



Flattening the COVID-19 curve in low- and middle-income countries

Overview

The COVID-19 pandemic has claimed millions of lives, many in low- and middle-income countries (LMICs). These countries face significant challenges in developing effective disease mitigation and control strategies given limited testing supplies, variable health system capacities and lack of guidance specific to LMIC contexts. The World Health Organization recently stated that the African continent is at a “pivotal moment.” Though reported cases and deaths in Africa are lower than in other regions, some countries have already been hit hard and we are beginning to see a resurgence as countries emerge from lockdown and schools begin to open. Many LMIC health systems are not prepared for a potential surge. For example, Nepal has a population of 28 million people but just under 1,600 ICU beds for the entire country. In addition, the majority of African countries have been struggling for decades with the lack of skilled healthcare workers per their population sizes to attend to the myriad of primary health care needs, now exacerbated by the pandemic. These realities make community-level outbreak control challenging at best, and will lead to significant risk of COVID-19 mortality and morbidity in at-risk populations.

The Institute for Global Health Sciences at the University of California, San Francisco, in partnership with Evidence Action and IDinsight, launched the Pandemic Response Initiative (PRI) in April to support low- and middle-income countries to mitigate the pandemic.

Our work spans the arc of the outbreak: a government must be able to detect COVID-19 outbreaks through precision surveillance, and then engage in strategic deployment of testing and therapeutic interventions. This approach will allow for fast, adaptable responses with targeted interventions to protect fragile health systems and prevent mortality and morbidity in LMICs.

The **Pandemic Response Initiative (PRI)** has been rapidly mobilized to support low- and middle-income countries (LMICs) to develop their own playbooks to prevent widespread devastation from the COVID-19 pandemic, tailored to the realities of their populations and economies. PRI is focused on:

- Providing LMICs with their own set of customized tools to inform their response, and
- Creating impact at the community level.

Pandemic Response Initiative



Institute for Global Health Sciences

2020 impact achieved



Therapeutics

- » **Created a robust landscape analysis** of what other researchers, global health entities, donors and NGOs are doing to advance COVID-19 therapeutics research and development
- » **Advocated for rapid investment in COVID-19 therapeutics** that can be deployed to LMICs by convening stakeholders and writing a drug access policy paper that puts forward a framework for deploying therapeutics in LMICs
- » **Conducted scientific review** of existing oral therapeutics that could be repurposed for COVID-19 treatment in LMICs
- » **Convened stakeholders** representing the Access to COVID-19 Tools Accelerator working group, the pharmaceutical industry, global health policy and supply chain experts and country experience



Diagnostics

- » **Created an evidence-based, analytical tool** that prioritizes populations for scarce testing resources, which will be critical to ensure that the tens of millions of dollars invested and the more than 100,000 antigen tests to be delivered in coming months have maximum impact
- » **Ensured technical rigor of tool and buy-in of key technical agencies** such as WHO and Africa CDC through iteration with relevant experts in Africa and globally
- » **Piloted the tool to support diagnostics strategy** through in-depth engagement with health policymakers in Delhi/India, Rwanda, Zambia and Zimbabwe



Surveillance

- » **Launched a proof of concept** from July-September with SMS syndromic questionnaire to 100 community health volunteers testing in Uganda and Kenya; demonstrated strong response rate
- » **Developed protocol and received ethical approval for piloting syndromic surveillance study** in Kenya to begin in early 2021 which will create risk maps detailing hot, cold, warm zones of current COVID-19 activity as an output and guide public health decision making and response efforts

Impact in 2021 and beyond

We must take the long view: the pandemic will likely worsen health outcomes, as we are seeing in the United States, before it improves. We think that the rollout of a game-changing vaccine in LMICs is unlikely in 2021 and in fact will likely take several years to adequately reach the majority of people in LMICs. Given this, our theory of impact for 2021 and beyond is that by accelerating access to effective

treatments we can reach LMIC communities months earlier, and ensure tens of millions of dollars in donor funding is optimally spent to mitigate the pandemic. We will similarly continue to support critical optimization of testing resources. With 100,000 antigen tests projected to deploy to the African continent by the end of 2020, tens of millions of dollars have been invested in diagnostics but without prioritization guidance, testing supplies will be sub-optimally used.

2021



Therapeutics

- » **Convene key global health experts** to align on more urgent action regarding both development and deployment of LMIC relevant therapeutics
- » **Produce analytical articles, white papers,** and associated advocacy to highlight key opportunities to accelerate COVID-19 therapeutics progress and need
- » **Provide technical assistance to countries** by advising on strategic delivery of therapeutics
- » **Develop equity driven prioritization strategies** for effective roll out of therapeutics at country level



Diagnostics

- » **Provide ongoing technical assistance** to countries as they implement the tool to assist in diagnostic testing strategy
- » **Bolster communication tools** to support country implementation
- » **Closely engage with key technical agencies, such as WHO and Africa CDC** to adopt tool for greater uptake with LMICs
- » **Produce specific recommendations using the prioritization tool** to generate major efficiency gains in LMIC countries
- » **Adapt tool to support greater use** of testing strategies in community health settings



Surveillance

- » **Provide analytical support for therapeutic prioritization planning** thus informing country policy
- » **Pilot Syndromic Surveillance SMS survey** with Evidence Action's 6,805 community health volunteers in Kakamega County, Kenya
- » **Produce pilot findings report and disseminate** to key policy makers – determine if validation study should be pursued with partners