

## **Pandemics move faster than funders**

The COVID-19 pandemic has been marked by inequity between high and lower-income countries and consequent delays in the availability of diagnostics, drugs, and vaccines. Research has been important in guiding the pandemic response, but funding for locally relevant research in low-resource settings (LRS) has been inadequate. Limited funding for LRS meant that high income country research institutions led the way. When research was conducted in LRS, these were as 'sites' rather than lead research institutions. There has been much talk about equity in the pandemic response, but this was not evident in the allocation of research funding. In 2020 COVID-19 research received 78% (USD 3,874 million) of global emerging infectious diseases research and development funding, dwarfing previous pandemic response funding<sup>1</sup>. Despite this huge financial investment, LRS researchers found it difficult or impossible to obtain the rapid funding needed to respond to a fast-moving threat, unless they worked with a high-income lead research institution. Only 5.5% of the USD 7,885 million allocated in 2020 and 2021 to fund COVID-19 research and development was granted to support LMIC-based COVID-19 research<sup>1</sup>.

Epidemics and pandemics often emerge from LRS, but only receive attention when higher resource countries are affected. Weak research infrastructure, limited expertise, insufficient funding, politicization, and inaccurate information all contributed to an inefficient and ineffective research response to COVID-19. With a few notable exceptions, the obstructive bureaucracy that impedes clinical research actually worsened during the pandemic<sup>2-4</sup>. We all bear responsibility for trying to improve our response to these threats. It is clear that more investment is needed in clinical research capacity in LRS during the interpandemic period. That would allow LRS to develop their own emergency response research capabilities. But once in an emerging epidemic or pandemic, and particularly during a public health emergency of international concern, there is one simple message for funders: making small amounts of money available rapidly is more useful than promising large amounts which arrive slowly (or not at all). Speed and flexibility matter but were undervalued in COVID-19. There are many obstacles of our own making to overcome (e.g. poor trial designs, slow regulatory and ethical approvals) but rapid and effective funding is the necessary first step. It is in everyone's best interest to ensure that pandemic containment responses are as scientifically sound, efficient, ethical and effective as possible. This requires investment in LRS research capacity and rapidly commissioned and executed local research.

We declare no competing interests.

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