Increasing Access to TB Diagnosis and Strengthening the TB Care Cascade

Tuberculosis (TB) remains the leading cause of death for patients with HIV. Mozambique has TB incidence of 552/100,000, with 3-4% of these cases diagnosed as multi-drug resistant TB (MDR-TB). An estimated 56% of patients with TB in Mozambique are also co-infected with HIV. Mozambique has one of the world's lowest TB case detection rates; only 37%, compared to 86% in the USA. Many patients in Mozambique are not diagnosed and treated, causing a domino effect of infection. Very few patients are tested for MDR-TB and even fewer are started on appropriate second-line treatment.

With TB REACH Wave 2 funding, the Health Alliance International (HAI) partnered with the Mozambique Ministry of Health to introduce two new diagnostic technologies – Xpert® MTB/RIF (Xpert) and LED microscopy – in Sofala and Manica Provinces. In 2014 HAI, in partnership with the Mozambican National TB Program (NTP), was awarded a grant through Wave 4, with the main objective of scaling up new TB diagnosis across four provinces in Central/Southern Mozambique.

To date, we have implemented ten Xpert machines and ten LED microscopes at public sector facilities across four provinces. We've trained laboratory technicians on the appropriate utilization and maintenance of these machines. We tested more than 30,000 patients for TB using LED microscopy, identifying an additional 1,000 TB patients. Furthermore, more than 30,000 patients with negative smear results were tested with Xpert; of these 3,800 were Xpert positive and 260 were rifampin resistant.

After achieving this success in increasing case detection, we reinvested our energy to develop innovative strategies to improve linkage to care and increase treatment initiation rates for TB and presumed MDR-TB patients. Our early data showed that only 65-80% of patients with positive TB test results are put on treatment and only 34% of patients diagnosed with rifampin resistance are being appropriately started on MDR-TB therapy and tested for HIV. It is important to treat co-infected patients for TB before beginning Anti-Retroviral Therapy (ART). Delaying ART treatment leads to increased mortality and morbidity.

HAI deployed GxAlert, a mHealth platform which allows remote sites to upload results to a central database. Positive tests trigger automatic SMS messages to key TB personnel. Using this technology, we worked with TB heads and their teams to make changes in order to ensure all patients with positive test results are started on treatment, particularly those with MDR-TB. Our early results show that this has notably increased the percentage of patients who test positive for TB and start on appropriate treatment, particularly those patients with rifampin resistance.

As an additional part of the project, we are collecting data on the time to TB treatment following diagnosis, and formally studying the TB treatment initiation rates of patients with a positive Xpert test before and after the implementation of GxAlert. We are also conducting a cost analysis study and working closely with the NTP to determine how best to expand these new technologies throughout Mozambique.

**Health
Alliance
International
(HAI)**

Mozambique

Stop TB Partnership

TB REACH

FINDING AND TREATING PEOPLE WITH TB IN THE WORLD'S POOREST COMMUNITIES

Government of Canada   **Gouvernement du Canada**

Stop TB Partnership

More than nine and a half million people around the world become ill with tuberculosis (TB) each year. About one-third of them fail to get an accurate diagnosis or effective treatment and are more likely to die from this curable disease.

By supporting the many partners working in the field, TB REACH offers a lifeline to these people by finding and treating people in the poorest, most vulnerable communities in the world. In areas with limited or non-existent TB care, TB REACH supports innovative and effective techniques to identify people who have TB, avert deaths, stop TB from spreading, and halt the development of drug resistant strains.

TB REACH has supported a total of 142 projects in 46 countries. To date, 33 million people have been screened for TB in project areas, of which, 1.7 million have received TB treatment, accounting for 856,000 lives saved. Some projects have seen increases in TB notifications of more than 100%.

Our partners are providing evidence for new case finding approaches and are working with community and policy leaders as well as donors such as The Global Fund to integrate those approaches into national strategies that improve TB case detection.

TB REACH was launched in 2010 thanks to a CAD$ 120 million grant from Global Affairs Canada.

TB REACH acts as a pathfinder, providing fast track funding for innovative projects, monitoring effectiveness and leveraging funding for scale up.