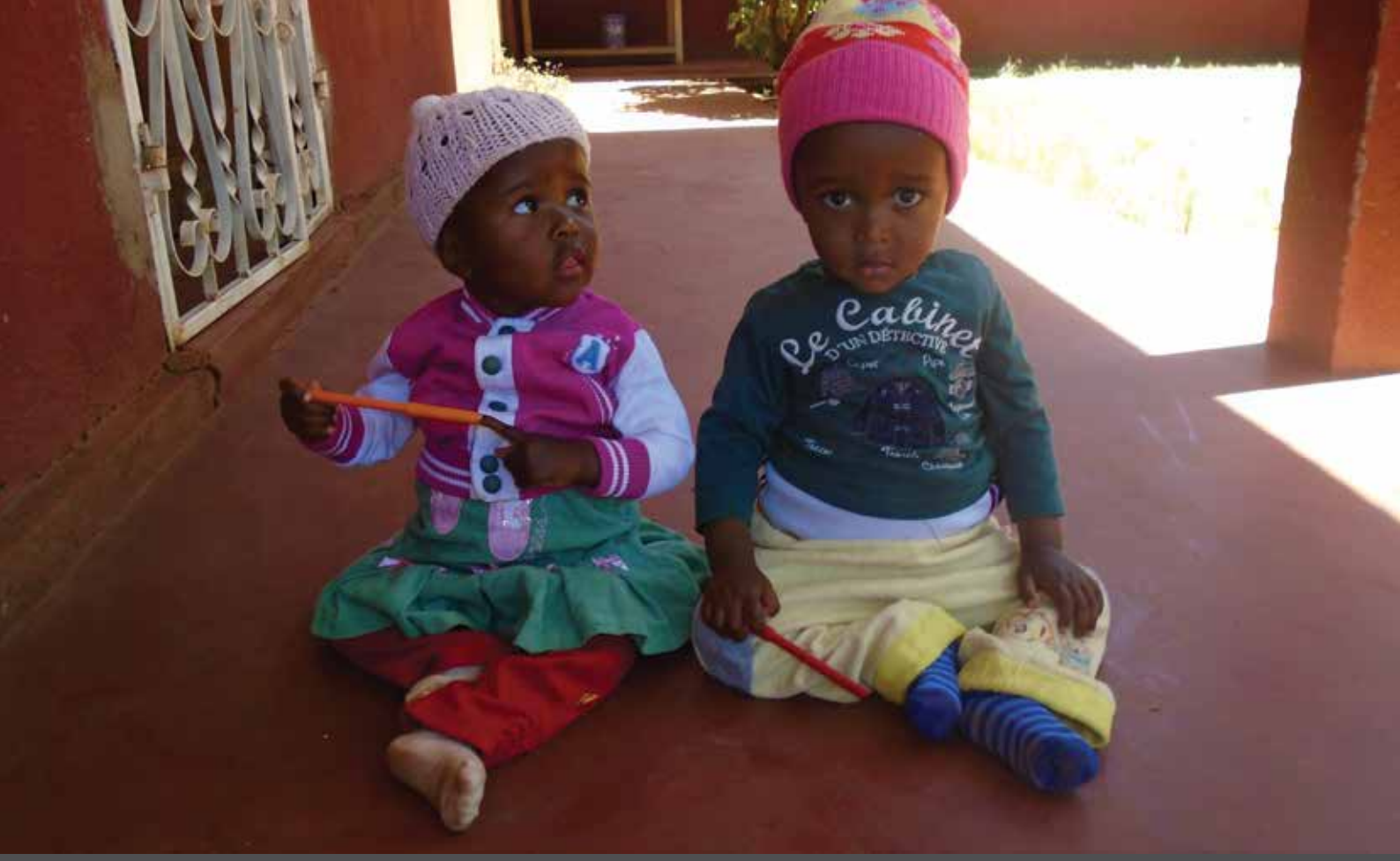
Rather than wait for people to get sick and visit a doctor or health center, active case-finding is a way of targeting those most at risk of TB (e.g., families of TB patients, people with HIV, prisoners, etc.). The faster people are found and started on treatment, the easier it is for them to be cured and the fewer the number of people they are likely to infect. Challenge TB is involved in a range of active case-finding activities across 16 countries.

COUNTRY HIGHLIGHT ETHIOPIA

In Challenge TB supported areas 25 percent of all notified patients were referred by community health workers who undertook house-to-house visits looking for people with TB symptoms and providing general health education.

PRISONS

Of the six countries that reported data, nearly 1,000 TB patients were diagnosed in prisons with Challenge TB support. In Cambodia, all new prisoners arriving at targeted prison facilities were screened, and current inmates were screened for TB symptoms. As a result, the trend in case notification rates among prisoners increased by 13 percent in 2016.



SUCCESS STORY

THE JACKSON TWINS

The Challenge TB project in Tanzania is using community-based organizations to help find more of the thousands of missing TB cases, and to help patients cope with long and difficult treatment. One of the organizations 'Upendo na Matumaini' (UMATU) is based in Arusha region, and from July to September 2017, they contributed 34 percent of the TB cases notified in the district.

In March 2017, staff from UMATU were going door-to-door educating people about TB. They visited the home of Mary who lives in Maliasili in the region of Arusha and told her all about the disease and how it is spread and prevented.

Jackson and Joyce aged 2, had been suffering from both fever and coughs and Mary's mother had suffered the same symptoms before she passed away just one month before. It suddenly dawned on her that all three had TB, and she asked the team to help.

When the team examined the twins, it was immediately obvious that not only were they malnourished but that they had the classic symptoms of TB. They were both so weak they could not even stand, let alone walk. Mary had already taken the twins to Karatu district health facility twice before, but both times they had been diagnosed with pneumonia, and the treatment had not helped.

They accompanied the family to Karatu health facility, where the district TB coordinator diagnosed them with TB. They were immediately started on a 6-month treatment regimen, and given nutritional support to boost their weight and strength.

After six months of treatment, they were declared cured. Their general health had improved tremendously, Jackson had gained 4 kg and Joyce 3 kg. Two months after that, they not only look healthy, they are also back on their feet.

Bringing education and active case-finding to the community is an important way to find the people with TB who have been missed by the health system. The more people who know about the disease, and the more people who are looking, the sooner we can find, treat, and cure people with TB, meaning there are fewer opportunities for the disease to spread.

COMMUNITY ENGAGEMENT

Although community participation in health care is nothing new, TB control programs have been slow to embrace the role of the community in detection, care, and treatment. Communities and civil society organizations play a vital part in curtailing the TB epidemic and many models of community referral have been implemented to boost TB case detection across Challenge TB countries.

Community-based activities have continued to expand in Challenge TB countries, with 9 percent of all TB patients in 2016 coming from referrals by community health workers or volunteers. Bangladesh and Ethiopia have the highest proportion of community referral, with 43 percent and 34 percent, respectively.

COUNTRY HIGHLIGHT AFGHANISTAN

Community-based activities have resulted in a 66 percent increase in the number of people diagnosed with TB between 2016 and 2017 and a 65 percent increase in the number of TB patients being treated in the community

IMPROVING TREATMENT SUCCESS

COUNTRY HIGHLIGHT CAMBODIA

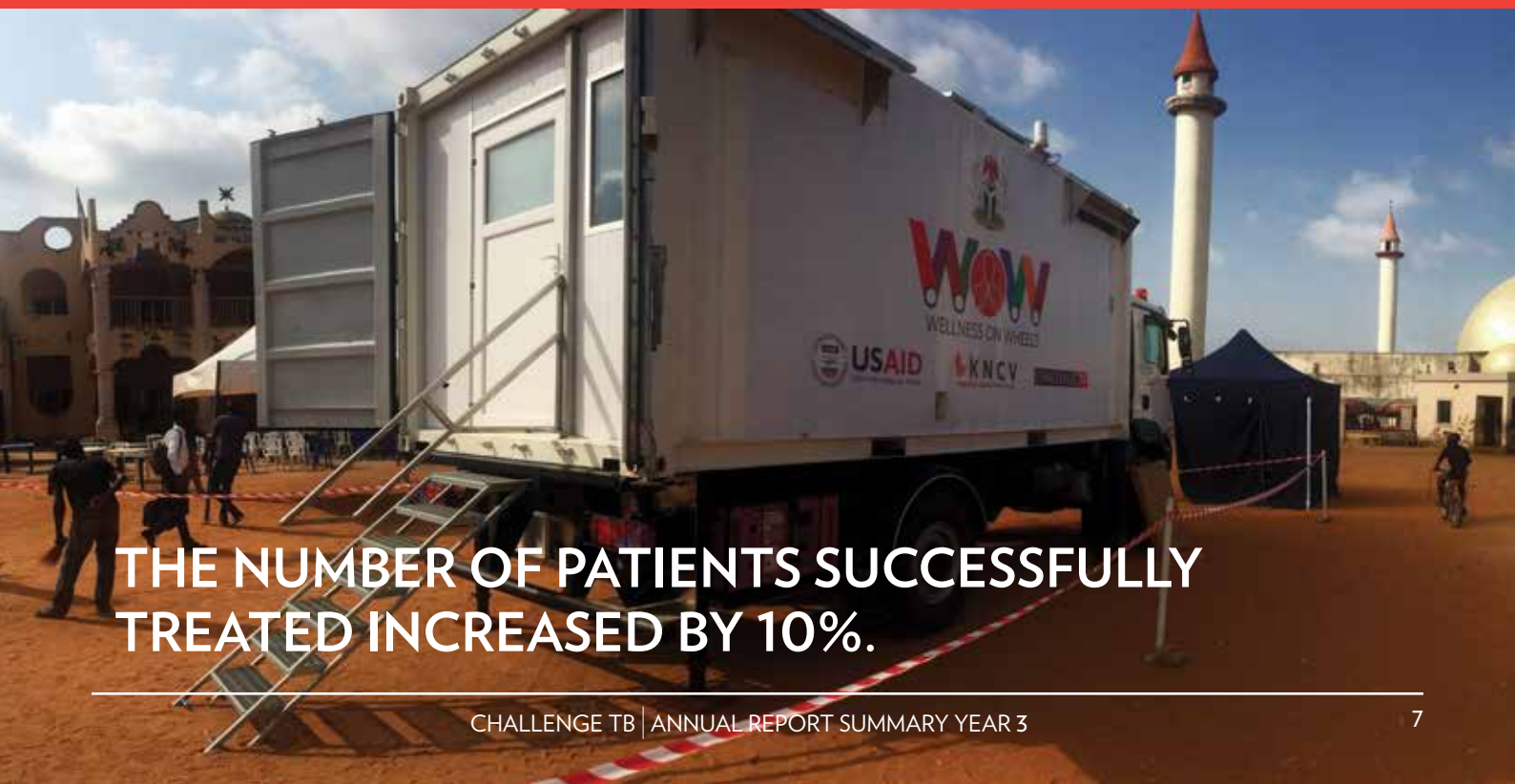
In the ten supported prisons 100 percent of new inmates were screened for TB. The treatment success rate was maintained at over 90 percent, and case notification rates have increased by 13 percent since the start of the project.

Treating TB patients not only helps cure those infected, it also prevents the further spread of the disease. The treatment success rate for Challenge TB countries dropped from 88 percent in 2013, to 79 percent in 2015, as a result of the decrease in the rate in India, where it fell from 88 percent in 2013 to 72 percent in 2015.

If India is excluded, the treatment success rate across all countries is 87 percent, and Cambodia, Bangladesh, Tanzania, and Vietnam managed to maintain the End TB Strategy target of 90 percent.

Fifteen countries maintained or improved on the 2013 cohort treatment success rate, and 215,986 more patients were successfully treated from the 2015 cohort than in the previous two years.

Fifteen Challenge TB countries are above the global average of 61 percent for treatment coverage. There have been significant advances in treatment coverage since the beginning of the project, with Vietnam, Kyrgyzstan, and Namibia at 81 percent, followed by Zimbabwe and Tajikistan at 80 percent.



THE NUMBER OF PATIENTS SUCCESSFULLY TREATED INCREASED BY 10%.

COUNTRY HIGHLIGHTS

1 **Afghanistan:** The Urban DOTS program in Kabul now covers 103 health facilities, a 20 percent increase compared to the number of facilities in 2015. This has led to an 8 percent increase in TB case notification in 2017 compared to 2016 — from 6,032 in 2016 to 6,650 in 2017.

2 **Bangladesh:** Active screening of children in the pediatric outpatient departments of six health facilities have increased the detection of childhood TB. A total of 588 children were diagnosed with TB between January - September 2017. A mobile phone app for screening children was also developed, which helped to diagnose 309 children with TB.

3 **Botswana:** The national rollout and implementation of GxAlert was completed in 29 of the 33 GeneXpert sites, connecting GeneXpert devices via a secure network and allowing automatic real-time reporting of test results.

4 **Burma:** A total of 15 patients have started on bedaquiline and 11 patients delamanid since mid-2016, with systems now in place for further scale-up and the imminent introduction of the shorter treatment regimen.

5 **Cambodia:** Active case-finding sessions were conducted amongst old people visiting pagodas and mosques. Of the 11,812 people screened, 467 were diagnosed with TB and put on treatment.

6 **DR Congo:** An increase in support provided at the community level has led to an increase in the number of TB cases notified, from 1,250 cases in Year 1 to 5,688 TB cases in Year 3.

7 **Ethiopia:** Challenge TB supported regions contributed 97 percent (694) of the 715 drug-resistant TB cases notified and enrolled nationally in 2016/17.

8 **India:** A total of 29,369 children with presumptive TB were tested with GeneXpert and 1,866 were diagnosed with TB.

9 **Indonesia:** Case notification increased in 2016 to 360,558, an increase of 23 percent across all supported districts.

10 **Kyrgyzstan:** Ninety-nine patients with drug-resistant TB have been enrolled on bedaquiline treatment in just 9 months, exceeding the initial target of 38 patients enrolled in the first 12 months.

11 **Malawi:** 336 nurses and clinicians were trained on childhood TB and contact investigation, resulting in an increase in both the number children diagnosed (12 percent in 2017 vs. 9 percent in 2016) and the number of patients diagnosed through contact investigation (3 percent in 2017 vs. 1 percent in 2016).

12 **Mozambique:** Community healthcare workers referred a total of 80,968 people with TB symptoms for testing, resulting in 12,508 being diagnosed with TB.

13 **Namibia:** The number of children under the age of 5 put on isoniazid preventive treatment in Challenge TB areas increased from 86 in 2015 to 518 in 2017.

14 **Nigeria:** A total of 1,136 MDR-TB patients were diagnosed, and 761 started on treatment across the 12 states. Of these, 72 were placed on the shorter treatment regimen.

15 **South Sudan:** A range of active case-finding activities were implemented among key populations, as a result, the number of cases notified increased from 1,546 in 2016 to 2,769 in 2017.

16 **Tajikistan:** A total of 235 DR-TB patients were diagnosed and 116 were enrolled on the shorter treatment regimen.

17 **Tanzania:** A total of 19,902 close contacts of TB patients were visited and 17,555 were screened for TB symptoms. 6,284 with TB symptoms were tested, and 977 were diagnosed with TB and 969 were put on treatment.

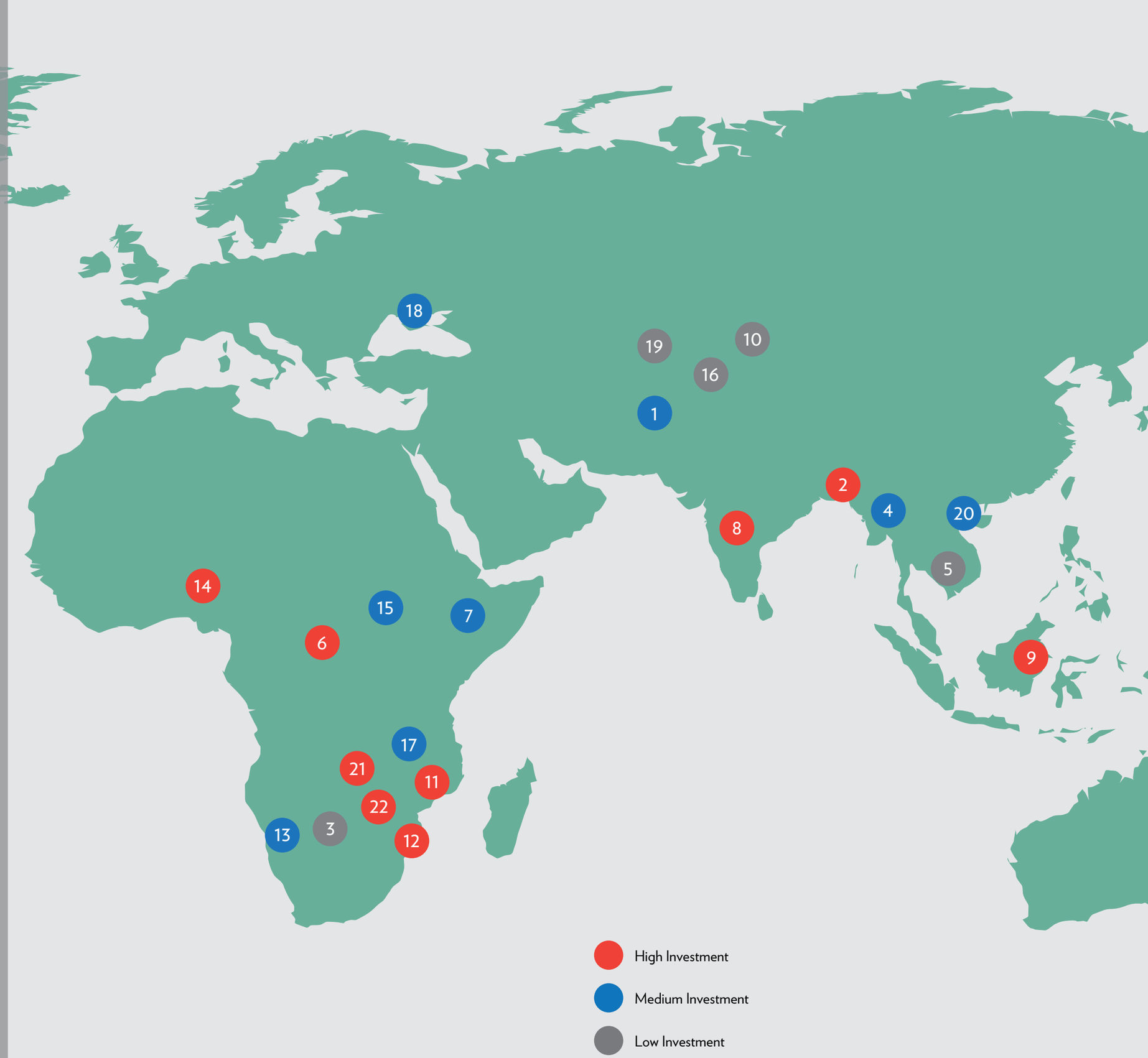
18 **Ukraine:** In the targeted Mykolaivska oblast, the treatment success rate for DR-TB has gone from 39 percent in 2012 to 59 percent, compared to 46.5 percent for the country as a whole.

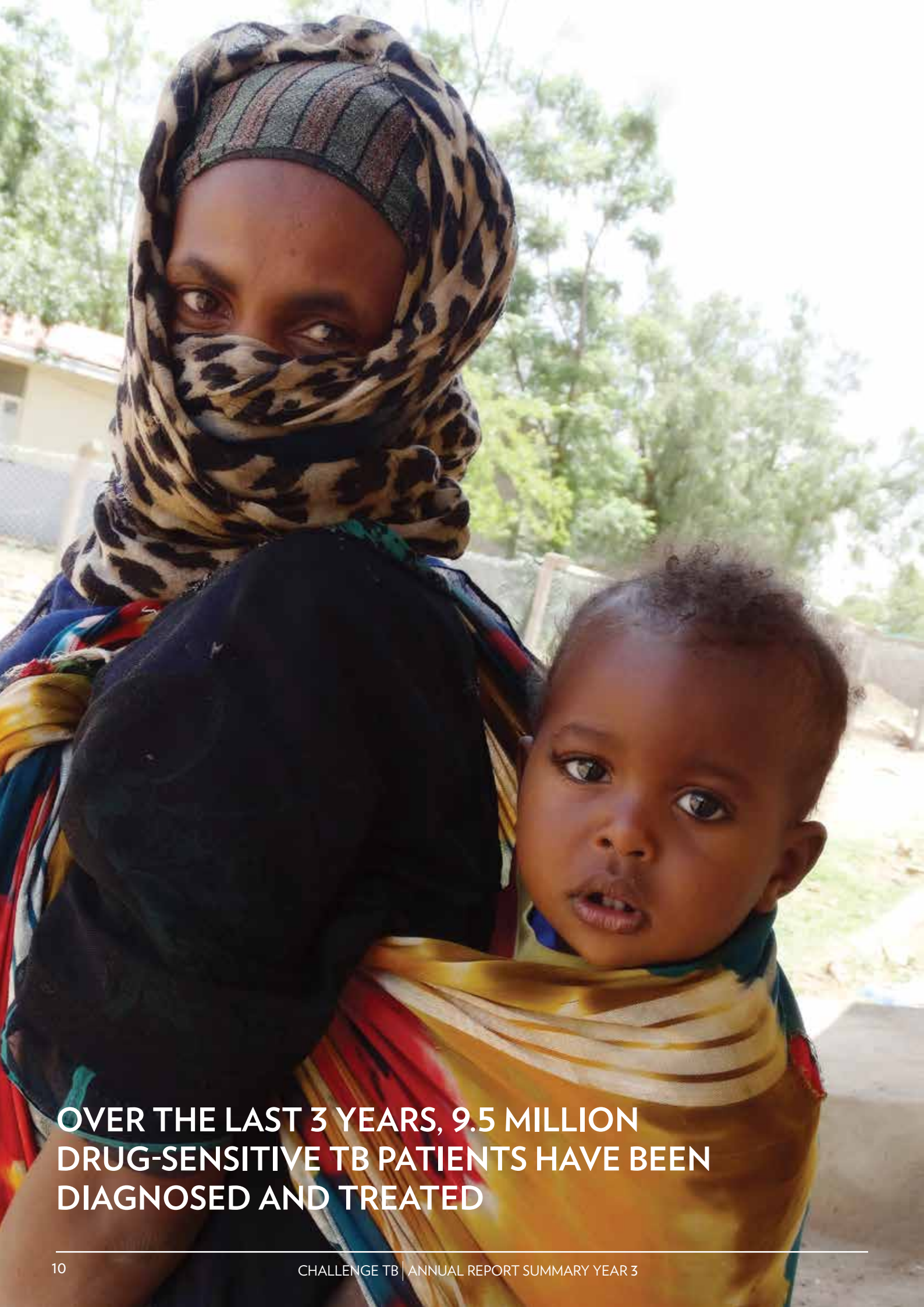
19 **Uzbekistan:** The 2017-2021 National Laboratory Network Strategic Plan was developed. The plan provides a roadmap to strengthen the network's laboratory services to control TB.

20 **Vietnam:** In the PEPFAR priority provinces of Dien Bien and Nghe An, the percentage of new and relapsed TB cases with a documented HIV status surpassed targets and reached 88.1 percent and 95.4 percent respectively. Similarly, the number of TB patients co-infected with HIV on antiretroviral therapy exceeded targets, reaching 91.7 and 91.5 percent.

21 **Zambia:** The scale-up of GeneXpert technology resulted in 20,120 tests in the first six months of 2017 compared to 23,873 tests in the whole of 2016. As a result, the number of patients diagnosed with rifampicin-resistant TB went from 7 percent in 2016 to 9 percent in 2017.

22 **Zimbabwe:** From March to September 2017, 35,610 people from high-risk communities (e.g. miners) were screened, resulting in 705 being diagnosed with TB and started on treatment.





OVER THE LAST 3 YEARS, 9.5 MILLION DRUG-SENSITIVE TB PATIENTS HAVE BEEN DIAGNOSED AND TREATED

DIAGNOSTICS

Diagnostics are the backbone of our mission to find, diagnose and treat TB patients. The project continued to strengthen diagnostic networks in every country, in order to increase the number of patients that get a rapid and correct and diagnosis, and to make sure they are treated effectively.

Challenge TB supported the expansion of access to GeneXpert testing and SL-LPA testing as well as the rapid utilization of test results for appropriate patient management by installing and expanding diagnostic connectivity with GxAlert systems.

Challenge TB also prioritized training and technical assistance for effective and efficient integrated laboratory sample transportation, maintenance of laboratory equipment, and quality assurance in all laboratory activities.

COUNTRY HIGHLIGHT BOTSWANA

The national roll-out of GxAlert was completed in the 29 government GeneXpert sites, connecting GeneXpert machines via a secure network and allowing automatic real-time reporting of test results.

GENEXPERT

GeneXpert tests for the presence of TB bacteria and for resistance to the TB drug rifampicin, it can diagnose TB in less than 2 hours allowing patients to be started on treatment as soon as possible. All Challenge TB countries are now utilizing the test. The number of machines has increased from 992 in 2015 to 2,895 in 2017, and the number of tests performed went from 415,364 in 2015 to 2,784,787 in 2017.

Linking GeneXpert machines to a data connectivity system can make test results instantly available to doctors and the national TB program, so patients can begin treatment as quickly as possible. Nine countries now have a data connectivity system and 719 of the 984 GeneXpert machines in these countries are connected to the network. Of the 2,464 GeneXpert machines currently installed across all countries, 724 (29 percent) are now connected to a data system.

COUNTRY HIGHLIGHT INDONESIA

Access to nationwide GeneXpert MTB/Rif testing expanded from 82 sites in 2016 to 432 sites in 2017. The number of notified RR-TB patients increased from 2,720 in 2016 to 5,244 in 2017.

SPECIMEN TRANSPORT

To make use of GeneXpert in areas which do not currently have a machine, the project invests in specimen transport systems. These systems are capable of transporting not only TB samples but all types of samples which need laboratory analysis.

At the start of the project only five countries had a transport system, this has now increased to ten. The number of samples transported rose from 78,940 in 2014 to 146,424 in 2016, an 85 percent increase.

COUNTRY HIGHLIGHT NIGERIA

A specimen transport system was developed and implemented. This model began by transporting more than 6,000 specimens in 2016 and had increased to more than 33,000 by September 2017.

TB/HIV

COUNTRY HIGHLIGHT ZIMBABWE

From January – June 2017, 97 percent of all notified TB patients were tested for HIV and 66 percent were co-infected. Among those co-infected, 89 percent were initiated on antiretroviral therapy (ART) compared to national coverage of 85 percent for the same period.

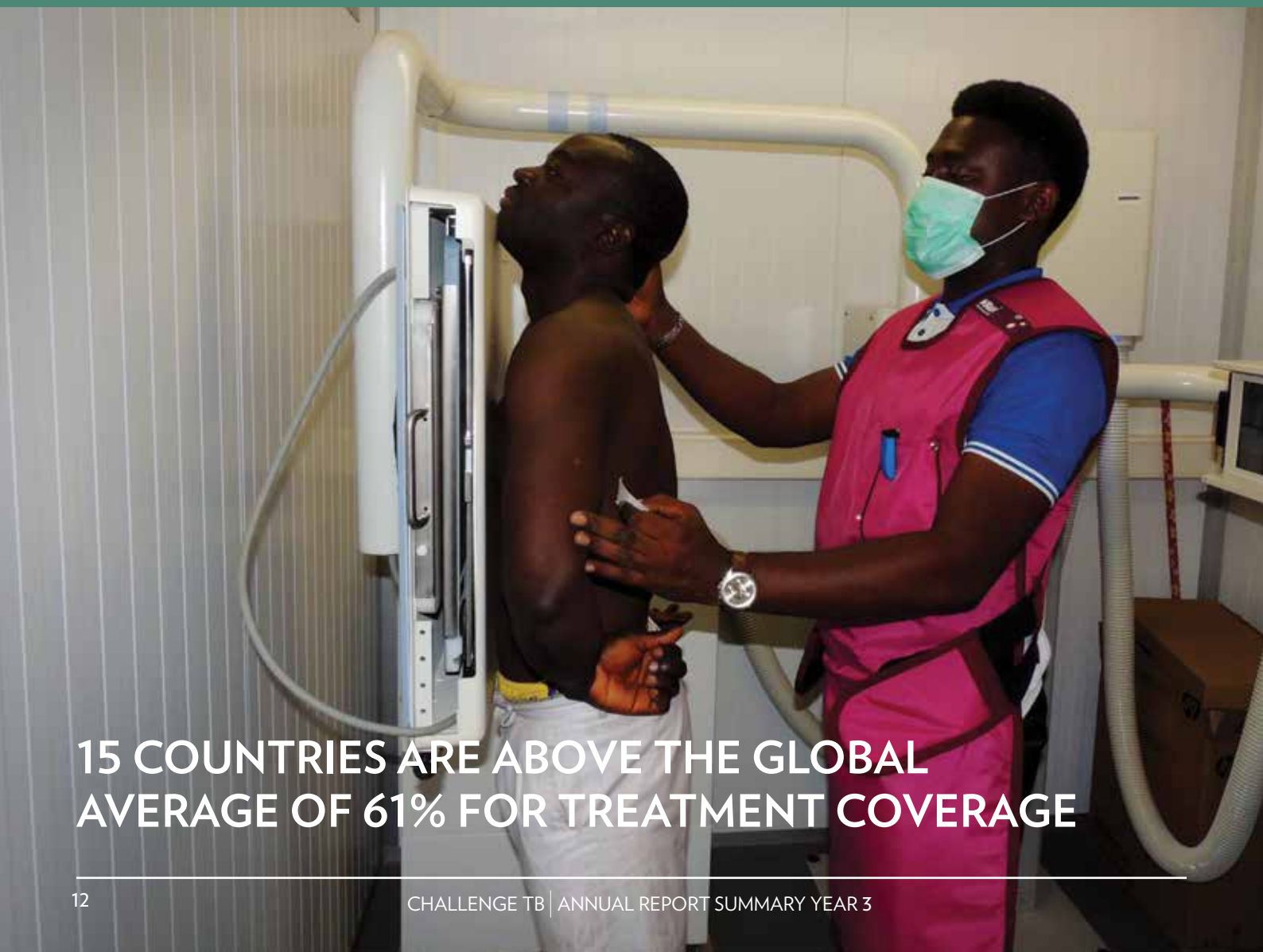
HIV weakens the immune system which leaves the body vulnerable to infection. Once the bacteria that cause TB enter the body of someone with HIV, they are able to multiply instead of being contained. This makes the co-epidemic of TB and HIV one of the major global health challenges. Of the 10.4 million TB cases globally in 2016, an estimated 10 percent were among people living with HIV.

The estimated total number of TB deaths among HIV-negative people decreased between 2014 and 2016 in 14 Challenge TB countries, with a combined rate of decline of 5 percent across all countries.

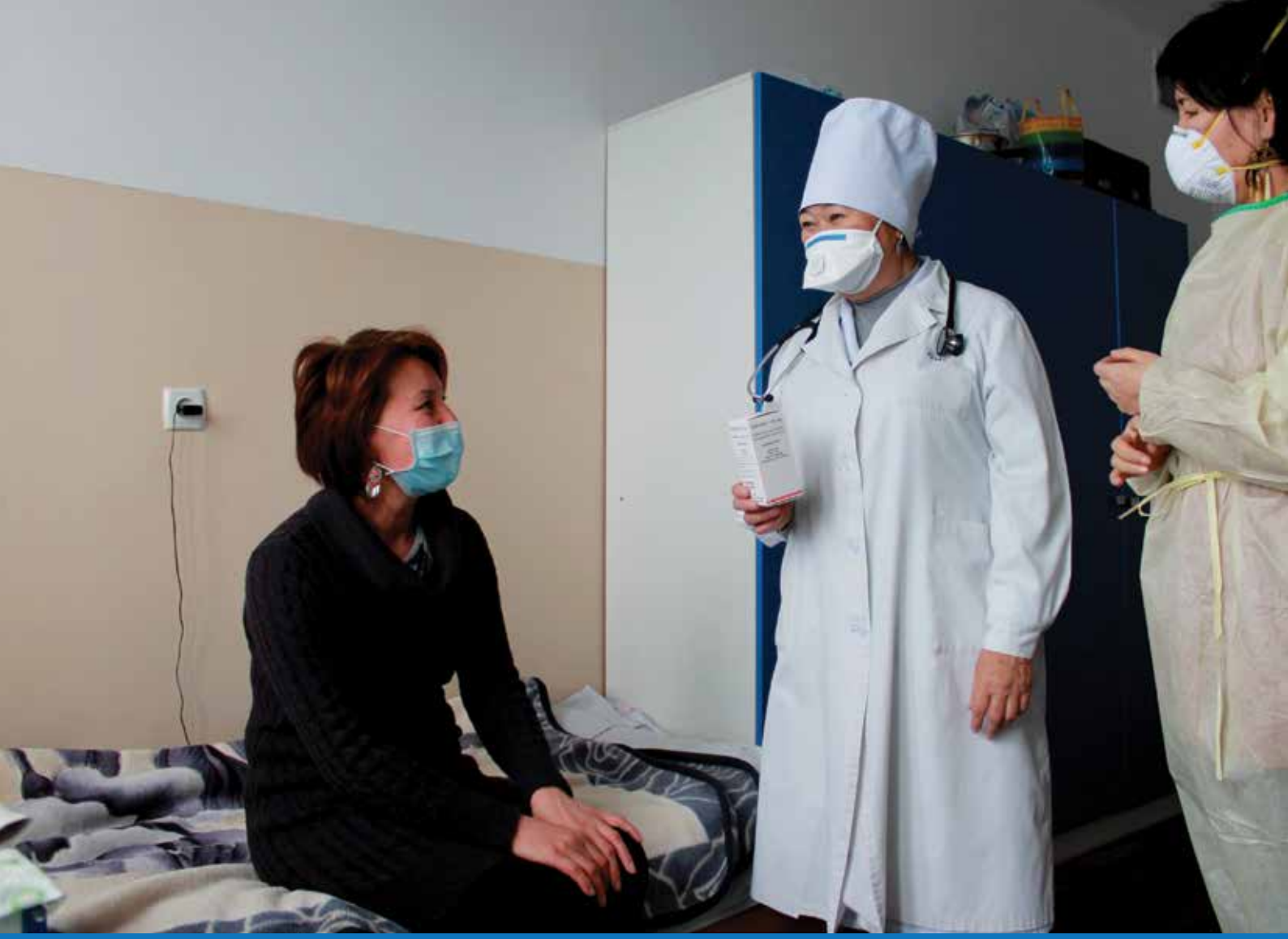
Similarly, the estimated total number of TB deaths among HIV-positive people decreased by 24 percent in Challenge TB countries between 2014 and 2016 compared to 11 percent globally.

In 2016, antiretroviral therapy coverage in high TB/HIV burden Challenge TB countries was 87 percent, above the global average of 84 percent.

Challenge TB countries provided TB preventive treatment to 39 percent of the patients newly enrolled in HIV care in 2016, compared to 30 percent in 2014. The provision of TB preventive treatment to those newly enrolled in HIV care reached 940,269 people in 2016, which is 42 percent of the total of 2,263,682 people living with HIV newly enrolled into HIV care in the same year.



15 COUNTRIES ARE ABOVE THE GLOBAL AVERAGE OF 61% FOR TREATMENT COVERAGE



DRUG-RESISTANT TB

COUNTRY HIGHLIGHT KYRGYZSTAN

In 2017, 279 patients started treatment with new and repurposed drugs. The results of the treatment are promising. Despite the fact that the first 28 patients enrolled had severe forms of extensively drug resistant TB, 68 percent of them achieved sputum culture conversion, an important indicator of the efficacy of anti-TB treatment.

Drug-resistant TB (DR-TB) is a form of TB caused by bacteria that are resistant to at least one of the drugs normally used to treat the disease. Multidrug-resistant TB (MDR-TB) is resistant to at least two of the most powerful first-line TB drugs: isoniazid and rifampicin. If these forms of TB are not tackled effectively, they threaten to undermine the progress so far made towards eliminating TB.

Over the last three years, 172,597 drug-resistant TB patients have been diagnosed across all Challenge TB countries combined, 90 percent of whom were put on treatment.

All countries have adopted GeneXpert as the first diagnostic test for MDR-TB and all have some capacity to test for susceptibility to second-line drugs.

According to the available data, an estimated 46,647 patients were diagnosed with MDR-TB, and a total of 44,327 patients initiated treatment between January-September 2017.

The number of drug-resistant TB patients receiving social and economic support during treatment has increased, which has contributed to improved treatment success rates. For example, in Nigeria, the number of drug-resistant TB patients receiving social or economic benefits during the first month of treatment increased from 311 in 2015 to 1,716 in 2017; this was accompanied by an increase in the treatment success rate from 62 percent in 2012 to 72 percent in 2014.

GLOBAL FUND

Through the Global Fund hub Challenge TB was supporting countries with their preparations for the 2018-2020 funding cycle. In October 2016, the Global Fund announced a total of USD 10.9 billion available to eligible countries. Among the 22 countries, a total of USD 1,084 billion was allocated for TB activities. In addition, eight Challenge TB countries are also eligible for catalytic matching funds for a total of USD 81 million.

Eighteen funding requests were approved by the technical review panel for grant-making. Many of these 18 countries are well underway in the grant-making process with several reporting expected grant signing to take place by the end of 2017.

PREVALENCE SURVEYS

Prevalence surveys allow the absolute burden of TB disease to be measured, which is especially useful where there is considerable uncertainty about the number of people with TB and how many death it causes. The information allows countries to use quality data to monitor the TB epidemic and to make evidence-based decisions on how to tackle the disease. By the end of September 2017, a TB prevalence survey was ongoing or completed in Bangladesh, Burma, Namibia, and Vietnam. Challenge TB has provided technical assistance to the surveys in Namibia and Vietnam.

SUCCESS STORY

CURED IN RECORD TIME

Gulbahor Mirzosharifova (center) has had many firsts in her life, but the most important one happened recently when doctors told her she was the first patient in Tajikistan to be cured of MDR-TB using a new shorter treatment regimen.

Gulbahor, who is 22 and lives with her family in Tajikistan's capital city of Dushanbe, contracted MDR-TB from her brother. While her brother was treated using the standard 24-month treatment, Gulbahor was treated with the new shorter regimen. After just nine months of treatment, she was completely cured in October 2017, and able to return to her normal life 15 months earlier than would have been possible previously.

With the old MDR-TB treatment regimen, patients receive injections for eight months and take 20-25 pills every day for two years. With the new regimen, patients receive drugs that are more effective, over a shorter period of time, which means patients are more likely to adhere to the regimen and complete the treatment course.

Challenge TB in Tajikistan has been working with Tajikistan's National TB Control Program to introduce the shorter MDR-TB treatment regimen, creating necessary documentation and guidelines and training staff on how to care for patients and manage any side effects.

The shorter regimen lets patients return to their normal lives more quickly so they can resume their jobs and provide for their families, whilst also saving money for the health care system.

Gulbahor was one of the first MDR-TB patients to receive the shorter treatment regimen in Tajikistan. "The treatment was very hard," she remembers, "but it also changed my life. I have plans for the future now. I have decided to continue my education and apply to medical school. I want to help other people."

As soon as she was cured, Gulbahor was able to return to her job in a local restaurant and is currently working on getting her high school diploma. Still, throughout her treatment, Gulbahor worried she would lose her job due to the stigma associated with TB. Although she was no longer infectious after the initial phase of treatment, widespread fear and misunderstanding about TB often make it difficult for people like Gulbahor to return to their lives.

Six additional patients in Tajikistan completed the shorter treatment regimen at the end of 2017. In 2018, Challenge TB will scale-up access to the shorter treatment regimen in nine more districts, so more patients will have the chance to be cured in the shortest amount of time possible.

NEW PUBLICATIONS

https://www.challengetb.org/library

Generic programmatic and clinical guide for the introduction of new drugs and shorter regimen for treatment of Multi/Extensively Drug-Resistant TB

This document describes the steps necessary to implement ND&Rs including the diagnosis and bacterial confirmation of drug resistance, treatment regimen design, monitoring of treatment efficacy and safety, and programmatic evaluation.

Desk Guide for the Management and Treatment of Childhood TB

This guide is for health workers who manage sick children in first level health facilities or outpatient settings at any level of care, and NTP workers who manage children as part of NTP work.

Guidance on requirements for QTc measurement in ECG monitoring when introducing new drugs and shorter regimens for the treatment of Multi/Extensively Drug-Resistant Tuberculosis

This guide describes the steps necessary to measure the corrected QT interval from ECG monitoring for patients being treated either with ND&Rs.

Audiometry in the Management of Drug Resistant TB

This guide helps health providers use audiometry to make informed and patient-centered decisions to prevent and manage ototoxicity resulting from second-line anti-TB injectables. The guide is available in English, Russian, and Ukrainian.

New Drugs and Shorter Regimen Implementation Planning Tool

This tool guides countries through the step-wise process of programmatic introduction of new drugs and the shorter treatment regimen.

Bedaquiline Dosage Charts

There are changes in the administration of bedaquiline during the treatment course, these charts are designed to help healthcare workers learn the changes and to ensure patients receive the right dosage. The charts are available in English, Russian, and Ukrainian.

Implementation of the Online Childhood TB Training for Healthcare Workers Course

This goal of this package of files is to apply the concepts of the *Online Childhood TB Training for Healthcare Workers* course to specific work settings in order to improve the care of children with TB.

CONTACT DETAILS

Email: info@challengetb.org
Website: www.challengetb.org
Twitter: @challengetb
Instagram: instagram.com/challengetb
Exposure: challengetb.exposure.co
Medium: medium.com/@challengetb

The Global Health Bureau, Office of Health, Infectious Disease and Nutrition (HIDN), US Agency for International Development, financially supports this publication through Challenge TB under the terms of Agreement No. AID-OAA-A-14-00029. This publication is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of Challenge TB and do not necessarily reflect the views of USAID or the United States Government.

What is Challenge TB?

Challenge TB is the flagship global mechanism for implementing USAID's TB strategy as well as contributing to TB/HIV activities under the U.S. President's Emergency Plan for AIDS Relief (PEPFAR).

Challenge TB is led by KNCV Tuberculosis Foundation and implemented by a unique coalition of nine organizations:
American Thoracic Society (ATS), FHI 360, International Union Against Tuberculosis and Lung Disease (The Union), Interactive Research & Development (IRD), Japan Anti-Tuberculosis Association (JATA), Management Sciences for Health (MSH), PATH, and the World Health Organization (WHO).

Design, Editing, & Layout - Tristan Bayly
Text - Tristan Bayly & Jan van Mil