

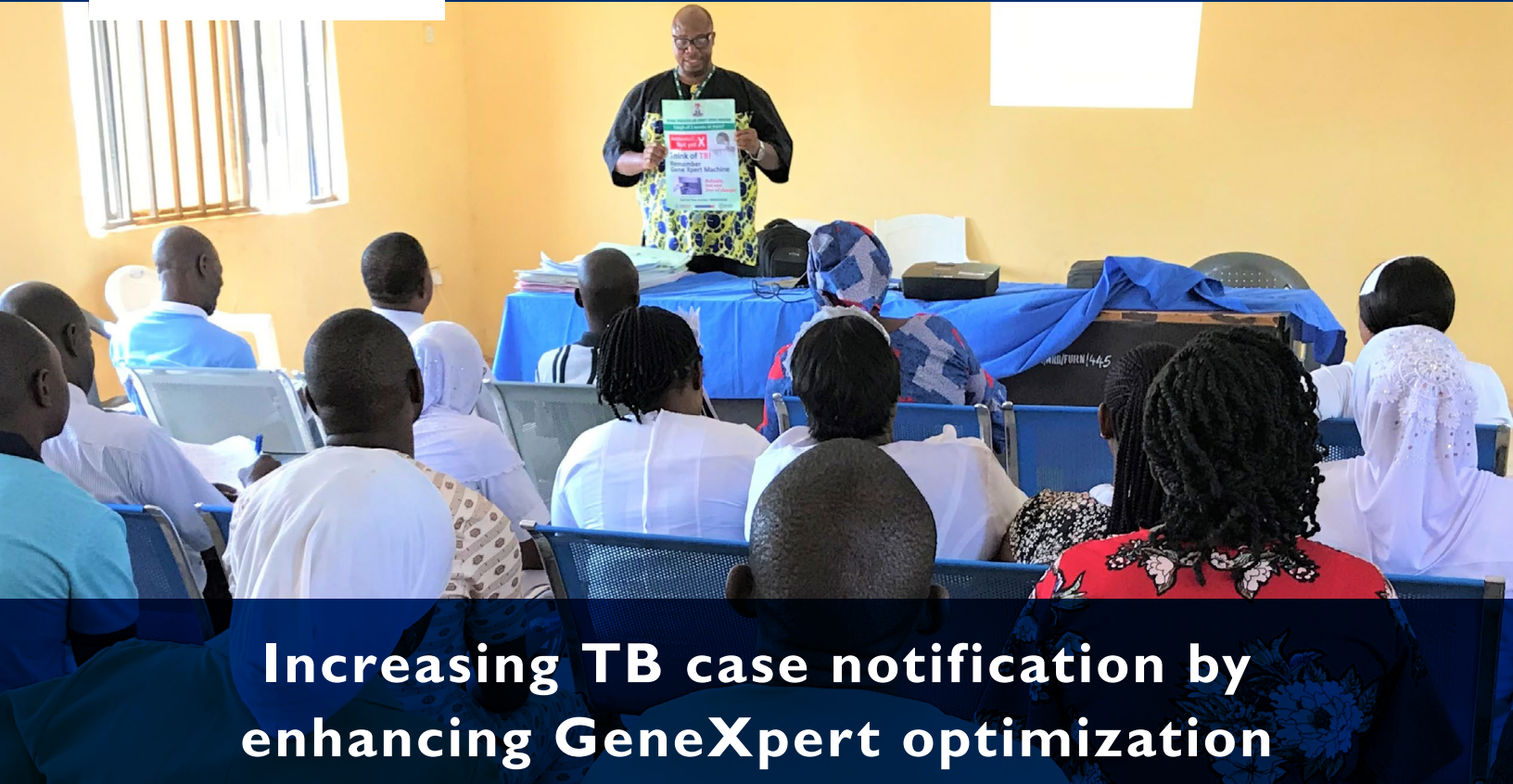


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**CHALLENGE TB**

## TECHNICAL BRIEF



# Increasing TB case notification by enhancing GeneXpert optimization

MSH/Challenge TB Senior Advisor Adewale Adeoti leads SOPs implementation orientation at a hospital in Nasarawa state in North Central Nigeria. Photo credit: Jane Andelman/MSH

## BACKGROUND

Despite efforts by the National TB Program (NTP) and other partners, tuberculosis (TB) is still a major public health problem in Nigeria, and low case finding remains a challenge to its eradication. TB control efforts were only able to notify 90,584 (15%) of the estimated 586,000 cases in 2015, 100,433 (25%) of the estimated 407,000 cases in 2016, and 104,904 (25%) of the estimated 418,000 cases in 2017. In many countries, a significant number of presumptive TB cases that visit health facilities (HFs) remain undiagnosed. These figures show that there is still a huge gap in TB case finding in Nigeria, which may continue to widen unless we find innovative ways to optimize and increase TB case notification.

The USAID-funded Challenge TB (CTB) project supports 128 GeneXpert sites across Nigeria. The number of TB cases missed at HFs remains high, particularly because many health workers do not follow a standard protocol when a patient presents with a cough. Often, health workers place those patients on antibiotics without considering TB or ordering GeneXpert testing.

Sub-optimal GeneXpert utilization because of modular failures, power supply issues, and inadequate samples has directly contributed to low TB case finding. It is important that TB case detection activities are implemented, monitored, and supervised within existing HF structures and systems. Adhering to standard operating procedures (SOPs) will ensure that TB case detection becomes a permanent, routine, and consistent activity.

## STRATEGIC RESPONSE

SOPs have been proven effective as a resource for quality improvement and optimizing the impact of health interventions. These SOPs were developed to provide clear and simple instructions to health workers on how to improve TB case detection and Xpert utilization in different departments and sections of a health facility. First designed during the USAID-funded TB CARE I project and updated for CTB in line with current guidelines, the SOPs describe processes and provide instructions to optimize practices in TB case detection. They are essential for providing equity of care, patient safety, and standardization of service provision.

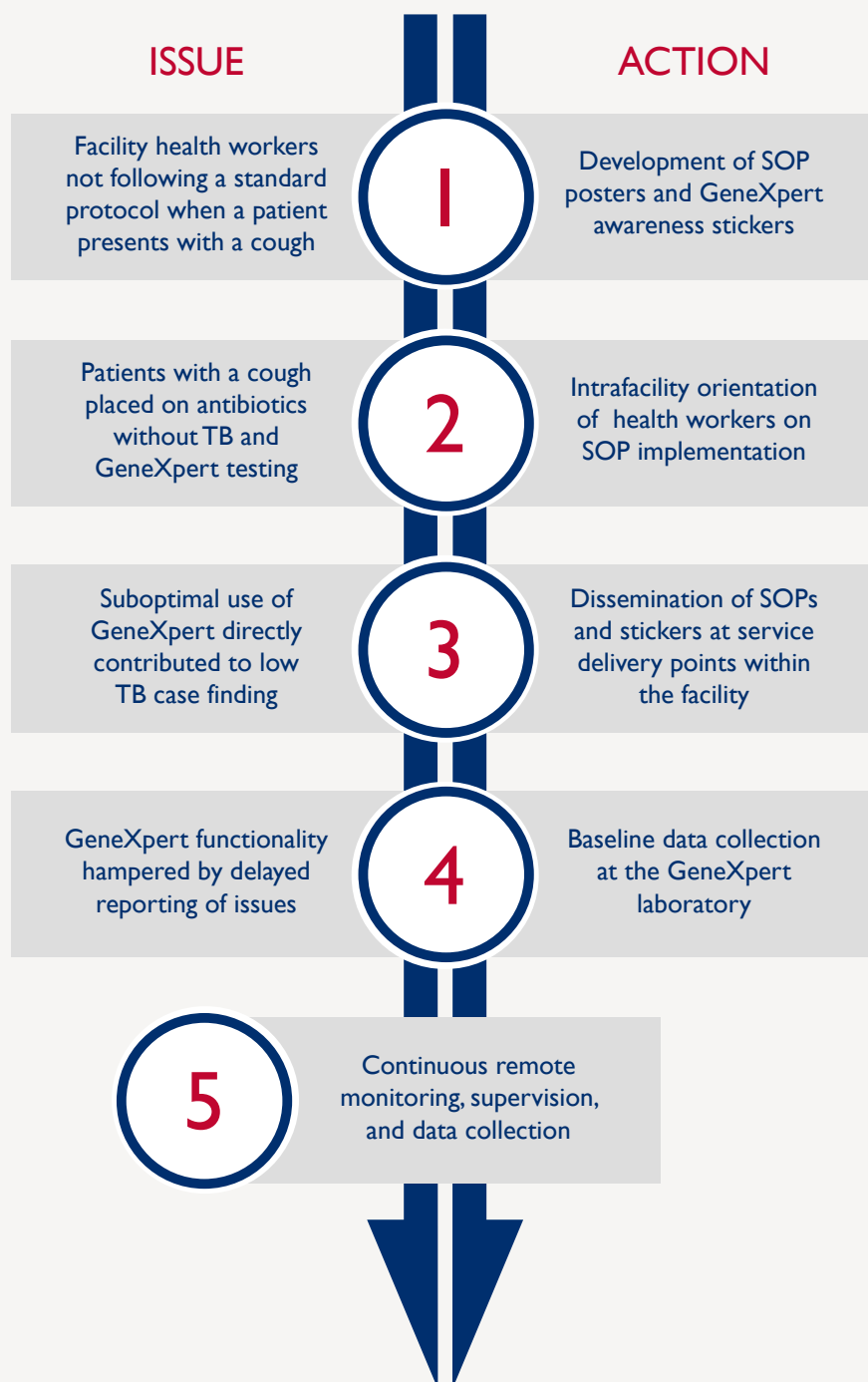
What distinguishes these SOPs from other documents is their presentation in an easy-to-read, bulleted format. The simple design and content provides step-by-step guidelines for health workers at service delivery points, which helps sensitize health workers who either do not know how to identify presumptive TB cases or have not seen this as a permanent, consistent, and routine activity to be carried out among people with TB symptoms visiting HFs.

Figure 1 illustrates key issues and the actions taken to address them. After the SOP posters and GeneXpert awareness stickers were printed, an intrafacility orientation was conducted for health workers selected from various service delivery points targeted by the SOPs, including those from adjacent or nearby HFs, on how to quickly identify presumptive TB cases and immediately refer them for

GeneXpert testing. The SOP posters and stickers were then disseminated and posted at the service delivery points to serve as a guide and quick

reference point. Baseline data were collected while remote monitoring, supervision, and quarterly data collection continued.

FIGURE 1. Design and development of user-friendly SOPs to optimize and increase TB case notification—issues and actions



# IMPLEMENTATION

## OBJECTIVES OF THE SOPs

The primary objective of the SOPs is to make TB case detection a permanent and routine activity in HFs, thereby optimizing GeneXpert utilization. It is expected that the SOPs will:

- Provide staff with valid technical and operational information to improve the organization of TB case detection practices within health facilities
- Ensure that TB case detection practices are performed consistently to maintain the standard of care while increasing Xpert demand
- Ensure that TB case detection procedures comply with national and international standards and guidelines
- Serve as a quick reference document for staff before and after training
- Serve as a quality assurance tool for management to evaluate service delivery and reinforce performance in accordance with national and international standards and guidelines

## SOP TARGET GROUPS

- The primary target group for these SOPs is staff at service delivery points who provide services to TB and TB/HIV patients, including vulnerable groups such as children and diabetic patients.
- The SOPs target a wide range of health professionals working in waiting area/record or triage rooms, outpatient departments, consultation and antiretroviral therapy/chronic care units, TB clinics, and laboratories so they actively look for TB and optimize Xpert utilization.

- The SOPs are also useful to staff at state local government area (LGA) and at the regional and national levels who supervise the implementation of TB and TB/HIV activities at the HF level.

## INTRAFACILITY ORIENTATION

Intrafacility orientations on SOP implementation were held at HFs, and health workers were selected from all of the service delivery points within the HF and from nearby primary health care centers and private/faith-based facilities.

The orientation focused on the importance of a systematic approach to finding missing TB cases and outlined the SOPs to use at the various service delivery points to enhance TB case detection. It also included distribution of posters and TB awareness stickers; brainstorming on challenges hampering GeneXpert functionality; and solutions, demonstrations, question and answer sessions, and opportunities for participants to share their experiences. The WHO standard for identifying presumptive TB cases was shared, as were real-life challenges faced by health workers.

### Orientation sessions for SOPs to enhance TB case notification

- Enhancing TB case detection at General Outpatients Department
- Enhancing TB case detection in the consultation room
- Enhancing TB case detection among HIV-infected adults
- Enhancing TB case detection among children
- Enhancing TB/HIV services at TB clinics
- Enhancing TB case detection and GeneXpert utilization in wards
- Enhancing TB case detection and GeneXpert utilization in labs
- Collecting sputum specimens

TBL supervisor for Karu local government area with SOPs and posters as tools for increasing TB case finding. Photo credit: Jane Andelman/MSH





## RESULTS AND ACHIEVEMENTS

SOPs for TB control efforts are developed when a practice has been proven to improve performance, including the number of GeneXpert tests performed and number of TB cases identified. As is common in most programs, results may be influenced by other contributing factors, including interventions by other partners targeting the same result. Figures 2–4 show observable trends in data that, coupled with anecdotal evidence, suggest a contribution from the SOP implementation.

Challenge TB supported 128 GeneXpert sites across 14 states. The CTB team visited 52 of these sites during the calendar year under review. The data below are from 12 sites in 3 states (one from each of the country's geopolitical zones) where data were readily available.

At four health facilities in Nasarawa state, the number of GeneXpert tests performed increased by 48% across three quarters of 2018. During that same period, TB cases finding increased by nearly 40% (figure 2).

In Enugu state, the number of GeneXpert tests performed increased by 53.4% across all four quarters of 2018. During that same period, TB cases finding steadily increased by nearly 45% (figure 3).

FIGURE 2. GeneXpert test done and TB cases notified at four facilities in Nasarawa state

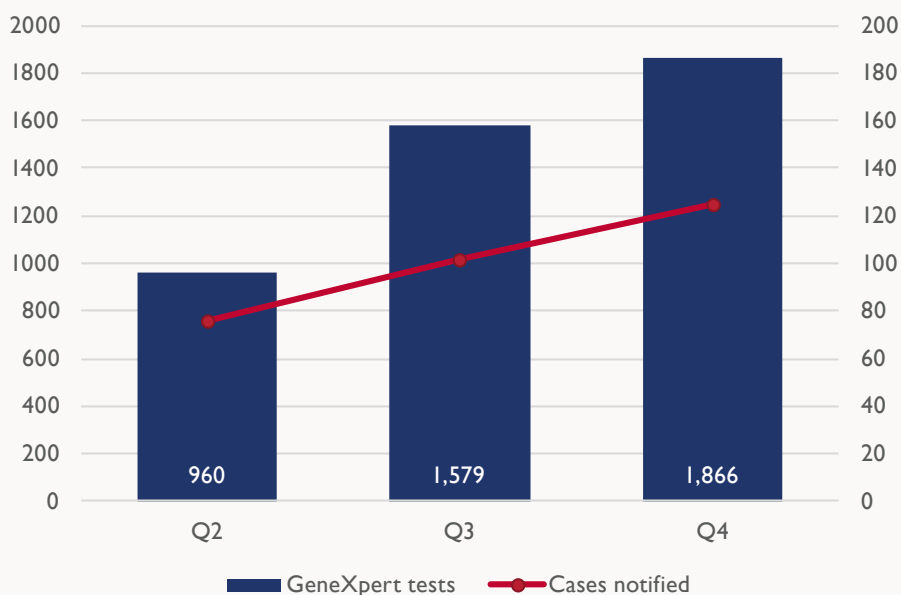
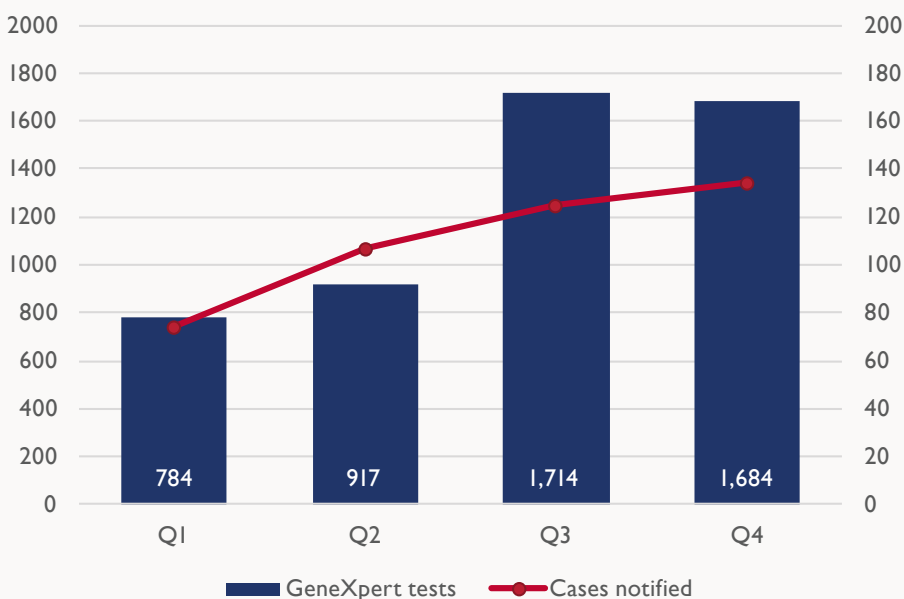


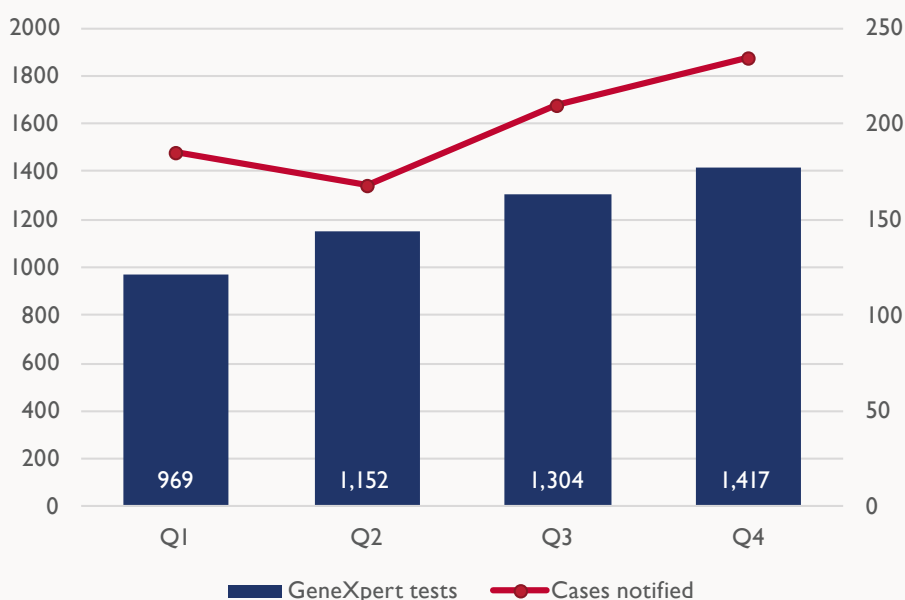
FIGURE 3. GeneXpert test done and TB cases notified at four facilities in Enugu state



In Ondo state, the number of GeneXpert tests performed increased by 31.6% across four quarters in 2018, while TB cases finding steadily increased by 21.2% (figure 4).

Overall, the number of presumptive TB patients in selected health facilities across the states where SOP orientation took place increased from 5,974 to 9,007 (33%). During the same reporting period, the number of TB cases notified increased from 731 to 871 (16%).

FIGURE 4. GeneXpert test done and TB case notified in four facilities in Ondo state



## LESSONS LEARNED

Despite the availability of GeneXpert machines, health care workers have limited knowledge and awareness of the tool. Because GeneXpert is not part of routine TB and TB/HIV training

programs in many facilities, physicians often prefer the practice of requesting a sputum microscopy culture sensitivities test without considering screening for TB using GeneXpert.

When samples are submitted, there are often delays in response time due the lack of a power supply, modular failure, a lack of cartridges, or GeneXpert machine warranty expiration. These technical issues further hamper the functionality of the machine when they are not reported promptly and/or when there are delays in addressing them.

MSH/Challenge TB's Babatunde Tifase prepares SOPs and posters for distribution at a training for health care workers. Photo credit: Jane Andelman/MSH



Finally, as with any technology-enabled tool, it is often difficult to recruit workers and volunteers to work in rural areas, making it challenging to reach areas for contact investigation. When samples are collected from those areas, there may be no means of transporting them to GeneXpert sites.

## WAY FORWARD

Despite tremendous success in increasing case notification, challenges remain in finding cases and using GeneXpert effectively. In many countries and communities, everyone is affected in some way by the growing TB epidemic.

Future TB programs must consider continuous learning and refresher training for health care workers on the public health concerns of TB,

focus on prompt reporting and timely responses to issues that affect GeneXpert functionality, and ensure effective transportation mechanisms to move sputum collected to the GeneXpert sites and prompt dissemination of test results. TB case finding is not adequate without corresponding contact investigation/tracing, and modalities and supports for effective contact investigation should be established.

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## Authors

This publication was written by Babatunde Tifase with contributions from Berhanemeskal Assefa, Adewale Adeoti, and Jane Andelman.

For more information, please contact [lessons@msh.org](mailto:lessons@msh.org).

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- <sup>2</sup> National Tuberculosis and Leprosy Control Programme (NTBLCP). National Standard Operating Procedures for Tuberculosis laboratory version 2, January 2017.

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