

Submission from the Foundation for Innovative New Diagnostics

FIND: accelerating testing to contain and exit the COVID-19 pandemic

1. While waiting for a vaccine and effective therapeutic, one of the most important tools we now have to contain the COVID-19 pandemic and prevent future waves of infection is laboratory testing integrated into a containment strategy that includes detecting new infections and tracing their contacts. By isolating people who test positive, the chains of transmission into communities can be broken and those at risk of serious disease following infections can be shielded, including the elderly, those with co-morbidities, and those confined to care homes and living in crowded conditions, such as migrant workers. The effectiveness of such containment strategies has been proven in countries including New Zealand, Germany and South Korea – all high-income countries able to implement aggressive, sustained testing strategies with the complex diagnostics available today.
2. But with 85% of the world living in a low- or middle-income country (LMIC) usually without the infrastructure, facilities or training to implement these laboratory-based tests to the same extent, there is an urgent need for innovation so that everyone, everywhere can access a test if they need one. This need increases the value of investment in FIND, a non-profit global health organization dedicated to test development and access, and co-convenor of the Access to COVID-19 Tools (ACT) Accelerator Diagnostics Partnership. FIND is working to make testing for COVID-19 simple, accurate and affordable for all.
3. There is a window of opportunity to get testing ramped up globally now that most countries have decreased the reproductive number to less than 1, and to thus prevent future waves of transmission by having enough testing capacity to run successful containment activities. If and when vaccines and therapeutics become available, testing is the best way to know who to treat, and who to prioritize for vaccination.
4. To accelerate development and availability of a simple, accurate and affordable test that can be made accessible across the world, FIND is convening a global diagnostics alliance to respond to the need for diagnostic tests for the pandemic. The objectives of the alliance are to: 1) accelerate innovation and R&D for simple-to-use diagnostic tests and digital tools; 2) promote market readiness with market estimates and other tools such as advance market commitments; and 3) provide training in the use of current diagnostic tests to ensure country preparedness.
5. *Innovation and R&D activities* include driving independent evaluations of tests to inform decision-making; performing short-term innovation activities to foster development of quality tests; building an interactive test tracker and dashboard for COVID-19 diagnostic performance data visualization; launching a simulator that can model the impact of COVID-19 testing strategies; and setting up a COVID-19 virtual biobank for specimen collection.
6. *Market readiness* comprises estimates of needs, especially in LMICs; company outreach and negotiation of prices, volumes and other conditions for contracting; and setting up a COVID-19 information portal to provide visibility to buyers on all existing COVID-19 diagnostic solutions.
7. *Country preparedness* includes the launch of COVID-19 diagnostics and testing online training courses (nearly 17,000 learners registered to date); building remote technical assistance via a diagnostics helpdesk and providing in-person technical assistance; and piloting digital tools to support healthcare workers in interpreting test results accurately and in self-triaging by symptomatic cases.

8. We have a long-standing relationship with DFID, which has been a core funder to FIND for many years. For COVID-19, DFID support is enabling FIND to:
- **Drive availability of rapid tests through portfolio investment in manufacturing scale-up.** Targeted investments are being made to accelerate the development of next-generation, scalable rapid antigen tests, as the currently available tests are inadequate. Availability of these are critical for decentralized testing in LMICs, and it is anticipated that 500 million tests will be required in these countries in the first year (comprising 75% rapid tests, 25% molecular tests). Additionally, through an open call for proposals, FIND is bringing small innovators together with regional manufacturers across North Africa, Eastern Europe, South-East Asia and Latin America, to be able to scale innovation rapidly and transfer know-how into LMICs. These include the rapid testing technology being developed by UK-based company Mologic (also with UK aid funding), that will be made in parallel with diaTROPIX, a forthcoming rapid diagnostic test (RDT) manufacturing facility founded by Institut Pasteur of Dakar, in Senegal. (Objective 1)
 - **Remove access barriers to COVID-19 testing across LMICs.** FIND is working with key partners including the World Health Organization as part of the WHO Supply Consortium, to support equitable allocation of tests. FIND is also working to facilitate demand planning by building a coordinated online marketplace that can collect data on orders, volume throughput and pricing, as well as enabling procurement through existing agencies. (Objective 2)
 - **Harness digital innovation to build LMIC diagnostic capacity.** FIND is working with partners to collate evidence on the performance and use of digital diagnostic solutions (such as AI-based image analysis solutions) for COVID-19 testing. Rapid assessments of IT solutions that have been selected by ministries of health in several partner LMICs are being conducted to inform implementation. The intent of these assessments is to identify gaps around diagnosis and surveillance so that relevant functionalities can be included in the IT solutions, and best practices from their implementation can be shared globally as a public good. As a next step, once RDTs become available in these partner LMICs, FIND will support the introduction of digital tools for screening to enable targeted testing using RDTs. FIND is also using digital tools to build country testing capacity by providing training, help desks for real time assistance, and access to data through online platforms (Objectives 1 and 3).
9. COVID-19 is highlighting the need for sustained investment in diagnostics the world over, and by investing in FIND, the UK is playing a significant role in the global response to the pandemic. The impact of the UK investment will also go beyond today's pandemic, as it will help put infrastructure and technological capabilities in place that will shore up diagnostic gaps in global health security and ensure we are ready to tackle future outbreaks.

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