



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.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

The art of medicine

Has COVID-19 subverted global health?



For the first time in the post-war history of epidemics, there is a reversal of which countries are most heavily affected by a disease pandemic. By early May, 2020, more than 90% of all reported deaths from coronavirus disease 2019 (COVID-19) have been in the world's richest countries; if China, Brazil, and Iran are included in this group, then that number rises to 96%. The rest of the world—historically far more used to being depicted as the reservoir of pestilence and disease that wealthy countries sought to protect themselves from, and the recipient of generous amounts of advice and modest amounts of aid from rich governments and foundations—looks on warily as COVID-19 moves into these regions.

Despite this reversal, however, the usual formula of dispensing guidance continues to be played out, with policies deemed necessary for the hardest-hit wealthy countries becoming a one-size-fits-all message for all countries. Two centrepieces of this approach are the use of widespread lockdowns to enforce physical distancing—although, it is notable that a few wealthy countries like Sweden and South Korea have not adopted this strategy—and a focus on sophisticated tertiary hospital care and technological solutions. We question the appropriateness of these particular strategies for less-resourced countries with distinct population structures, vastly different public health needs, immensely fewer health-care resources, less participatory governance, massive within-country inequities, and fragile economies. We argue that these strategies might subvert two core principles of global health: that context matters and that social justice and equity are paramount.

Context is central to the control of any epidemic, a truism we've known for centuries but that we seem to have overlooked in this pandemic. Perhaps this is unsurprising given the colonial history of medicine, in which the illnesses that affected Europeans were assumed to have universal significance whereas those that affected the non-European populations who were colonised were relegated to "tropical medicine". That context matters is obvious in the case of COVID-19. Low-income and lower-middle-income countries, clustered in sub-Saharan Africa and south and southeast Asia, have a different demographic profile from wealthy countries of the OECD and east Asia. Their populations are much younger and most older people live at home, not in care homes, where up to half of all deaths in wealthy countries have occurred. Just these variations in age structure and social arrangements account for lower risk of COVID-19 mortality in these populations. Yet lockdowns have been imposed in these countries.

The number of deaths from COVID-19 since the epidemic began is a tiny fraction of all deaths that have occurred due to any cause since the start of 2020. Thus, people continue

to die in the millions of other diseases, and lockdowns have made accessing essential health care much more difficult in some places. In India, for example, public transport, the main way for the poor and many health-care workers to reach a health facility, has been barred since late March, although a limited restoration was announced on May 4, 2020. Not surprisingly, there have been dramatic reductions in essential public health and clinical interventions; data from India's National Health Mission indicate that there was a 69% reduction in measles, mumps, and rubella vaccination in children, a 21% reduction in institutional deliveries, a 50% reduction in clinic attendance for acute cardiac events and, surprisingly, a 32% fall in inpatient care for pulmonary conditions in March, 2020, compared with March, 2019. Similar reports are emerging from other countries, including disruptions to insecticide-treated net campaigns, access to antimalarial medicines, and suspension of polio vaccination.

Twinned with lockdowns to achieve physical distancing is the promotion of widescale COVID-19 testing that relies on expensive kits and an emphasis on intensive-care units and ventilator capacity. These strategies, which have dominated much of the health-system response in rich countries, are a remote possibility in many low-resource contexts where access to intensive care or anything beyond basic diagnostics is far from universal. If COVID-19 vaccines are developed, history suggests they are likely to be available first in the countries that can afford to purchase them and only then will they trickle down to low-income countries, where they will reach the wealthy first. By contrast, there is barely any mention of the role of syndromic diagnosis (clinical diagnosis based on the constellation of symptoms and signs which are a hallmark of infection); the role of community health workers, primary care nurses,

Published Online
May 5, 2020
[https://doi.org/10.1016/S0140-6736\(20\)31089-8](https://doi.org/10.1016/S0140-6736(20)31089-8)

Further reading and viewing

Patel V. India's tryst with COVID-19. *The India Forum*, April 17, 2020. <https://www.theindiaforum.in/article/indi-s-tryst-covid-19> (accessed April 30, 2020)

Mushfiq Mobarak A, Barnett-Howell Z. Poor countries need to think twice about social distancing. *FP News*, April 10, 2020. <https://foreignpolicy.com/2020/04/10/poor-countries-social-distancing-coronavirus/> (accessed April 30, 2020)



Reuters/Danish Siddiqui

Mugabi I. COVID-19: Security forces in Africa brutalizing civilians under lockdown. Deutsche Welle, April 20, 2020. <https://www.dw.com/en/covid-19-security-forces-in-africa-brutalizing-civilians-under-lockdown/a-53192163> (accessed April 30, 2020)

Rukmini S. How COVID-19 response disrupted health services in rural India. April 27, 2020. <https://www.livemint.com/news/india/how-covid-19-response-disrupted-health-services-in-rural-india-11587713155817.html> (accessed April 30, 2020)

The Lakshmi Mittal And Family South Asia Institute, Harvard University. The response to COVID-19 in South Asia. April 23, 2020. <https://mittalsouthasiainstitute.harvard.edu/2020/04/video-the-response-to-covid-19-in-south-asia/> (accessed April 30, 2020)

Blavatnik School of Government, Oxford University. Relationship between number of COVID-19 cases and government response. 2020. <https://covidtracker.bsg.ox.ac.uk/stringency-map> (accessed April 30, 2020)

International Labour Organization. More than 60 per cent of the world's employed population are in the informal economy. April 30, 2020. https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_627189/lang-en/index.htm (accessed April 30, 2020)

George L. COVID-19 is exacerbating food shortages in Africa. World Economic Forum, April 27, 2020. <https://www.weforum.org/agenda/2020/04/africa-coronavirus-covid19-imports-exports-food-supply-chains> (accessed April 30, 2020)

Giles C, Mwai P. Coronavirus: the different approaches to lockdowns in Africa. BBC, April 28, 2020. <https://www.bbc.com/news/world-africa-52395976> (accessed April 30, 2020)

United Nations Sustainable Development Group. Policy brief: the impact of COVID-19 on children. April 15, 2020. <https://unsdg.un.org/resources/policy-brief-impact-covid-19-children> (accessed April 30, 2020)

and doctors; and the role of community engagement. Constrained health-care systems already short of money, beds, equipment, and staff, are unlikely to be able to provide treatment for COVID-19 patients unless they reallocate scarce resources. And so, the combined effect of the reduced access to, and availability of, essential health care might lead to increases in deaths unrelated to COVID-19.

A second key principle of global health is social justice and equity: the concerns of the poor who already bear a disproportionate burden of risk factors and disease must be at the centre of all decisions. Yet a one-size-fits-all approach to COVID-19 has not only been inequitable in its impact, but is also likely to increase inequalities in the long term. A stark example is the inequitable economic impact of lockdowns on people who barely survive on precarious livelihoods. About 2 billion people make their living in the informal economy, and over 90% of them live in low-income and low-middle-income countries. Hunger is an immediate threat to these people and their families, both due to the loss of daily wages and the disruption of the food supply chains. The UN has estimated that over 300 million children who rely on school meals for most of their nutritional needs might now be at risk of acute hunger, which could reverse the progress made in the past 2–3 years in reducing infant mortality within a year.

Then there is the practical challenge of physical distancing and quarantining in urban slums and rural households where multiple people share a room and where toilets cater for many families. Lockdowns have been enforced with an increase in authoritarian behaviour of the police with the poor experiencing brutality and humiliation in countries such as India, Nigeria, Kenya, and South Africa. In sharp contrast, lockdowns are little more than an inconvenience for affluent people, who typically look to high-income countries as the model to shape their view of how society should respond to the pandemic.

What then should these countries do, especially as some of them begin to ease lockdown restrictions? Realistically, a community-based approach is needed that emphasises active case finding (through syndromic diagnosis where laboratory-confirmed diagnosis is not available) by community health workers and primary care providers, with contact tracing and home quarantining, especially early in an epidemic, engaging and enabling community resources with due attention to avoiding stigmatisation, and banning mass gatherings. District-level facilities for appropriate respiratory support that can be managed by locally available human resources, equipped with adequate personal protection, need to be developed as long-term assets for the health-care system. Lockdowns, if humanely planned and with the participation of the community affected, could be used sparingly to contain clusters of cases. Wearing masks at home for the ill person and caregiver, washing hands when possible, practising coughing etiquette, and physically distancing older people and those with comorbidities are a few of the

non-intrusive interventions that are possible without disrupting the intrinsic fabric of society. Central to our proposals are the engagement and participation of all sections of the community, especially the poor and marginalised, as a mature and responsible citizenry, invoking their solidarity to be part of a shared endeavour, rather than seeing the goal of containing COVID-19 as a purely technocratic or law-and-order problem. Similar community-based strategies of social mobilisation and engagement were effective in reducing transmission of Ebola virus disease in west Africa.

Concurrently, we suggest that countries must let people get on with their lives—to work, earn money, and put food on the table. Let shop keepers open and sell their wares and provide services. Let construction workers return to building sites. Allow farmers to harvest their crops and to transport them to be sold on the open market. Allow health workers to do their daily work as before, with sensible precautions such as use of gloves and masks to minimise the risk of exposure to the virus. And allow the average citizen to travel freely with restrictions only applied to clusters where lockdowns are necessary. Livelihoods are an imperative for saving lives. Some will say such an approach, which runs the risk of spreading disease, implies that the lives of poor people are not as valuable as those in wealthy countries. Nothing could be further from the truth. The policies of widespread lockdowns and a focus on high-technology health care might unintentionally lead to even more sickness and death, disproportionately affecting the poor. And, if such policies are mandated by global consensus, then global financial institutions must write off outstanding debts from low-income countries and finance the needed resources to underwrite the economic recovery of these countries.

Key principles of global health are context and equity. We urge less-resourced countries to devise policies that speak to their unique demographics, diverse social conditions and cultures, precarious livelihoods, and constrained infrastructure and resources. A focus is needed on what is possible, acceptable, just, and sustainable. Given that substantial financial support from wealthy countries—in contrast to technical guidance—is unlikely, low-resource countries need to rely on their own home-grown expertise, grassroots experience, and community resources to chart a way through this crisis. In addition to being aligned with the founding principles of global health, such policies would adhere to a principle of the Hippocratic Oath “*primum non nocere*”—“first do no harm”.

*Richard Cash, *Vikram Patel*

Department of Global Health and Population, Harvard T H Chan School of Public Health, Boston, MA, USA (RC); and Department of Global Health and Social Medicine, Harvard Medical School, Boston, MA 02115 USA (VP)
vikram_patel@hms.harvard.edu