Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Global health in low-income and middle-income countries: a framework for action

Global health was founded on an egalitarian promise: improve health care for everyone, everywhere. As an area of research, education, and practice that leverages interdisciplinary collaboration and focuses on multinational health-care challenges and solutions,[1] global health is a crucial area of discussion and development, especially to reduce the global burden of pandemics, and to promote health equity. At this crucial moment in global health with the COVID-19 pandemic exposing the weaknesses in our health systems, this Comment takes an introspective and forward-looking approach to propose actionable solutions to global health inequalities in low-income and middle-income countries (LMICs) while building relationships between high-income countries (HICs) and LMICs.

First, dismantling inequities in global health must involve bridging the huge capacity divide between professionals in HICs and LMICs. Analysis of 2292 studies done in LMICs from 2000 to 2012 show that authors from LMICs led only 26·8% of systematic reviews and 29·9% of modelling studies.[2] Fully armed with the knowledge that the people build the system and the system will eventually build the people, boosting the competence of researchers in LMICs should be prioritised to reposition them in the global knowledge economy. World-class infrastructure and training are needed to achieve this, especially for younger researchers. We have learnt from our experiences as early career researchers teaching younger colleagues across ten African countries in the Slum and Rural Health Initiative Research Academy[3] and working with other researchers that young researchers are enthusiastic and open-minded; hence, we know that the right opportunities will strengthen their capacity to lead high-impact research.

Second, a culture of collaboration should be present in LMICs. Evidence from a World Bank report shows that collaboration between researchers in Africa ranges from 0·9% in west and central Africa to 2·9% in southern Africa.[4] More inter-African research networking events and fellowship programmes will promote a collaborative research culture within Africa. This strategy will also work for other LMICs. Better collaboration will boost research output, innovation, and quality of studies, ultimately leading to interdependence and stronger health systems in LMICs.

Third, funding and sustainability matters. South Asian and sub-Saharan African countries on average contribute 0·65% of their gross domestic product to research and 0·69% to development, and even health programmes in many LMICs are not sustainable due to one-off and irregular funding.[5] Can we expect these regions to rise above the level of their financial contribution to research and development? On one side is the need for robust funding and on the other is a need for sustainability through equitable research policies and programmes, especially from local, regional, and international organisations. No doubt, financial support to LMICs from HICs should be increased. However, a gradual shift from the foreign donor-driven global health investment to a locally driven investment is needed: LMICs should not always look up to HICs and philanthropic organisations. Institutions in LMICs need to make an investment case for research funding and development to their government, business tycoons, and private institutions. Researchers in LMICs can also employ entrepreneurial models in their programmes to promote sustainable health projects that can progress even after the so-called big funders have left.

Furthermore, to robustly answer the question, what is wrong with global health, we need to also ask what is right with global health. Impactful population-based health initiatives, such as vaccination campaigns, have led to the eradication of smallpox and polio; interventions funded by the Global Fund have saved 38 million lives worldwide as at 2019;[6] and funding for global health has more than quadrupled from US$10 billion in 1996 to $41 billion in 2019.[7] In addition, we have had increased funding for health care in LMICs through multilateral initiatives, such as the World Bank, and philanthropic initiatives, such as the Bill & Melinda Gates Foundation. Going further, we can analyse the processes that have led us to this current state and use the strategies that have worked so far.

Global health might not be in the promised land[8] yet, but it has crossed the Red Sea. Global health research,

education, and practice can improve if capacity-building, collaboration, and contribution build on the foundation of health justice, global governance, sustainable global health education, mutual respect, and equitable policies and programmes. Constructively criticising the inequalities in global health is important; however, if meaningful actions are not taken to advance global health in LMICs, progress in global health will remain stagnant.

We declare no competing interests

Isaac Olufadewa, Miracle Adesina, Toluwase Ayorinde
isaac.olufadewa@srhin.org

Faculty of Public Health (IO) and Faculty of Clinical Sciences (MA), College of Medicine, and Faculty of Veterinary Medicine (TA), University of Ibadan, Ibadan, Oyo State, Nigeria; Slum and Rural Health Initiative Research Academy, Ibadan, Oyo State 200212, Nigeria (IO, MA, TA)

1 Koplan JP, Bond TC, Merson MH, et al. Towards a common definition of global health. *Lancet* 2009; **373:** 1993–95.
2 Chersich MF, Blaauw D, Dumbaugh M, et al. Local and foreign authorship of maternal health interventional research in low- and middle-income countries: systematic mapping of publications 2000–2012. *Glob Health* 2016; **12:** 35.
3 Olufadewa II, Adesina MA, Ayorinde T. From Africa to the world: reimagining Africa's research capacity and culture in the global knowledge economy. *J Glob Health* 2020; **10:** 010321.
4 The World Bank. A decade of development in sub-Saharan African science, technology, engineering and mathematics research. Washington, DC: World Bank, 2014.
5 The World Bank. Research and development expenditure (% of GDP). 2019. https://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS (accessed Feb 3, 2021).
6 The Global Fund. Results & impact. 2020. https://www.theglobalfund.org/en/impact/#:~:text=The%20Global%20Fund%20partnership%20has,6%20million%20in%202019%20alone (accessed Feb 4, 2021).
7 Institute for Health Metrics and Evaluation. Financing Global Health. 2021. https://vizhub.healthdata.org/fgh/ (accessed Feb 4, 2021).
8 The *Lancet* Global Health. Global health 2021: who tells the story? *Lancet Glob Health* 2021; **9:** e99.