COVID-19 gives the lie to global health expertise

As the coronavirus disease 2019 (COVID-19) outbreak began spreading in Europe and the USA, a chart started circulating online showing ratings from the 2019 Global Health Security Index, an assessment of 195 countries' capacity to face infectious disease outbreaks, compiled by the US-based Nuclear Threat Initiative and the Johns Hopkins School of Public Health's Center for Health Security. The USA was ranked first, and the UK second; South Korea was ranked ninth, and China 51st; most African countries were at the bottom of the ranking.

Things look different now. The US and UK Governments have provided among the world's worst responses to the pandemic, with sheer lies and incompetence from the former, and near-criminal delays and obfuscation from the latter. Neither country has widespread testing available, as strongly recommended by WHO, alongside treatment and robust contact tracing.[1] In neither country do health workers have adequate access to personal protective equipment; nor are there nearly enough hospital beds to accommodate the onslaught of patients. Even worse, by refusing to ease sanctions against Iran, Venezuela, and Cuba, the US has crippled the ability of other countries to respond, continuing to block medical supplies and other humanitarian aid.[2]

Meanwhile, Asian countries, including China, South Korea, Singapore, and Taiwan, have provided rapid, effective, and often innovative responses, thanks in part to their recent experience with outbreaks of Middle East respiratory syndrome in 2015 and the 2002–03 severe acute respiratory syndrome epidemic. China has convened hundreds of foreign officials to share lessons, and dispatched experts, masks and other supplies to Italy and other affected countries. Cuba has also sent doctors to help with the response, and welcomed sick cruise ship passengers refused entry by the USA.

Although it is too early to assess the strength of the COVID-19 response in Africa, African countries, despite limited resources, have also adopted measures worth imitating, such as simplified triage strategies[3] and proactive screening (Uganda), handwashing stations at transport hubs (Rwanda), WhatsApp chatbots providing reliable information and rapid testing diagnostics (Senegal), and volunteer-staffed call centres and celebrity campaigns to promote responsible actions during the pandemic (Nigeria). Yet relatively little has been heard on the global stage about these efforts or from African veterans of the Ebola epidemics in west Africa and central Africa, even though COVID-19 appears to spread in similar ways—through family clusters.

Is preparedness in the eye of the beholder? COVID-19 is giving the lie to prevailing notions of expertise and solidarity. The global health model is based in large part on technical assistance and capacity building by the US, the UK, and other rich countries, whose response has been sclerotic and delayed at best. A recent report by Global Health 50/50 showed that 85% of global organisations working in health have headquarters in Europe and North America; two-thirds are headquartered in Switzerland, the UK, and the USA.[4] More than 80% of global health leaders are nationals of high-income countries, and half are nationals of the UK and the USA.

Global health will never be the same after COVID-19—it cannot be. The pandemic has given the lie to the notion that expertise is concentrated in, or at least best channelled by, legacy powers and historically rich states. We must move quickly, for our own security, beyond the rhetoric of equality to the reality of a more democratic, more multipolar, more networked, and more distributed understanding and operation of global health.

Conversations about how to do so, although just beginning, are long overdue.

I declare no competing interests.

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For the **2019 Global Health Security Index** see https://www.ghsindex.org

A role for CT in COVID-19? What data really tell us so far

Radiologists have watched the coronavirus disease 2019 (COVID-19) pandemic unfold, wondering if and how imaging could be useful for diagnosis. Perhaps imaging could aid in screening or accelerate the speed of diagnosis, especially with shortages of RT-PCR.

Some radiology literature suggests a pivotal role for CT. Ai and colleagues[1] report on 1014 patients who received both RT-PCR and CT in Wuhan, China, during their epidemic. They found that 97% of cases with RT-PCR-confirmed diagnoses had CT findings of pneumonia, and conclude, "CT imaging has high sensitivity for diagnosis of COVID-19". Other investigators are less optimistic. Inui and colleagues[2] reviewed CT scans of 112 cases of

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RT-PCR-confirmed COVID-19 from the *Diamond Princess* cruise ship. Less than two-thirds (61%) of cases had lung opacities on CT; 20% of symptomatic patients had negative CTs.

Although extremely valuable, these results should not be overstated. The CT findings studied (eg, ground-glass opacity, consolidation) are not specific for COVID-19. Similar results would probably be found if CT were used during an influenza epidemic, for example. The positive predictive value of CT will be low unless disease prevalence is high, as we suspect it was in Wuhan. Their cohort includes "patients suspected of [COVID-19]",[2] presumably sick and possibly hospitalised, although details are not provided.

RT-PCR to diagnose COVID-19 has some limitations: the test is not universally available, turnaround times can be lengthy, and reported sensitivities vary. Nevertheless, it is the accepted standard and only positive in patients who are infected with severe acute respiratory syndrome coronavirus 2. CT findings in patients with COVID-19, on the other hand, are seen with numerous pathogens and in many non-infectious aetiologies. We believe CT does not add diagnostic value; positive results can only be believed if the pre-test probability of disease is high. Using CT diagnostically is not known to provide clinical benefit and could lead to false security if results are negative. If COVID-19 is suspected, patients should be isolated pending confirmation with (multiple) RT-PCR tests, or until quarantine has lapsed. The results of a CT scan do not change this.

We feel that framing CT as pivotal for COVID-19 diagnosis is a distraction during a pandemic, and possibly dangerous. Safely using CT to study COVID-19 patients is logistically challenging and can overwhelm available resources. Even with proper cleaning protocols, health-care professionals and CT scanners could become vectors of infection to other vulnerable patients who require imaging. We urge caution and encourage using published guidelines[3] regarding use of CT imaging.

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See Online for appendix

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For the **online interactive tool** see https://public.tableau.com/views/COVID-19mortalitycalculator/COVID-19mortalitycalc?:display_count=y&:showVizHome=no

Dementia care during COVID-19

Older adults are vulnerable at the onset of natural disasters and crisis, and this has been especially true during the coronavirus disease 2019 (COVID-19) pandemic.[1] With the aggressive spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the death toll has risen worldwide. According to an interactive online tool that estimates the potential number of deaths from COVID-19 in a population, by age group, in individual countries and regional groupings worldwide under a range of scenarios, most of those who have died were older adults, most of whom had underlying health problems.[2]

Globally, more than 50 million people have dementia, and one new case occurs every 3 s.[3] Dementia has emerged as a pandemic in an ageing society.[4] The double hit of dementia and COVID-19 pandemics has raised great concerns for people living with dementia.

People living with dementia have limited access to accurate information and facts about the COVID-19 pandemic. They might have difficulties in remembering safeguard procedures, such as wearing masks, or in understanding the public health information issued to them. Ignoring the warnings and lacking sufficient self-quarantine measures could expose them to higher chance of infection.

Older people in many countries, unlike in China, tend to live alone or with their spouse, either at home or in nursing homes. As more and more businesses stop non-essential services or initiate telecommuting work in an attempt to maintain social distancing and limit the further spread of SARS-CoV-2, people living with dementia, who have little knowledge of telecommunication and depend primarily on in-person support might feel lonely and abandoned, and become withdrawn.

To lessen the chance of infection among older people in nursing homes, more local authorities are banning visitors to nursing homes and long-term care facilities.[5] In January, 2020, the Chinese Ministry of Civil Affairs implemented similar social-distancing measures.[6] As a result, older residents lost face-to-face contact with their family members. Group activities in nursing homes were also prohibited. As a consequence, the residents of nursing homes became more socially isolated. We have observed that under the dual stress of fear of infection and worries about the residents' condition, the level of anxiety among staff in nursing homes increased and they developed signs of exhaustion and burnout after a month-long full lockdown of the facilities.