

CALL TO DONORS: accessing effective COVID-19 diagnosis and supplementing emergency preparedness in India

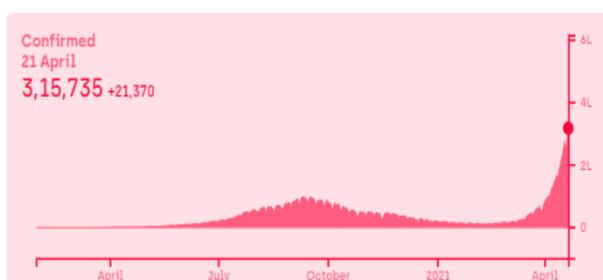
Background:

FIND has been receiving **pressing requests** from public laboratories/institutes in India for automated equipment, **including high-throughput COVID-19 testing machines**, related equipment such as automated nucleic acid extractors, consumables and **test-kits**. All the items proposed can be used to quickly scale up testing capacity without needing increased manpower. These tools also include **antigen rapid tests (Ag RDTs)**, which can rapidly relieve pressure on the laboratories, reduce test turnaround time and make widespread testing feasible. With respect to Ag RDTs, despite the initial concerns about their test performance, emerging evidence suggests that the most sensitive of these tests detect 97% of infectious cases.¹ There is also evidence that **frequency of testing and speed of reporting** have a greater influence on the effectiveness of SARS-CoV-2 infection surveillance than simply test sensitivity alone.² FIND has a **strong team** of procurement and supply-chain professionals, microbiologists and medical officers who can be immediately deployed to liaise with states/sites to prioritize requests in order of need and ensure quick installation of laboratory equipment, as well as supply of appropriate test kits.

FIND seeks donors who would like to support efforts to address these challenges in the shortest time possible, and will *match this funding from its own resources*.³

Urgent need for accurate easy-to-use tests and capacity building around COVID-19

The **SARS-CoV-2** pandemic is one of the greatest threats to global public health seen in generations. As of 22 April 2021, 143 million cases and >3 million deaths have been confirmed



India's second COVID-19 wave with record number of daily cases²

globally,⁴ as the pandemic continues to grow in several parts of the world. **In India, ~15 million confirmed patients** have been reported so far, with a **rapid increase in the number of new patients in India's "second wave"**. Daily cases are touching a record high of >300,000 – highest in the world,⁵ with delays noticed in every aspect of the healthcare continuum, including testing.⁶ India has recently opened its vaccination drive to all adults. However, at the current rate, India may be able to **vaccinate only 40% of its population**

¹ J van Beek, Z Igloi, T Boelsums, et al. From more testing to smart testing: data-guided SARS-CoV-2 testing choices; medRxiv (2020); Published online on October 14, 2020

² DB Larremore, B Wilder, E Lester, et al. Test sensitivity is secondary to frequency and turnaround time for COVID-19 surveillance; medRxiv (2020); Published online June 27.

³ With limits and conditions

⁴ <https://www.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6>

⁵ <https://www.covid19india.org/>

⁶ <https://www.indiatoday.in/coronavirus-outbreak/story/overwhelming-number-of-covid-tests-send-labs-on-the-edge-results-delayed-by-three-days-in-delhi-mumbai-and-lucknow-1790990-2021-04-14>

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by December 2021 and the remaining 60% by May 2022.⁷ While, vaccination remains a strong long-term exit-plan from the pandemic, for the next year, India needs renewed and urgent health system strengthening to ensure effective prevention and control of widespread diseases.

Challenges in testing while having severe manpower shortages

SARS-CoV-2 outbreak continues to highlight the **large gaps in timely testing** – a critical element to ensure appropriate isolation of infected persons and prevention of infection propagation among contacts and the community. **Current testing challenges** include **overburdened laboratory facilities** facing massive backlog due to high workload (>300% increase since February 2021) and a **shortage of manpower** due to high rates of infection among healthcare workers, plus a reluctance to work in COVID-19 laboratories. This makes **delays in diagnosis of SARS-CoV-2** a critical point of failure in the COVID-19 strategic preparedness and response plan. Additionally, most of the available tests are slow to implement and resource intensive – limiting the country capacity to accurately track the disease and identify patients. These tests, which require medical infrastructure, are overwhelming a health system which is already struggling with patient management. Hence, there is a need to fill the testing gaps, improve throughput of testing, and augment laboratory capacity to meet the challenges on the ground.

Why FIND?⁸

FIND is an international non-profit organization based in Geneva, Switzerland. The organization is dedicated to activities that result in 1) new diagnostic tools; 2) expanded access to these tools; and 3) strengthened diagnostic testing capacity for poverty-related diseases in low-and middle-income countries. FIND is a **World Health Organization (WHO) Collaborating Centre for Laboratory Strengthening** and Diagnostic Technology Evaluation.

In India, FIND – created under Section 8 (Indian) Companies Act, 2013 – is the key implementing partner of the National TB Elimination Program (NTEP), Ministry of Health & Family Welfare, Government of India. FIND **has >11 years of experience** strengthening and expanding TB laboratory diagnostic capacity and works closely with India's National Viral Hepatitis Control Program and partnering with the Indian Council for Medical Research to drive diagnostic use in primary health settings. FIND's work in TB is made possible by a grant from the Global Fund.

COVID-19 work to build quality testing capacity

FIND has been **supporting the Government of India** in procuring and implementing diagnostic tests and facilitating long-term pandemic preparedness infrastructure and strategy with a focus on diagnostics. Since 2020, FIND has supplied the National Center for Disease Control (NCDC) and several ICMR approved public sector laboratories with automated diagnostic equipment and consumables including RT-PCR machines, sequencers, viral transport media (for collection and transportation of samples) and test kits. Till date, FIND has supplied >130 GeneXpert machines, >50,000 RT-PCR tests and 24,000 RNA extraction reactions across multiple states in India, with another 20,000 Truenat™ tests on the way. This work has been supported by our donors including

⁷ <https://www.indiaspend.com/covid-19/india-may-not-have-enough-doses-to-meet-its-covid-vaccination-targets-data-show-741382>

⁸To read a complete list of FIND projects, please visit <https://www.finddx.org/>

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the Global Fund as well as BMGF, PepsiCo India, Optum Global Solutions (India) and Tetra Pak India.

In the area of **health worker training**, and with funding support from the BMGF, FIND extends its global digital training programme, created in partnership with the African Society for Laboratory Medicine and London School of Hygiene and Tropical Medicine, to India through a customized country-specific version of the training. The courses encompass an overview of the COVID-19 pandemic, role of diagnostics as a response, the different types of tests available, current recommendations on their use, testing strategies as well as insights on how COVID-19 testing can be scaled up. The courses were launched globally in April 2020, attracting more than 20,000 participants from 188 countries. The customized edition available in India has attracted 1,200+ learners so far. To improve quality of testing, through partners, FIND has also facilitated on-site training for 360+ laboratory personnel.

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