Reaching the Missed cases:
An innovative eHealth & mHealth intervention

⬢ **According to the 2013 Global TB Report**, India contributed 31% of the missed tuberculosis (TB) cases in the world. Analysis of data in Andhra Pradesh (AP) revealed that the Revised National TB Control Program (RNTCP) even "missed" cases that had walked up to the diagnostic facilities in the health system to seek care, due to the lack of simple and systematic monitoring methods. As an example, of the 551,137 presumptive TB patients examined by smear microscopy in the state of AP in 2012, 77,230 were diagnosed as smear positive. Of these, only 64,828 were registered for treatment under RNTCP and notified by the program, leaving 12,402 smear positive cases missing. These cases were "missed" by the program due to incomplete recording of patient details, patients migrating and lost to follow-up, death of patients, or patients being referred to other health centers within or outside the District or State and not traced for feedback on their treatment initiation status. Health systems around the world are increasingly using advanced information technology to improve public health outreach and surveillance. Accordingly, RNTCP- AP proposed a technological intervention, the e-Lab register, to provide real-time feedback on referred cases while tracking all diagnosed TB cases to initiate treatment. The proposal received TB REACH Wave 4 funding in 2014 to implement the e-Lab register in 50 Basic Management Units (BMUs).

The aim of the project is to identify and track the "missed" cases and to eventually treat them. The project targets the following populations: 1) the initial "lost to follow-up cases" (LFU) who have attended sputum testing centers and been diagnosed as smear positive but have not been registered or notified as TB cases in the program; and 2) the presumptive TB patients with initially negative smear results who do not return for repeat smear microscopy regardless of their chest X-ray results.

Both web and mobile versions of the e-Lab register were developed. All sputum testing centers were provided with computers. An SMS and Interactive Voice Response System (IVRS) gateway was provided with pre-recorded messages and SMS templates which could be used at defined points in the diagnostic algorithm. The application and the SMS/IVRS gateway are linked with a server that automatically updates the e-Lab register, sends auto SMS/IVRS, performs backend functions, and generates output in the form of graphs, charts, tables, etc. Using these technologies, laboratory technicians were able to record all details and real-time test results of the presumptive TB patients who attended the 273 sputum testing centers.

Some early results from the pilot phase of the project show that 750 smear-positive patients were diagnosed during April-June 2013 and 708 patients during April-June 2014. After introducing e-Lab register in 2014, 563 of 645 (87%) outpatients were put on treatment, compared to 424 of 689 (61%) in 2013 - prior to introducing the e-Lab register. Feedback on referred cases improved and LFU as a result of referrals to other districts dropped from 39% to 13%

India
State TB Cell
Directorate of Health Services

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.