

Building Resilient Health Systems: Key Achievements and Lessons Learned from the Pilot TB/COVID-19- Integration Model from the ACT-A Project in Ethiopia

OVERVIEW

Project: Leveraging the COVID-19 Pandemic for Better Diagnostics: Strengthening the Use of Antigen-Detecting Rapid Diagnostic Tests in Ethiopia

Country: Ethiopia

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BACKGROUND

Context

Management Sciences for Health (MSH), with funding from FIND, the global alliance for diagnostics, through the Access to COVID-19 Tools Accelerator (ACT-A), implemented the COVID-19 ACT-A Project in Ethiopia from November 2021 to October 2022. The aim was to improve and accelerate access to and uptake of SARS-Cov2 Antigen-Detecting Rapid Diagnostic Tests (Ag-RDT) and integrate COVID-19 management with other disease control programs.

Problem Statement/Challenge

COVID-19 testing is the entry point to controlling the spread of the disease, but it remains a major bottleneck globally, especially in low- and middle-income countries such as Ethiopia. A national strategy for integrating COVID-19 screening with screening for other respiratory diseases, such as tuberculosis (TB), is needed to transition from an emergency response to an integrated health systems response to the disease.

Stakeholder Engagement

MSH partnered with key stakeholders already working to enhance the country's existing laboratory system and the COVID-19 response, such as the Ethiopian Public Health Institute (EPHI) Emergency Operation Centre; the COVID-19 Task Force; and the US Agency for International Development Eliminate TB Project, which MSH also implements.

TECHNICAL APPROACH

Strategic Process

MSH, in collaboration with EPHI and the National Reference Laboratory, carried out a baseline assessment at the start of the project. Fifteen high-load

health facilities (HFs)/hospitals were selected across four regions (Amhara; Oromia; Southern Nations, Nationalities, and People; and Sidama) to take part in the project (figure 1).



Figure 1. ACT-A project implementing sites: Debre Markos Comprehensive Specialized Hospital, University of Gondar Comprehensive Specialized Hospital, Debre Birhan Comprehensive Specialized Hospital, Dessie Comprehensive Specialized Hospital, Worabe Comprehensive Specialized Hospital, Arba Minch General Hospital, Wolaita Sodo University Hospital, Adare General Hospital, Ambo University Hospital, Jimma University Medical Centre, Wolkite University Hospital, Dodola General Hospital, Shashemene Comprehensive Specialized Hospital, Arusi University Comprehensive Specialized Hospital, and Adama Hospital Medical College

The selected hospitals are responsible for the COVID-19 emergency response, RT-PCR testing, and clinical management in the regions. Key findings from the baseline assessment included:

- » Siloed program interventions
- » Limited capacity building of assigned health care workers (HCWs)
- » Lack of COVID-19 and integrated TB/COVID-19 policies and related documents
- » Challenges with the supply of personal protective equipment (PPE) and SARS-CoV-2 Ag test kits
- » Limited patient access to chest x-ray (CXR) and GeneXpert testing

Implementation:

To simultaneously address the demand of RDTs and minimize the disruption of TB services, the project designed and introduced a TB/COVID-19 integrated screening model that was implemented at the selected HFs for three months (July–September 2022).

Capacity Building

The project carried out trainings in:

- » **SARS-CoV-2 Ag RDT**, including test use, demand creation, and inventory management
- » **TB/COVID-19 simultaneous screening**, including the design of the patient pathway

Enhancing Access to Diagnostics

- » To enhance access to SARS-CoV-2 Ag RDTs, close follow up of national and HF stock status was conducted to prevent service interruptions due to stock-outs or expiry of test kits.
- » TB/COVID-19 integrated screening tools (standard operating procedure [SOP]¹, algorithm, job aid, and registers) were developed to enhance screening of all coughing patients attending cougher clinics for TB and COVID-19 according to the TB/COVID-19 integrated screening algorithm.
- » The project complied with the current national TB and leprosy guideline regarding access to CXR by facilitating payment-free service for presumptive TB patients and TB high-risk groups.

Infection Prevention and Control

The project provided two infrared thermometers for each HF to improve client/patient triaging practice and prevent primarily COVID-19 transmission and deliveries of PPE for all HCWs.

Coordination and Collaboration

The activity plan, including key performance indicators, was developed and reviewed by experts from EPHI. The National TB and Leprosy Programme was also consulted on the TB/COVID-19 simultaneous screening pilot initiative, and the overall outcome of the ACT-A Project was shared with the Federal Ministry of Health through the COVID-19 Task Force lead.

Introducing Data Reporting Tools

HFs were supported and trained on how to actively report their COVID-19 testing data to the national dashboard (DHIS2).

Monitoring and Evaluation

Sixteen indicators for evaluating the performance of the project were identified and monitored.

Results and achievements at the 15 HFs during the project implementation period:

- » 29,080 COVID-19 tests were performed. The mean score for COVID-19 positivity rate was 7.3%, with a range of 1.2% to 23% (figure 2).
- » 48,889 GeneXpert tests were performed. The mean score for Mycobacterium TB (MTB) positivity rate was 10.7%, with a range of 9.7% to 11.8% (figure 3).
- » From July to September 2022 (three months of implementation of the integrated SOP):
 - 2,593 clients/visitors having high thermal temperature readings (> 37°C) were referred to the cougher clinic for further investigation prior to SARS-COV-2 Ag RDT.
 - 5,195 presumptive TB cases and individuals in TB high-risk groups had free access to CXR evaluation. Among patients who had a CXR, 10.3% had results suggestive of TB (figure 4).
- » Two deliveries of PPE, valued at USD 177,000, were provided to HCWs at the selected hospitals.
- » 138 HCWs were trained on the SARS-CoV-Ag RDT testing, and 272 clinicians, lab technicians, pharmacists, IT staff, and nurses were trained on the TB/COVID-19 integrated tools.

Figure 2. COVID-19 positivity rate

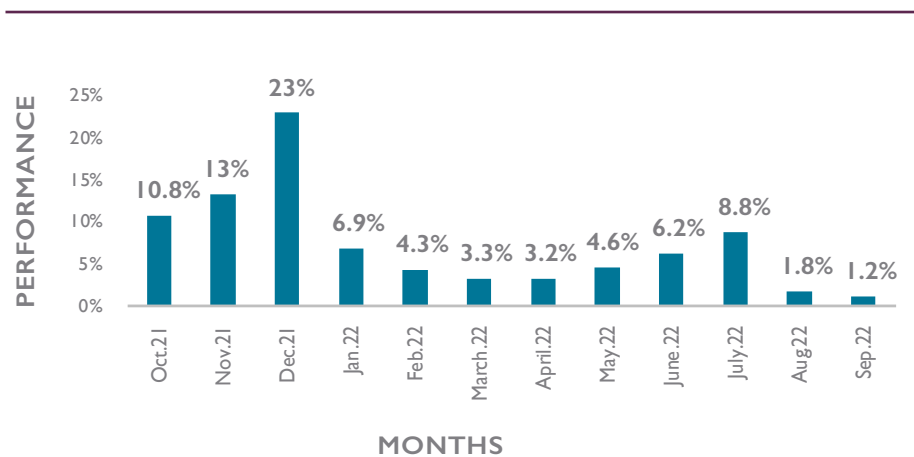


Figure 3. MTB positivity rate

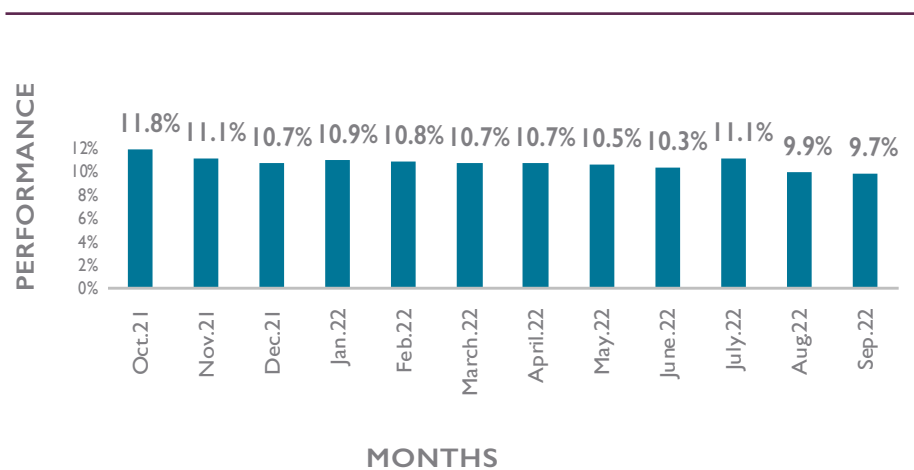


Figure 4. Proportion of patients having suggestive of TB among those who underwent CXR evaluation

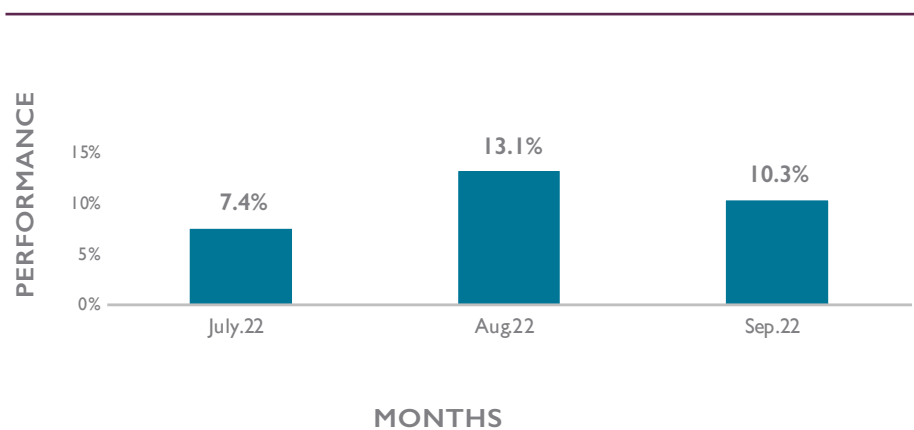




Photo credit: Joney Woldegebreal, MSH



Dr. Ahmed (right), General Practitioner at Adama Hospital Medical College, receiving the first delivery of PPE

LESSONS LEARNED AND WAY FORWARD

A TB/COVID-19 integration screening model is a feasible and useful tool to minimize disruptions to disease programs. Its scale up in alignment with pandemic preparedness will be a way forward.

Recommendations

- » Integrate COVID-19 with other disease programs and utilize community-based health insurance to provide equitable access to health services and reduce catastrophic costs to patients
- » Include monitoring the epidemiology of COVID-19 and future pandemics, sequencing, and modelling of variants in the pandemic preparedness response plan
- » Strengthen models for sustainable early warning and response systems for known and emerging pathogens
- » EPHI should work closely with HFs to implement a quality assurance program for SAR-CoV-2 Ag RDT, including a proficiency testing scheme

REFERENCES

- 1 TB/COVID Simultaneous Screening Standard Operating Procedure, ACT-A project, July 2022



DISCLAIMER

Support for this Project was provided through funding from FIND, the global alliance for diagnostics. The views expressed by the authors do not necessarily reflect the views of the funding agency. This Project was a collaborative effort between Management Sciences for Health of Massachusetts, United States, and FIND, the global alliance for diagnostics, with headquarters in Geneva, Switzerland.