

Implementation of Molecular Diagnostics Program to Improve TB Case Detection in Malawi

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Background:

Mulanje, Phalombe, Zomba, Machinga, Mangochi, Balaka and Chikhwawa districts (pop. 3,123,307) are in the Southern Region of Malawi in South Eastern Africa. The Government provides health services, including Tuberculosis (TB) control. TB case detection has been low due to passive approach where patients suspecting TB disease report to health facilities on their own initiative, often very late. Until 2011, health facilities providing TB screening were not adequately screening enough patients contributing to low case detection among TB patients.

Objective: Increase Case Detection

To substantially increase the rate of bacteriologically-confirmed TB cases in six districts of Southern Malawi.

Intervention: Scaling up use of GeneXpert to Diagnose TB

Sputum transportation from Community Sputum Collection Points (CSPCs) in hard to reach areas to microscopy centres and to laboratories with GeneXpert platforms for all sputum negative samples.

- Each district TB office was provided a new motorcycle and monthly fuel allowance
- Each CSPC has one bicycle used by volunteers



Scaling up TB Diagnostic Centres

A total of 253 diagnostics centres were operational by 2015 from only 79 microscopy centres in 2011. This remarkably increased access to diagnosis. By 2015, 9 GeneXpert machines had been operational for four years increasing access to better diagnosis.

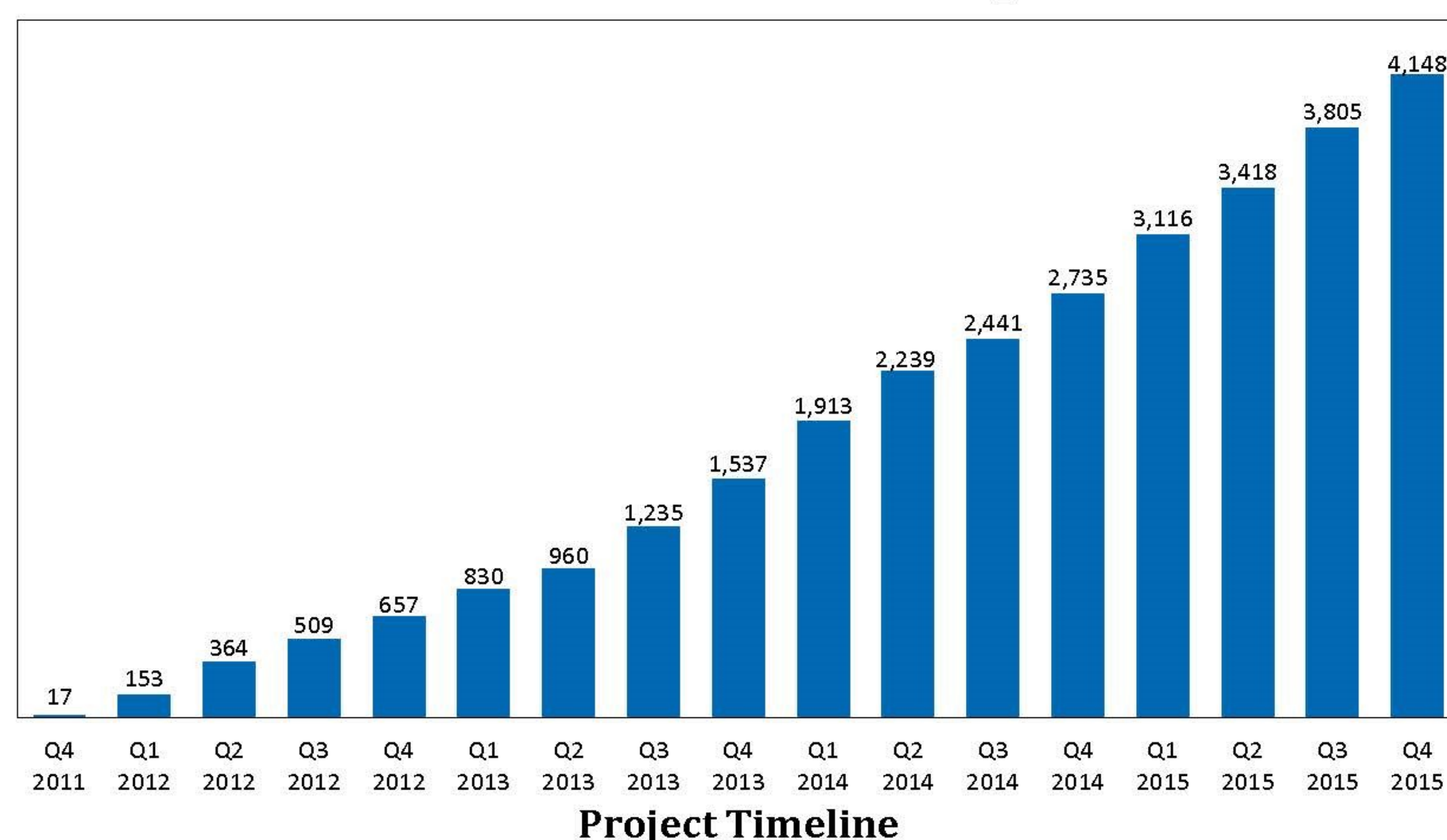
Capacity building in TB diagnosis and Patient Management

Capacity building for health care workers to increase and improve TB diagnosis and case management capacity of the district teams.



Results

Total Number of TB Cases Diagnosed



In **2014** and **2015**, 24,271 and 5,179 tests were performed in TB-REACH primary and secondary support districts, respectively, representing a **21% increase in tests**. During this period, 3,601 (12.2%) MTB+ cases were identified from intervention districts.

- Over **69,000 sputum samples** collected
- Over **41,000 tested with GeneXpert**
- Over **4,148 cases of TB found** among people living with HIV
- Over **172 drug-resistant cases found**

The increase in number of sputum samples tested is attributed to continuous support of transportation of sputum from peripheral health facilities to GeneXpert sites. The project provided one motorcycle and fuel to each of the supported districts. Both internal and external quality control were maintained through timely preventive service and regular calibration of the GeneXpert machines. Refrigerators were also provided to maintain cold-chain system.

Challenges and Lessons Learnt

- Districts need continuous logistical support to regularly provide needed supportive supervision.
- Improvements to the sputum sample transportation system yielded positive results.
- Maintenance and road permits for motor cycles is needed as MoH may not be timely.
- Training on quality sputum collection, storage and transportation is essential.

Conclusions and Recommendations

- Use of GeneXpert machines has increased the detection of bacteriologically confirmed TB cases in TB-REACH intervention districts of Malawi.
- Districts need sputum transportation and cold chain maintenance support to effectively implement GeneXpert testing for presumptive cases from peripheral areas.

