



## MULTI-DRUG RESISTANT TB

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### Background

**TB** (Tuberculosis) caused 9.6 million people to fall ill in 2014, and killed 1.5 million people.<sup>1</sup> One of the most serious threats to TB control efforts is multi-drug resistant TB (MDR-TB). Drug resistant TB can develop if there is a lack of adherence to treatment that is often caused by poor compliance, or an interrupted drug supply system. MDR-TB occurs when a patient is resistant to the two most potent TB drugs. Approximately 9% of these cases result in extensively drug resistant TB (XDR-TB), where patients are also unresponsive to an additional two classes of drugs.

In 2014, approximately 480,000 people developed MDR-TB. 3.3% of new TB cases and 20% of previously treated patients develop MDR-TB. It was estimated that only 41% of cases were notified that they had MDR-TB in 2014. In low and middle income countries, access to quality TB services is often limited. This problem is compounded by the fact that MDR-TB treatment can last up to 24 months, making treatment of MDR-TB patients difficult. The lengthy treatment adds to concerns about treatment adherence and drug toxicity.

Untreated MDR-TB poses a public health threat because the drug resistant bacteria that causes MDR-TB can be passed on to others. Diagnosing and properly treating MDR-TB patients in a timely and effective manner is essential to reduce the TB burden that affects health systems and patients alike.

### Objectives

A major pillar of the USAID TB CARE II project is the diagnosis and treatment of MDR-TB cases. The project seeks to do this by:

- Introducing new technologies, such as GeneXpert, to better diagnose MDR-TB patients and as well as the development of protocols and guidelines for the new technology.
- Developing treatment protocols that connect the community

to health centers to decrease in hospital treatment time and help track and notify screened individuals of their TB status and treatment options.

- Increasing health systems capacity to diagnose and treat MDR-TB patients, particularly in highly vulnerable populations.
- Establishing accurate and routine surveillance systems that help track MDR-TB patterns.

### Implementation

TB CARE II uses a community-based care model that incorporates many factors that can affect patient outcomes into the treatment protocol. TB CARE II is applying a method called programmatic management of drug resistant TB (PMDT), which utilizes all the key stakeholders in the community-based care model to decrease hospital stay time and increases drug adherence, in several countries around the world. To introduce this new method, tools were designed and distributed and trainings were held to ensure the sustainability of PMDT programs. The development and implementation of new technologies has also contributed to the PMDT method to not only better diagnose MDR-TB, but also serve as a resource and a point of reference for TB patients and the community.

### TB CARE II PMDT Highlights

#### Year 1

- 3 trainings on MDR-TB took place in Lesotho. 28 health professionals from 5 countries were trained.

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1. *2015 Global Tuberculosis Report* (Rep.). (2015). Retrieved July 13, 2016, from World Health Organization website: [http://apps.who.int/iris/bitstream/10665/191102/1/9789241565059\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/191102/1/9789241565059_eng.pdf)

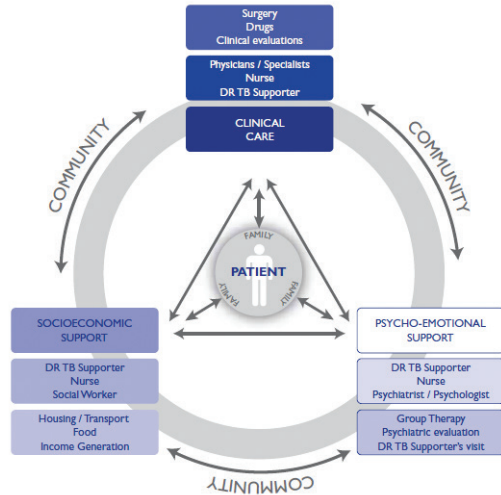
2. <http://www.tbfacts.org/drug-resistant-tb/>

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TB CARE II is funded by United States Agency for International Development (USAID) under Cooperative Agreement Number AID-OAA-A-10-0021. The project team includes prime recipient, University Research Co., LLC (URC), and sub-recipient organizations Jhpiego, Partners In Health, Project HOPE along with the Canadian Lung Association; Clinical and Laboratory Standards Institute; Dartmouth Medical School: The Section of Infectious Disease and International Health; Euro Health Group; and The New Jersey Medical School Global Tuberculosis Institute.

## The TB CARE II community-based care model



## Grand Total

Since the beginning of TB CARE II in 2010, the project has worked to decrease MDR-TB. TB CARE II has:

- Held **6 trainings** on MDR-TB, with more than **307 people attending** the trainings
- Sponsored **7 fellows** in PMDT Fellowship program
- Developed **4 tools** and **2 mHealth** apps that brought over 396 downloads and were utilized by over 50 patients
- Hosted **42 webinars** with more than **1,300 people participating** in the webinars

TB CARE II has greatly contributed to achieving the Millennium Development Goal of reversing the increasing incidences of TB worldwide by 2015.

## Year 2

- The period of hospital based treatment reduced from 8 months to a maximum of 2 months. The early hospital release of patients has helped initiate treatment for increased number of patients immediately after their diagnosis.
- The project has formed and trained 30 Outpatient MDR-TB Teams in the 3 cPMDT pilot districts on clinical care and 51 MDR-TB DOTS providers for providing on-going management of MDR-TB patients.
- The concerted project effort has resulted in enrollment of 53 MDR TB patients in PMDT programs in the 5 months since initiation of this intervention.
- TB CARE II project introduced 2 GeneXpert MTB/RIF machines, which is a molecular based technology that can detect active TB and rifampicin resistant TB which is a predictor of MDR-TB.

## Year 3

- Funded the PMDT Fellowship at the Centers of Excellence in PIH programs in Russia and Peru. The 7 fellows, 4 from Russia and 3 from Peru, successfully completed the program with an average of a 50% knowledge increase.
- The Pediatric DR-TB Field Handbook was developed

- 18 webinar lectures on DR TB were held and resulted in more than 1,300 participation events representing 64 countries.
- The second edition of The PIH Guide to the Medical Management of MDR-TB was completed.

## Year 4

- *Management of MDR-TB in Children: A Field Guide* was translated into Spanish and Russian. Also, a training on the demonstrated uses of the guide was held, which resulted in a total of 271 participation events for 198 unique providers from 51 countries.
- The case discussion series hosted by the DR-TB Training Network has concluded with 34 cases covering a variety of clinical and psychosocial topics relevant to the treatment of DR-TB. The DR-TB Training Network hosted 15 webinars in Year 4.

## Year 5

- The MDR TB Pocket Guide mobile app was developed.
- MDR TB case studies were downloaded 178 times during Year 5, and 396 times over the course of the whole project.
- The DR-TB Training Network hosted 9 webinars in Year 5 and there are now 7 self-study activities.

The **USAID TB CARE II** project, which began in 2010, implements activities in 15 countries. The project, led by University Research Co., LLC (URC), aims to provide global leadership and support to national TB programs and other in-country partners to decrease TB rates through the implementation of new technologies, the integration of TB and HIV diagnosis and treatment, better programmatic management of drug resistant TB, and through health systems strengthening.