TB CARE I

Final Report Highlights | 2010-2015

USAID's TB CARE I project ran from 2010-2015 and made a significant step forward in the fight against TB. This summary report details highlights of the extraordinary contributions TB CARE I made to USAID targets and TB control efforts globally.

Above - TB patient and nurse - Nigeria (Photo: Tristan Bayly)
Below - TB mural - Dominican Republic (Photo: Netty Kamp)

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TB CARE I

INTRODUCTION

Implemented from 2010-2015, TB CARE I was a global cooperative agreement funded by the United States Agency for International Development (USAID).

As one of the main global mechanisms for implementing the United States Government (USG) tuberculosis (TB) strategy and contributing to TB/HIV activities under the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), TB CARE I carried out 95 core/global projects, 10 regional projects and 22 country projects. This project made extraordinary contributions to following USAID targets:

- Sustain or exceed 84% case detection rate (CDR) and 87% treatment success rate
- Treat successfully 2.55m new sputum-positive TB cases
- Diagnose and treat 57,200 new cases of multi-drug resistant TB (MDR-TB).

MDR-TB patient supported by his community DOTS provider, Nigeria (Photo: FHI 360)

CONTRIBUTION TO USAID TARGETS

CASE NOTIFICATION & DETECTION:

Over the life of the project, nearly 4.5 million TB cases were notified across 21 countries. By the end of 2014, 52% of countries had a case detection rate above the STOP TB target of 70% and CDRs have improved in 57% of TB CARE I countries.

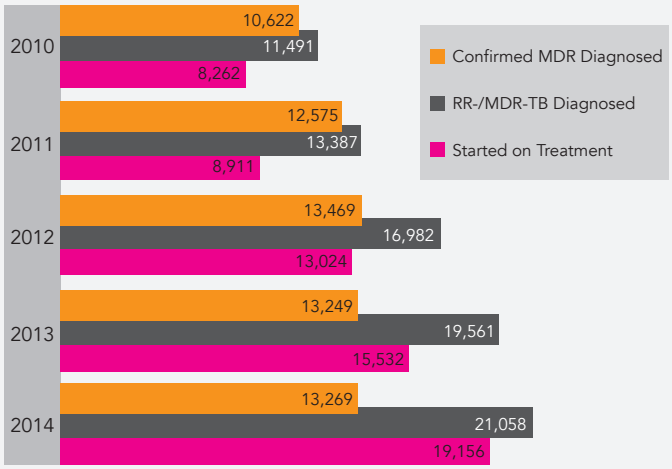
NEARLY 4.5 MILLION TB CASES NOTIFIED

World TB Day, Ghana (Photo: MSH)

TREATMENT SUCCESS:

Treatment success rates were strong in most countries with 16 countries exceeding the 85% Stop TB target at the end of the project - eight of which surpassed even the 87% USAID target. The successful treatment of 2,481,563 patients translates to a 97% achievement of the global USAID target to successfully treat 2.55 million patients over five years.

Diagnosis of and treatment initiation for MDR-TB in TB CARE I Countries, 2010-2014



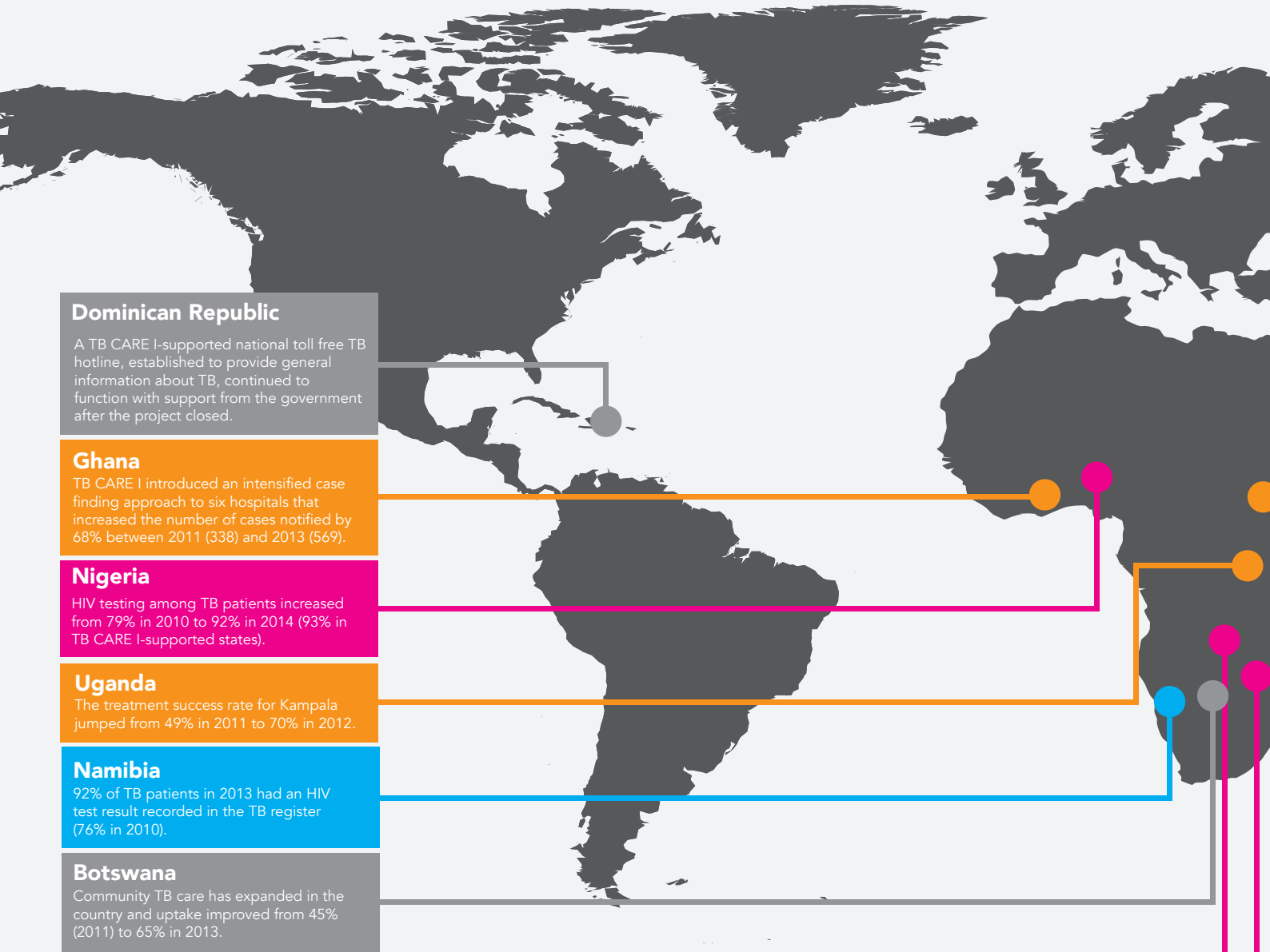
MDR-TB CASES DIAGNOSED AND PUT ON TREATMENT:

A major priority and success was the push to find and effectively treat more MDR-TB cases. Between 2011-2014, 56,623 MDR-TB patients initiated treatment - 99.3% of the global USAID target.

During 2014 alone, 21,058 patients with MDR-TB or rifampicin resistant tuberculosis (RR-TB) were diagnosed across all 21 countries - a jump of 83% from 2010. Treatment initiation for MDR-TB has also expanded considerably over the life of the project; in 2014, 19,156 patients were enrolled on MDR-TB treatment, a 132% increase compared to 2010.

OVER 2.4 MILLION PATIENTS TREATED

TB CARE I COUNTRY HIGHLIGHTS



Dominican Republic
A TB CARE I-supported national toll free TB hotline, established to provide general information about TB, continued to function with support from the government after the project closed.

Ghana
TB CARE I introduced an intensified case finding approach to six hospitals that increased the number of cases notified by 68% between 2011 (338) and 2013 (569).

Nigeria
HIV testing among TB patients increased from 79% in 2010 to 92% in 2014 (93% in TB CARE I-supported states).

Uganda
The treatment success rate for Kampala jumped from 49% in 2011 to 70% in 2012.

Namibia
92% of TB patients in 2013 had an HIV test result recorded in the TB register (76% in 2010).

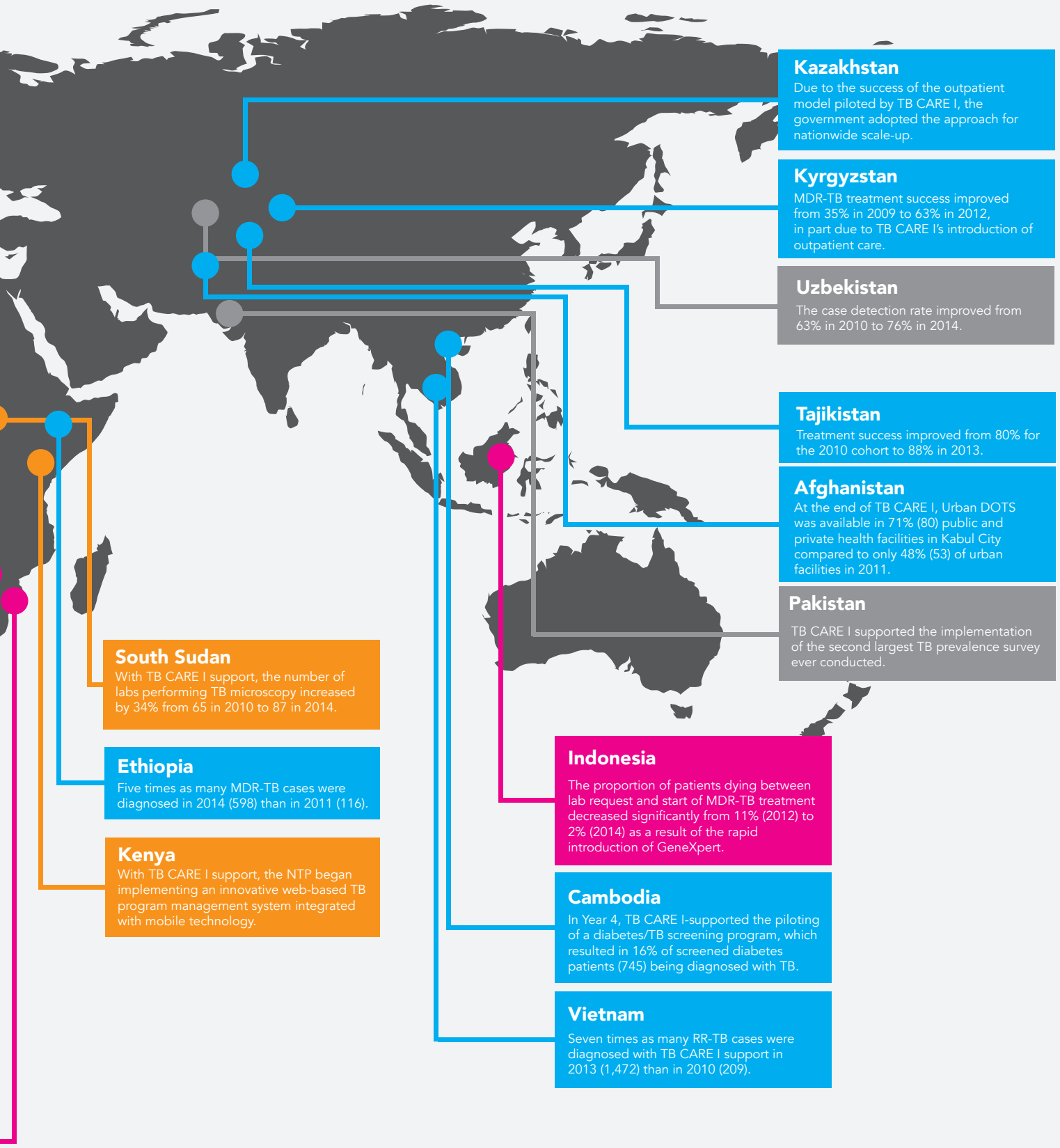
Botswana
Community TB care has expanded in the country and uptake improved from 45% (2011) to 65% in 2013.

Zambia
TB CARE I provided leadership in the development of the national strategic plan and the ultimately successful joint TB/HIV Global Fund concept note.

Zimbabwe
TB CARE I's introduction of a specimen transport system reduced turnaround times for sputum collection to receiving results from ~18 to 7 days in rural settings.

Mozambique
The number of cases notified (all forms) increased by 22% from 2011 (47,452) to 2014 (57,773).

- Large Investment
- Medium/Large Investment
- Medium Investment
- Small Investment



Kazakhstan
Due to the success of the outpatient model piloted by TB CARE I, the government adopted the approach for nationwide scale-up.

Kyrgyzstan
MDR-TB treatment success improved from 35% in 2009 to 63% in 2012, in part due to TB CARE I's introduction of outpatient care.

Uzbekistan
The case detection rate improved from 63% in 2010 to 76% in 2014.

Tajikistan
Treatment success improved from 80% for the 2010 cohort to 88% in 2013.

Afghanistan
At the end of TB CARE I, Urban DOTS was available in 71% (80) public and private health facilities in Kabul City compared to only 48% (53) of urban facilities in 2011.

Pakistan
TB CARE I supported the implementation of the second largest TB prevalence survey ever conducted.

South Sudan
With TB CARE I support, the number of labs performing TB microscopy increased by 34% from 65 in 2010 to 87 in 2014.

Ethiopia
Five times as many MDR-TB cases were diagnosed in 2014 (598) than in 2011 (116).

Kenya
With TB CARE I support, the NTP began implementing an innovative web-based TB program management system integrated with mobile technology.

Indonesia
The proportion of patients dying between lab request and start of MDR-TB treatment decreased significantly from 11% (2012) to 2% (2014) as a result of the rapid introduction of GeneXpert.

Cambodia
In Year 4, TB CARE I-supported the piloting of a diabetes/TB screening program, which resulted in 16% of screened diabetes patients (745) being diagnosed with TB.

Vietnam
Seven times as many RR-TB cases were diagnosed with TB CARE I support in 2013 (1,472) than in 2010 (209).

UNIVERSAL AND EARLY ACCESS LABORATORIES

UNIVERSAL & EARLY ACCESS:

Universal and Early Access was a priority for us, using a patient-centered approach to improve service quality, whether in the public or private sector, in the community or in prisons.

In 2014, 83,222 pediatric TB cases were notified in TB CARE I countries - a 13% increase from 2013 (73,751). These pediatric cases made up 9% of all new and relapse cases with age information known, which is within the target range of 5-15% of all TB cases.

In the fourth year, 33,666 TB patients were notified by private providers in TB CARE I-supported areas - a more than four-fold increase from the second year (6,415).

Exercise on archiving Xpert data - Kazakhstan (Photo - KNCV)

LABORATORIES:

One of our greatest undertakings was the expansion of GeneXpert; at the end of the project, 127 GeneXpert machines were operational with our support.

Since the start of the project, over 141,209 Xpert tests were conducted in 14 countries. In total, 43,966 TB cases were detected of which 10,658 (24%) were resistant to rifampicin. From 2013 to 2014, testing jumped by 168% and 94% more TB was detected.

In Kazakhstan the rollout of GeneXpert has reduced the time to get a patient on treatment from 76 to 8.5 days, and in Indonesia the time between the registration of presumptive MDR-TB cases to the start of second line treatment fell from 81 days to only 15.

We also supported the expansion of microscopy services and the implementation of LED microscopy to improve access and performance. By the end of the project all countries implemented external quality assurance (EQA) programs for microscopy with 71% of countries having more than 75% EQA coverage with a quality performance level above 80%.

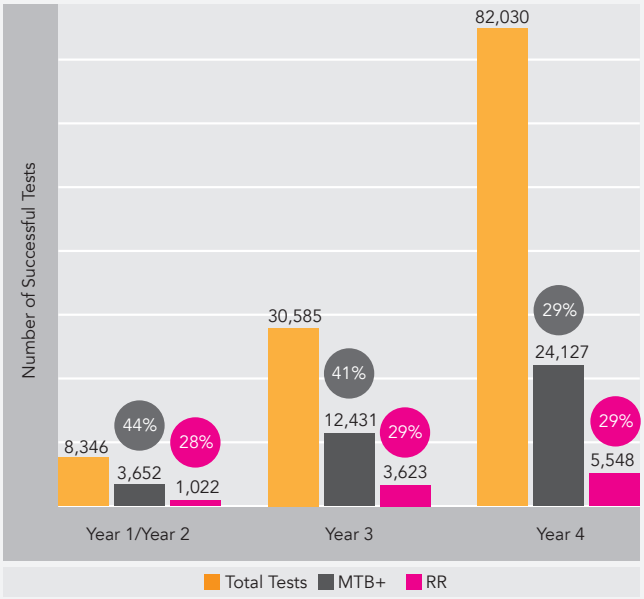
UGANDA SUPRANATIONAL REFERENCE LABORATORY (SNRL)

TB CARE I began supporting the Ugandan national reference laboratory to reach supranational status in 2008. The strategy was to first strengthen the knowledge and skills of staff, the infrastructure and technical capacity of the laboratory so it was able to fulfill its role and responsibilities of providing quality services throughout Uganda.

Four years later in early 2011, and after a wide range of activities, improvements and interventions had been carried out, an assessment conducted by the WHO found that the laboratory met the requirements to qualify as a SNRL-candidate. It was given a two-year probation period to prove its capacity to help other laboratories in the region.

In April 2013, the goal of being a WHO-certified and registered SNRL was reached. The Director of the Stop TB Department, Dr. Mario Raviglione, said that he "recognized the hard work and the commitment made by the Uganda TB Laboratory in order to be awarded SNRL status" and he called upon other TB laboratories, especially those that are located in Africa, to strive for similar achievements.

Summary of TB CARE I supported Xpert testing activity over 4 years of implementation, including TB positivity rate and RIF-resistance rates (RR)



Almost all countries have laboratory strategic plans that will enable national TB programs (NTPs) to efficiently and effectively coordinate, implement and budget laboratory activities over the next round of Global Fund grants.

INFECTION CONTROL PMDT TB/HIV

INFECTION CONTROL (TB-IC):

Besides being a place for giving and receiving care, health care facilities are workplaces and as such health care workers (HCWs) need protection from TB infection. By the end of TB CARE I, 11 countries (52%) reported on the number of HCWs diagnosed with TB, an improvement from only seven countries at the start. Globally, only 34% of countries reported on TB among HCWs to WHO in 2014.

All countries have developed national TB-IC guidelines, compared to only 50% at the start, and TB-IC is also incorporated into every country's overall national infection prevention and control policies.

Six countries piloted the FAST strategy (**F**inding cases **A**ctively, **S**eparating them safely and **T**reating them effectively) and the NTPs in Nigeria and Indonesia adopted it. The FAST strategy assumes that getting TB patients on effective treatment faster will reduce the transmission of TB. In Nigeria, 12 high-volume hospitals implemented the strategy; seven of which reduced the time to diagnosis; six reduced both time to diagnosis and time to treatment.

Laboratory Airflow Testing for Infection Control, Uzbekistan (Photo: KNCV)

TB/HIV:

The risk of developing TB is estimated to be 26-31 times greater in people living with HIV than among those without HIV infection. The project implemented TB/HIV-related activities in 11 countries, 10 of which had PEPFAR-supported activities or work plans. Across all 21 TB CARE I countries, HIV testing among TB patients improved slightly (50% in 2010 to 59% in 2014), but improvements were especially notable across the 12 African countries where testing increased from 73% in 2010 to 88% in 2014. One of the countries with the greatest improvements in HIV testing is Nigeria, where we made substantial investments in TB/HIV services; HIV testing among TB patients increased from 79% in 2010 to 92% in 2014.

The average percentage of co-infected patients on anti-retroviral treatment (ART) rose from 39% to 77% over the project lifetime. Over 473,000 HIV positive TB patients were started or continued on ART during that time.

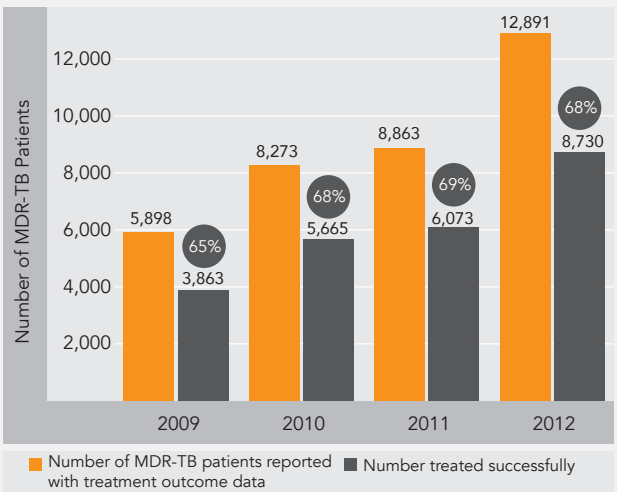
MDR-TB patient receiving treatment - Kyrgyzstan (Photo: Nurgulya Kulbekova)

PROGRAMMATIC MANAGEMENT OF DRUG RESISTANT TB (PMDT):

MDR-TB is a form of TB infection caused by bacteria that are resistant to treatment with at least two of the most powerful first-line anti-TB drugs, isoniazid and rifampicin. As the diagnosis and treatment initiation for MDR-TB are scaled up, it is also essential to ensure the quality and completion of appropriate treatment. The expansion of PMDT programs has led to a decrease in treatment success rates as the complexities of managing more patients rise.

As seen in the figure (below), the number of successfully treated MDR-TB patients more than doubled from 3,863 (2009 cohort) to 8,730 in 2012. The average for TB CARE I countries was 68%, while globally only 50% of MDR-TB patients from the 2012 cohort were successfully treated.

MDR-TB patients registered on treatment and the number (percent) that successfully completed treatment (2009-2012)



M&E, OPERATIONS RESEARCH & SURVEILLANCE HEALTH SYSTEMS STRENGTHENING

MONITORING & EVALUATION, OPERATIONS RESEARCH AND SURVEILLANCE:

(Electronic) data recording and reporting is necessary to monitor trends in the TB epidemic, to monitor the treatment of individual patients and to ensure continuity of care when patients are referred between healthcare facilities. Electronic Recording and Reporting is now established in more than half of the countries compared to only a third at the start.

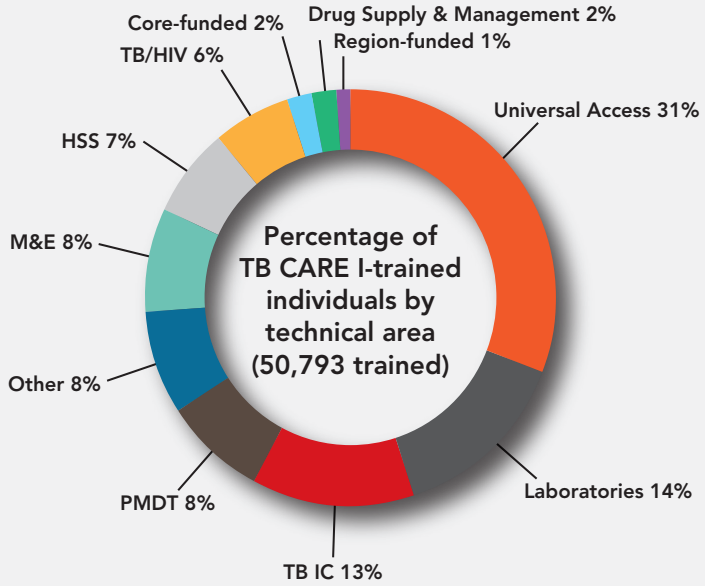
We also worked to improve the quality of data at various levels of the system and as such, the measurement of data quality has consistently improved from 50% at the start to 88% at the end of the project.

Patient interview on the quality of care - Indonesia (Photo: KNCV)

Prevalence surveys are an important way of measuring the actual burden and trends of TB disease. We supported the implementation of national TB prevalence surveys in nine countries: Botswana (costed plan only), Ethiopia, Ghana, Indonesia, Kenya, Mozambique, Pakistan, Uganda and Zambia.

Operations Research (OR) plays a critical role in informing TB control program implementation - providing insight on whether current practices/approaches are working or if/how interventions need to change. OR studies were conducted in 18 countries. In total, 94 studies were completed, and the results of the studies have been presented in journals and scientific conferences and most importantly have contributed to important changes and improvements on the ground.

9 PREVALENCE SURVEYS SUPPORTED



HEALTH SYSTEMS STRENGTHENING:

Health system strengthening was a component of the work we undertook in nearly every country, with activities ranging from supportive supervision and technical assistance with Global Fund planning, to the implementation and development of sustainable funding mechanisms.

We invested in human resource development across all countries and technical areas. Strengthening and building the capacity of staff at all levels of the health system was achieved through in-person and on-the-job trainings, mentorship, supportive supervision and the secondment of staff to the NTP. A total of 50,793 individuals were trained across all technical areas (see above).

50,793 PEOPLE TRAINED

Trainees conducting a health facility risk assessment - Ethiopia (Photo: Max Meis)

DRUG SUPPLY & MANAGEMENT TOOLS

DRUG SUPPLY AND MANAGEMENT:

In six countries, we helped to ensure there were nationwide systems for a sustainable supply of drugs. Drug management standard operating procedures are now available in three-quarters of the TB CARE I countries.

Drug supplies for directly observed treatment, Afghanistan (Photo: MSH)

A fundamental aspect of introducing new TB drugs in countries is to ensure that national authorities establish the necessary conditions for their optimal and responsible use. We developed a protocol for the rational and safe introduction of bedaquiline, a new TB drug for MDR-TB treatment, and supported Indonesia, Kazakhstan and Vietnam to develop country-specific versions of the protocol. Participating countries are now implementing their plans to collect information on safety, as well as the feasibility and effectiveness of implementation.

TOOLS:

Alongside our work on the ground, we also produced a wide range of reports, guidelines, manuals and tools to aid in the fight against TB. These publications were not only useful in the countries where we had direct interventions, but across the entire world. They were one of the main features of our website and the number of downloads they attracted was quite astonishing (28,957). They can all be found on the follow-on project website:
www.challengetb.org/library

WANT TO FIND OUT MORE?

The full TB CARE I Final Report is available to download here:
www.challengetb.org/reportfiles/TB_CARE_I_Final__Full_Report.pdf

CONTACT DETAILS:

E-mail	pmu@challengetb.org
Phone	+31-70-7508447
Website	www.challengetb.org
Twitter	@challengetb

WHAT IS TB CARE I?

TB CARE I was a USAID five year cooperative agreement (2010-2015) that was awarded to the Tuberculosis Coalition for Technical Assistance (TBCTA) with KNCV Tuberculosis Foundation (KNCV) as the lead partner.

KNCV TUBERCULOSIS FOUNDATION

TB CARE I was implemented by a unique coalition of the major international organizations in TB control:
American Thoracic Society (ATS), FHI 360, International Union Against Tuberculosis and Lung Disease (The Union), Japan Anti-Tuberculosis Association (JATA), KNCV, Management Sciences for Health (MSH) and the World Health Organization (WHO).

TB CARE I contributed to three USAID target areas:

- Sustain or exceed 84% case detection rate and 87% treatment success rate
- Treat successfully 2.55 million new sputum smear-positive TB cases
- Diagnose and treat 57,200 new cases of multi-drug resistant TB (MDR-TB)

By focusing on eight priority technical areas:

- Universal and Early Access
- Laboratories
- Infection Control (IC)
- Programmatic Management of Drug Resistant TB (PMDT)
- TB/HIV
- Health Systems Strengthening
- Monitoring & Evaluation (M&E), Operations Research (OR) and Surveillance
- Drug Supply and Management

And four over-arching elements:

- **C**ollaboration and Coordination
- **A**ccess to TB services for all people
- **R**esponsible and Responsive Management Practices
- **E**vidence based M&E

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