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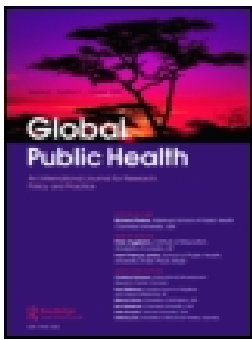
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ARTICLE COMMENTARY



COVID-19 reveals weak health systems by design: Why we must re-make global health in this historic moment

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ABSTRACT

The COVID-19 pandemic demonstrates the critical need to reimagine and repair the broken systems of global health. Specifically, the pandemic demonstrates the hollowness of the global health rhetoric of equity, the weaknesses of a health security-driven global health agenda, and the negative health impacts of power differentials not only globally, but also regionally and locally. This article analyses the effects of these inequities and calls on governments, multilateral agencies, universities, and NGOs to engage in true collaboration and partnership in this historic moment. Before this pandemic spreads further – including in the Global South – with potentially extreme impact, we must work together to rectify the field and practice of global health.

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Introduction

We are living in a historic moment, a crisis brought on partially by a virus, SARS-CoV-2, and partially by the de-funding of basic public health systems in the context of longstanding global power differentials. These differentials—borne largely from racialized and nationalist ideologies associated with the extractive processes of colonialism and neoliberal privatisation (Keshavjee, 2014)—shape the ways we think about and respond to disease, risk, health, well being, and survival on a number of important levels. Health systems already facing enormous challenges, underfunded and understaffed, are the norm rather than the exception at this time of the emergence of COVID-19 – especially in the Global South. Only a few have the numbers of physicians, nurses and hospital beds needed.¹ While many epicentres of the pandemic to date have been in the Global North – Italy, Spain, the U.S., it is clear that underfunded health systems and economic precarity in many countries in the Global South – within histories of colonial extraction, put them at extreme risk for bad outcomes. Before the pandemic takes significant hold in the Global South, we must strengthen collaboration and equity in the field of global health. Now is the time for universities, other civil society organisations, health systems, governments, as well as multi- and inter-

governmental organisations to act. Together, we must re-imagine and re-make the field of global health (see also Holmes et al., 2014). After considering three primary levels on which inequity in global health leads to vulnerability in this and future pandemics, we close with suggestions for positive change.

As of April 17, we know of over 2,225,000 cases of COVID-19 and over 150,000 deaths in the world (Center for Systems Science and Engineering at Johns Hopkins, 2020). Each day, there are more than 50,000 new confirmed cases and thousands new people who have died. Governments have responded differently, with Italy and California ordering people to ‘shelter in place’ and others allowing unrestricted movement. Some countries are suspending the rights of migrants and asylum-seekers, breaking international law, UN Conventions and Global Compacts. Many countries are limiting vital aid (Beaumont, 2020), at the peril of refugee and migrant communities. President Trump announced on April 14, that U.S. funding to the WHO would be suspended, despite the clear immediate need to *increase* support to bolster coordinated emergency responses. Some governments raid immigrant communities while ordering people to stay home, providing necessary protective masks to immigration police (Mejia, 2020) while frontline public health workers face a critical mask shortage. This simultaneously worsens the pandemic and sows distrust in public health measures (Magaña Lopez & Holmes, 2020). In an effort to control COVID-19, there is profound concern about how these measures will take form in conflict zones and refugee camps around the world (Erondu & Agogo, 2020; Muhareb & Giacaman, 2020).

Despite decades of work by many in multilateral organisations, NGOs and national governments, the COVID 19 pandemic reveals the weaknesses of our public health systems globally. Here, we illustrate several ways in which the colonial and racial capitalist legacy of global health has solidified global power differentials that put some populations systematically at risk and severely limit our ability to work together for the health of all.

Hollowness of the rhetoric of equity in global health

First, the current crisis demonstrates that the rhetoric of equity and collaboration between Global North and South that is commonly employed by global health organisations and bi- and multilateral donors is rather hollow (see also Crane, 2013). Historically, transnational global health efforts have focused on narrow, disease specific interventions often conducted by private organisations or public-private partnerships while promises to strengthen health care systems themselves have gone largely unfulfilled (Birn, 2014). During Smallpox efforts in the late 1970s, despite a successful worldwide eradication effort, very little was invested in health systems, leaving countries without systems capable of delivering care for other diseases (Greenough, 1995). Neither the 1978 declaration of Alma Ata, nor its markedly weaker sibling, selective Primary Health Care, strengthened health systems to deliver high quality care globally – despite many good intentions (WHO, 1978; Cueto, 2004; Packard, 2016). World Bank and IMF policies that encouraged ‘affordability’ and were built into health systems globally meant that poor countries could only have the care they could afford rather than what was needed (WHO n.d.; Cueto, 2004; Packard, 2016). While the HIV movement offered some hope—activists demanded equivalent care for people in poor countries, and governments responded with global health initiatives that delivered care based on need (Webster, 2018)—we have not been able to turn that momentum into widespread action to strengthen health systems holistically.

In many ways, this is a product of the history of global health. The exploitation of the labour of – especially Black and Brown – people, the displacement and dispossession of indigenous people, and the private extraction of environmental resources have persisted through regimes of slavery, colonialism, and racial capitalism’s globalisation. The WHO—which emerged from the embers of early twentieth century health organisations focused on preventing disease transmission from the colonies to the colonial powers—has focused largely on limited vertical programmes (Brown et al., 2006). The contemporary ‘brain drain’ of medical practitioners and researchers from South to

North can be understood in relation to this historic extraction of human capital that creates deficits in health systems across the Global South (Yeboah, 2018). The Global Health research agenda is driven by funders (Pai, 2019)—such as the U.S. NIH, the Bill & Melinda Gates Foundation, the Wellcome Trust—and major global health agencies—including the WHO, the World Bank, USAID, the Global Fund, the CDC, and universities—each with their own specific interests and agendas (Birn, 2014). Nearly all of these are led or dominated by experts from the Global North, with only 19% of global health publications including authors from Low and Middle Income Countries (Zicker et al., 2019). These processes lead to inequities in staffing and equipment, research and interventions that fail to attend to local specificities, and geopolitical systems that systematically maintain such inequities in health capacity (Gautier et al., 2018). Despite discourses of collaboration, capacity-building, and horizontal partnership between the Global North and Global South (and well-intentioned state and civil society actors), such unequal power structures keep the global health research and implementation agendas from substantively improving health systems to deliver comprehensive, high-quality care globally (Gautier et al., 2018; Okeke, 2016). Furthermore, global health efforts in the wake of capitalist structural adjustment policies often seek to circumvent national governments – allured by the promise of ‘efficient’, decentralised, market-based, private actors (Keshavjee, 2014) – and result in uncoordinated, unequal, and ineffective systems.

This has had an effect on the capacity of many health systems to respond to COVID-19. This pandemic requires laboratory infrastructure to support community-wide testing, health systems capable of contact tracing, and personnel and equipment sufficient to care for people when sick. The African CDC, established in 2016, has made efforts to assist technical teams in Africa to respond to COVID-19 (Africa CDC, 2020), but major gaps remain in terms of lab and workforce capacity, essential medications and equipment such as ventilators in order to have a fighting chance against this pandemic. For example, despite millions of dollars poured into Haiti in the name of development, the country, which has a population of 11 million people, has the capacity to ventilate 62 people (Losonczy et al., 2019). Sierra Leone has one ventilator (Naveed, n.d.) despite calls by the WHO for health systems strengthening after the 2014 Ebola crisis (WHO, n.d.). Neither of these countries has the capacity to contact trace or screen communities for COVID-19. In addition, more than 20,000 health professionals have left Africa alone for the Global North (Pang et al., 2002). In the midst of global differentials in health system strengthening, physicians in the Global South strike for lack of protective and medical equipment to respond to the pandemic (Farai, 2020). And with active de-funding of public health systems in the Global North (Holmes & Buchbinder, 2020), many of these concerns now resonate broadly.

Weakness of the health security agenda in global health

Second, media coverage and political response to COVID-19 illustrate a disproportionate allocation of resources and attention privileging centres of power at the expense of the world’s most vulnerable populations. Current responses to COVID-19 highlight the nationalistic logics underscoring contemporary public health practice in the U.S. and Western Europe. Current practice—renamed ‘Global Health Security’—frames particular epidemics that threaten Global North populations as critical health emergencies, while diseases of poverty—that may be far broader in scope, morbidity and mortality—remain unaddressed. The cruel irony is that the same strategies and resources that would be required to address some of these diseases of poverty can be mobilised for an effective coronavirus pandemic—or Ebola, SARS, MERS, Marburg, etc.—response. As health professionals working in different parts of the world, we are struck by the fact that we have been trying for decades to convince governments and health systems to respond to diseases like tuberculosis, which kills 4,000 people every day (WHO, 2019). Yet, because tuberculosis is not of epidemic proportions in centres of economic and political power, it is not considered a major threat to global health security, and so it is deprioritized. In the case of TB, we see that the tried and classic approach of a) searching for the

sick using a high sensitivity test; b) treating those with TB disease rapidly with antibiotics as well as nutritional, material and accompaniment support; and c) preventing disease with prophylactic treatment and infection control including contact tracing were never advocated for poorer countries in the Global South (Losonczy et al., 2019). And if we reflect on the 2014–2016 West African Ebola outbreak that claimed 11,310 lives in the three affected countries, many people criticised the delayed response by the WHO and the global community (O’Carroll, 2018). Yet, during the current COVID-19 pandemic as mentioned above, President Trump announced that the U.S. would stop funding the WHO, precisely when its services are most required around the world. A double standard of care – one for centres of power and another for the rest of the world – has been perpetuated and continues until today in the programmes funded by countries in the Global North, bi- and multilateral agencies, and NGOs.

COVID-19, like other pandemics, teaches us that we are inextricably linked, and therefore a weak health system anywhere affects us all. It was not until COVID-19 entered countries and cities with substantial economic power in the Global North, that it was declared and began to be treated as a pandemic. But perhaps this situation can usher in a new global health agenda not oriented around ‘threats’, but rather principles of justice, equity and shared responsibility—an agenda that will at the same time motivate the forms of material and institutional investment needed to improve the health of global populations *and* effectively respond to this and future epidemics and pandemics. Paul Farmer has explained that effective epidemic response requires ‘staff, stuff, space and systems’ (Herman, 2020). Or in the words of physician theorist Frantz Fanon (1960) regarding shared responsibility, ‘... solidarity must be a solidarity of fact, a solidarity of action, a solidarity concrete in [people], in equipment, in money.’

Power differentials globally, regionally, and locally

Third, the COVID-19 pandemic highlights power differentials not only globally, but also regionally and locally. Around the world—including in the U.S.—millions of people are currently unhoused, millions are incarcerated, and unknown thousands of asylum-seekers are locked in unsafe, overcrowded detention (Reich, 2020). Hospitals and county governments are scrambling to use hotel rooms (Garces et al., 2020) to house homeless populations temporarily in order to protect them and the rest of the population. However, in any functional health system, the people made most vulnerable by the structures of society should always be prioritised. With India in the midst of a 21 day lockdown and experiencing their first death in a large Mumbai slum, a huge percentage of the population depends on daily labour wages for survival. Significant swaths of the population lack running water and other basic necessities to protect themselves from COVID-19. None of these populations can safely ‘shelter in place’ in a meaningful way. They cannot protect themselves from COVID-19, nor can they follow public health recommended physical distancing measures to slow the spread of this dangerous virus. In the U.S., as unemployment is expected to rise to 30% (Cox, 2020) of the formal labour force, the danger of a massive slide in poverty—with the high potential for evictions and loss of health insurance—looms large.

While New York City, one of the wealthiest—and most unequal—cities in the world, is currently one epicentre of the global pandemic, emerging data demonstrate that the burden of morbidity and mortality falls disproportionately on Black and Latinx populations. People of colour are hospitalised and die of COVID-19 at significantly higher rates than white people (Garg, 2020), undoubtedly caused by structural and institutional racism affecting living and working conditions, health insurance rates, health effects of experiences of discrimination, and the development of pre-existing conditions. As SARS-CoV-2 continues to spread through many parts of the world, we must work now to re-imagine and re-make global and public health for all. Frontline health professionals, researchers, universities, governments and multilateral agencies must work toward health equity through all the social determinants of health globally, regionally and locally.

The need to re-imagine and re-make global health

Inequity is a driving force in this pandemic, both in how specific countries and regions will fare as well as how specific communities are made more vulnerable by social structures (Stonington et al., 2018) within countries. We cannot hope to address these asymmetries when our global health institutions mirror and even reproduce the inequities in the larger world. The entrenched power differentials in the architecture of global health partnerships and institutions must be rectified. A transnational health crisis like the coronavirus pandemic requires global cooperation, solidarity and coordination toward global health equity.

The COVID-19 crisis will force us to reimagine the broken system of global health. There will be many suggestions that emerge as this pandemic unfolds. We suggest three.

First, global health organisations - from funders to academic institutions - must move to governance structures with representation from those more proximal to marginalisation, histories of colonisation, and social suffering. The lack of focus on health system strengthening in the Global South is a result of who is at the table making decisions and developing priorities. Low and Middle Income Country leaders should make up greater than 51% of the governance structure of our multilateral institutions. And all of these organisations must prioritise the perspectives of and advocate for the proposals of the communities most affected by sickness and disease.

Second, funding systems in global health must respect local decision-making. Earmarked funds to the WHO as well as donor-driven agendas underlie part of the problem in health systems remaining weak. Direct funds transfers to governments to drive locally-attentive agendas should make up a larger proportion of funding. This should lead to capacity building and health system strengthening that are often not top on donor driven agendas.

Third, countries that systematically benefit from health system inequities must rectify these unjust and dangerous conditions (see forthcoming Lancet Commission on Reparations and Distributive Justice). For example, the governments of countries benefiting from centuries of colonialism, unfair terms of trade, and particularly 'brain drain' in health and medicine around the world (including Australia, U.K., U.S., Canada, to name a few (Mullan, 2005)) should fund the repair of health systems in communities and countries that have been chronically underfunded and underserved.

This historic pandemic offers an opportunity for a pivotal shift in global health agendas. For our health and the health of the world, we must usher in a new paradigm of global health guided by real collaboration, solidarity, and equity.

Note

1. For example, with a few exceptions such as Uruguay, Cuba, and Canada, all countries in the Americas and the Caribbean region are well below the level of public expenditure in health (at least 6% of GDP) recommended by PAHO/WHO.

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References

- Africa, C. D. C. (2020, March 31). *Novel coronavirus (2019-nCoV) global epidemic*. <https://africacdc.org/disease-outbreak/novel-coronavirus-2019-ncov-global-epidemic-31-march-2020/>
- Beaumont, P. (2020, March 25). Coronavirus threatens to turn aid crises into “humanitarian catastrophes.” *The Guardian*. <https://www.theguardian.com/global-development/2020/mar/25/coronavirus-threatens-to-turn-aid-crises-into-humanitarian-catastrophes>.
- Birn, A.-E. (2014). Philanthrocapitalism, past and present: The Rockefeller Foundation, the Gates Foundation, and the setting(s) of the international/global health agenda. *Hypothesis*, 12(1). <https://doi.org/10.5779/hypothesis.v12i1.229>
- Brown, T. M., Cueto, M., & Fee, E. (2006). The world health organization and the transition from “international” to “global” public health. *American Journal of Public Health*, 96(1), 62–72. <https://doi.org/10.2105/AJPH.2004.050831>
- Center for Systems Science and Engineering at Johns Hopkins. (2020, April 17). *Coronavirus COVID-19 global cases*. Johns Hopkins University and Medicine Coronavirus Resource Center. <https://www.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9ecf6>.
- Cox, J. (2020, March 30). *Coronavirus job losses could total 47 million, unemployment rate may hit 32%, Fed estimates*. CNBC. <https://www.cnbc.com/2020/03/30/coronavirus-job-losses-could-total-47-million-unemployment-rate-of-32percent-fed-says.html>.
- Crane, J. T. (2013). *Scrambling for Africa: AIDS, expertise, and the rise of American global health science*. Cornell University Press; edsjkb. <https://libproxy.berkeley.edu/login?url=http%3a%2f%2fsearch.ebscohost.com%2flogin.aspx%3fdirect%3dtrue%26db%3dedsjbk%26AN%3dedsjbk.j.ctt32b66f%26site%3ded-live>.
- Cueto, M. (2004). The ORIGINS of primary health care and SELECTIVE primary health care. *American Journal of Public Health*, 94(11), 1864–1874. <https://doi.org/10.2105/AJPH.94.11.1864>
- Erondu, N., & Agogo, E. (2020, March 25). What factors will decide the fate of the global south in coronavirus pandemic? *IPI Global Observatory*. <https://theglobalobservatory.org/2020/03/what-factors-will-decide-fate-global-south-coronavirus-pandemic/>.
- Fanon, F. (1960). Unity and effective solidarity are the conditions for African Liberation. In H. Chevalier (Ed.), *Pour la révolution africaine. Écrits politiques* (p. 173). Grove Books.
- Farai, M. (2020, March 25). *Zimbabwe public doctors strike over lack of COVID-19 protection*. Time. <https://time.com/5809586/zimbabwe-public-doctors-strike-coronavirus/>.
- Garces, A., Baldassari, E., & Solomon, M. (2020, March 19). *Homelessness and coronavirus: What bay area counties are doing — and how you can help* | KQED News. KQED. <https://www.kqed.org/news/11807409/coronavirus-what-bay-area-counties-are-doing-for-homeless-residents-and-how-you-can-help>.
- Garg, S. (2020). Hospitalization rates and characteristics of patients hospitalized with laboratory-confirmed coronavirus disease 2019 — COVID-NET, 14 States, March 1–30, 2020. *MMWR. Morbidity and Mortality Weekly Report*, 69. <https://doi.org/10.15585/mmwr.mm6915e3>.
- Gautier, L., Sieleunou, I., & Kalolo, A. (2018). Deconstructing the notion of “global health research partnerships” across Northern and African contexts. *BMC Medical Ethics*, 19(1), 49. <https://doi.org/10.1186/s12910-018-0280-7>
- Greenough, P. (1995). Intimidation, coercion and resistance in the final stages of the South Asian Smallpox eradication Campaign, 1973–1975. *Social Science & Medicine*, 41(5), 633–645. [https://doi.org/10.1016/0277-9536\(95\)00035-6](https://doi.org/10.1016/0277-9536(95)00035-6)
- Herman, B. (2020, March 9). *Paul Farmer on the coronavirus*. <https://www.axios.com/paul-farmer-coronavirus-covid19-interview-7750d0ae-7b19-4e9d-be65-16d985ebba1a.html>
- Holmes, S. M., & Buchbinder, L. (2020, March 29). *In a defunded health system, doctors and nurses suffer near-impossible conditions* | Salon.com. Salon. <https://www.salon.com/2020/03/29/in-a-defunded-health-system-doctors-and-nurses-suffer-near-impossible-conditions/>.
- Holmes, S. M., Greene, J. A., & Stonington, S. D. (2014). Locating global health in social medicine. *Global Public Health*, 9(5), 475–480. <https://doi.org/10.1080/17441692.2014.897361>
- International Conference on Primary Health Care: Alma Alta. (1978). WHO, Article ICPHC/ALA/78.10 Annex 1. <https://apps.who.int/iris/handle/10665/69504>.
- Keshavjee, S. (2014). *Blind Spot: How neoliberalism infiltrated global health*. University of California Press.
- Losonczy, L. I., Barnes, S. L., Liu, S., Williams, S. R., McCurdy, M. T., Lemos, V., Chandler, J., Colas, L. N., Augustin, M. E., Papali, A., & Kamolz, L.-P. (2019). Critical care capacity in Haiti: A nationwide cross-sectional survey. *PLoS ONE*, 14(6), e0218141. <https://doi.org/10.1371/journal.pone.0218141>
- Magaña Lopez, M., & Holmes, S. M. (2020). Raids on immigrant communities during the pandemic threaten the country’s public health. *American Journal of Public Health*, e1–e2. <http://doi.org/10.2105/AJPH.2020.305704>

- Mejia, B. (2020, March 17). *With masks at the ready, ICE agents make arrests on first day of California coronavirus lockdown*. Los Angeles Times. <https://www.latimes.com/california/story/2020-03-17/for-ice-agents-its-business-as-unusual-day-after-sweeping-coronavirus-order>
- Muhareb, R., & Giacaman, R. (2020). Tracking COVID-19 responsibly. *The Lancet*, 0(0), [https://doi.org/10.1016/S0140-6736\(20\)30693-0](https://doi.org/10.1016/S0140-6736(20)30693-0).
- Mullan, F. (2005). The metrics of the physician brain drain. *New England Journal of Medicine*, 353(17), 1810–1818. <https://doi.org/10.1056/NEJMsa050004>
- Naveed, A. (n.d.). Sierra leone has only one ventilator to treat coronavirus patients - Asad Naveed. <https://Asadnaveed.Com/>. Retrieved April 2, 2020, from <https://asadnaveed.com/sierra-leone-has-only-one-ventilator-to-treat-coronavirus-patients/>.
- O'Carroll, L. (2018, July 30). Book lifts lid on litany of mistakes in Ebola outbreak that killed 11,300 people. *The Guardian*. <https://www.theguardian.com/global-development/2018/jul/30/getting-to-zero-book-mistakes-ebola-outbreak-oliver-johnson-sinead-walsh>.
- Okeke, I. N. (2016). African biomedical scientists and the promises of “big science”. *Canadian Journal of African Studies*, 50(3), 455–478. <https://doi.org/10.1080/00083968.2016.1266677>
- Packard, R. M. (2016). *A history of global health: Interventions into the lives of other peoples*. Johns Hopkins University Press.
- Pai, M. (2019, November 10). *Global health research needs more than a makeover*. Forbes. <https://www.forbes.com/sites/madhukarpai/2019/11/10/global-health-research-needs-more-than-a-makeover/>.
- Pang, T., Lansang, M. A., & Haines, A. (2002). Brain drain and health professionals. *BMJ: British Medical Journal*, 324(7336), 499–500. <https://doi.org/10.1136/bmj.324.7336.499>
- Reich, R. (2020, March 17). *Coronavirus is revealing a secret—America has no real public health system | opinion*. <https://www.newsweek.com/robert-reich-coronavirus-revealing-secretamerica-has-no-real-public-health-system-opinion-1492832?fbclid=IwAR0P7NRanIu7alPj9M5i4uV7IdOrxaYbBgxjgEH4s6iPZwfgqUuHw6dVjME>.
- Stonington, S. D., Holmes, S. M., Hansen, H., Greene, J. A., Wailoo, K. A., Malina, D., Morrissey, S., Farmer, P. E., & Marmot, M. G. (2018). Case Studies in Social Medicine — Attending to structural forces in clinical practice. *New England Journal of Medicine*, 379(20), 1958–1961. <https://doi.org/10.1056/NEJMms1814262>
- Webster, P. (2018). PEPFAR at 15 years. *The Lancet*, 392(10143), 200. [https://doi.org/10.1016/S0140-6736\(18\)31642-8](https://doi.org/10.1016/S0140-6736(18)31642-8)
- WHO. (2019). *Global tuberculosis report 2019*. World Health Organization. http://www.who.int/tb/publications/global_report/en/
- WHO. (n.d.). *Health systems strengthening in Ebola-affected countries*. World Health Organization. Retrieved April 1, 2020, from <http://www.who.int/healthsystems/ebola/en/>
- Yeboah, I. E. A. (2018). Capitalism and sub-Saharan African human capital. *African Identities*, 16(1), 67–86. <https://doi.org/10.1080/14725843.2017.1332983>
- Zicker, F., Fonseca, B., & Albuquerque, P. (2019). Global health: A review of concepts. *Players, and Publications. International Journal of Travel Medicine and Global Health*, 7(1), 4–9. <https://doi.org/10.15171/ijtmgh.2019.02>.