



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.

Human rights and the COVID-19 pandemic: a retrospective and prospective analysis



Lawrence O Gostin, Eric A Friedman, Sara Hossain, Joia Mukherjee, Saman Zia-Zarifi, Chelsea Clinton, Umunyana Rugege, Paulo Buss, Miriam Were, Ames Dhai

When the history of the COVID-19 pandemic is written, the failure of many states to live up to their human rights obligations should be a central narrative. The pandemic began with Wuhan officials in China suppressing information, silencing whistleblowers, and violating the freedom of expression and the right to health. Since then, COVID-19's effects have been profoundly unequal, both nationally and globally. These inequalities have emphatically highlighted how far countries are from meeting the supreme human rights command of non-discrimination, from achieving the highest attainable standard of health that is equally the right of all people everywhere, and from taking the human rights obligation of international assistance and cooperation seriously. We propose embedding human rights and equity within a transformed global health architecture as the necessary response to COVID-19's rights violations. This means vastly more funding from high-income countries to support low-income and middle-income countries in rights-based recoveries, plus implementing measures to ensure equitable distribution of COVID-19 medical technologies. We also emphasise structured approaches to funding and equitable distribution going forward, which includes embedding human rights into a new pandemic treaty. Above all, new legal instruments and mechanisms, from a right to health treaty to a fund for civil society right to health advocacy, are required so that the narratives of future health emergencies—and people's daily lives—are ones of equality and human rights.

Introduction

When the history of the COVID-19 pandemic is written, the failure of many states to live up to their human rights obligations should be a central narrative.¹ From the pandemic's beginning, with Wuhan officials in China concealing early data on the outbreak and information on human-to-human transmission,^{2,3} governments have violated civil and political rights—from suppressing information and silencing truth-tellers to detaining critics and using intrusive surveillance to control them. Authoritarian leaders used the crisis to grab power.

Years of underinvestment in pandemic preparedness and health systems—often a legacy of structural adjustment, other forms of austerity, and poorly regulated privatisation—have reduced access to and disrupted essential health services and caused preventable COVID-19 deaths.⁴⁻⁷ The pandemic exposed deep structural inequities, contravening the core human rights principle of non-discrimination. Impoverished communities have been most affected. Inadequate social protection has pushed tens of millions of people into hunger, homelessness, and poverty, undermining their economic and social rights. The international response has been underfunded and poorly coordinated, impeded by nationalist strategies⁸ and hoarding of essential medical resources.

The UN and non-governmental organisations have documented human rights violations during the COVID-19 pandemic.⁹⁻¹² We do not comprehensively document these violations. Instead, we look back at the range and global extent of rights violations that have pervaded the pandemic response, showing their centrality to the COVID-19 legacy and grounding the rest of this Health Policy.

We can, however, write a very different story for what comes next, restoring human dignity and securing accountability, central to advancing human rights. The

global health crisis we have been facing can be turned into a historical opportunity to construct an equitable global health and human rights architecture that advances health security and justice.

Looking back: human rights violations and COVID-19—a catastrophic combination

A failure to safeguard the public's health

Epidemic prevention and response are core elements of the right to health under the International Covenant on Economic, Social and Cultural Rights (ICESCR).¹³ Governments, of course, must act in the face of scientific uncertainty and balance risk mitigation with economic harms. The pandemic response itself can increase poverty, hunger, and homelessness. Yet, ample social protection programmes can safeguard social and economic rights.¹⁴ Whatever policies and programmes states adopt, they must be based on scientific standards and use the least restrictive alternatives.¹⁵

Many authoritarian regimes and populist leaders, however, have disregarded science, and have imposed harsh restrictions on human freedoms (panel 1).

Governments failed to invest in health workers' rights to safe working conditions, leaving them to reuse scarce and inadequate personal protective equipment (PPE). Massive COVID-19-related contracting corruption that undermined South Africa's response included purchasing substandard PPE.¹⁶

A pandemic of inequality

Non-discrimination is core to human rights law, and requires governments to affirmatively safeguard the rights of disadvantaged, marginalised, and vulnerable people.¹⁷ Yet discrimination has been a hallmark of the pandemic, with hugely disparate rates of infection,

Published Online
November 17, 2022
[https://doi.org/10.1016/S0140-6736\(22\)01278-8](https://doi.org/10.1016/S0140-6736(22)01278-8)

O'Neill Institute for National and Global Health Law, Georgetown University Law Center, Georgetown University, Washington, DC, USA (L O Gostin JD, E A Friedman JD); Bangladesh Legal Aid and Services Trust, Dhaka, Bangladesh (S Hossain MA); Partners In Health, Boston, MA, USA (J Mukherjee MD MPH); Department of Global Health and Social Medicine, Harvard Medical School, Harvard University, Boston, MA, USA (J Mukherjee); Division of Global Health Equity, Department of Medicine, Brigham and Women's Hospital, Boston, MA, USA (J Mukherjee); International Commission of Jurists, Geneva, Switzerland (S Zia-Zarifi JD LLM); Clinton Foundation, New York, NY, USA (C Clinton MPH DPhil); Mailman School of Public Health, Columbia University, New York, NY, USA (C Clinton); SECTION27, Johannesburg, South Africa (U Rugege LLB); The Oswaldo Cruz Foundation, Rio de Janeiro, Brazil (P Buss MD MPH); National Academy of Medicine Brazil, Rio de Janeiro, Brazil (P Buss); Champions for an AIDS-Free Generation, Nairobi, Kenya (M Were MPH); School of Clinical Medicine, University of the Witwatersrand, Johannesburg, South Africa (A Dhai MBChB); South African Medical Research Council, Johannesburg, South Africa (A Dhai)

Correspondence to:
Prof Lawrence O Gostin, O'Neill Institute for National and Global Health Law, Georgetown University Law Center, Georgetown University, Washington, DC, 20001, USA
gostin@law.georgetown.edu

Panel 1: A failure to safeguard the public's health

Leaders in Brazil, Mexico, and the USA opposed risk-mitigation measures such as business closures and mask or vaccine mandates from early on in the COVID-19 pandemic.^{16–19} Indian Prime Minister Narendra Modi's decision to hold mass campaign rallies and permit a Hindu festival that gathered millions of people contributed to India's devastating second wave in early 2021.²⁰ Tanzania's now deceased President John Magufuli claimed prayer and divine intervention was COVID-19's only cure, urging religious service attendance.²¹ Leaders in Brazil, the USA, Venezuela, Madagascar, and Mexico City touted unproven treatments.^{18,22–24}

Public health officials have not always followed the science. The Public Health Agency of Sweden chose to allow a large portion of the country's population to become infected, aiming to achieve herd immunity through eschewing basic scientific guidance of physical distancing and mask-wearing. This course was so fundamentally unsuccessful in protecting people's health that it was beyond the discretion permissible under the right to health. By the end of 2020, Sweden's mortality rate was ten times that of its neighbours, four-times higher than Denmark's, and higher than in most European countries.²⁵

hospitalisation, and mortality (panel 2). The inequitable impacts implicate rights to health, food, education, and an adequate standard of living, among others, most harming poorer and more marginalised populations (panel 3), but also affecting large swathes of populations in countries with weak social protection systems.

The COVID-19 excuse: abrogating freedoms

Governments exercised vast emergency health powers, including business closures, *cordon sanitaire*, and full lockdowns, which are warranted only if supported by science, and are necessary, proportionate, and non-discriminatory. Otherwise, they might violate fundamental human rights, including to food, health, and education, as well as civil and political rights such as freedoms of expression and assembly. Above all, governments must act within the rule of law, focusing on core values of transparency and accountability.⁵⁹ Yet, authoritarian leaders have used the pandemic as an excuse to violate human rights, including suppressing information, punishing whistleblowers, arresting and detaining opponents and citizen journalists, and undermining democratic rights (panel 4).

Absence of solidarity: international cooperation and assistance

The International Health Regulations (2005) create binding obligations that compel states "to collaborate with each other",⁹⁰ reinforcing human rights law. The ICESCR obliges states to engage in "international assistance and co-operation" to advance economic, social, and cultural rights,¹³ while the UN Charter commits states "to take joint and separate action in co-operation with" the UN, including to advance "universal respect for, and observance of, human rights".⁹¹

The Access to COVID-19 Tools (ACT) Accelerator—a global collaboration to accelerate development, production, and equitable access to COVID-19 tests, treatments, and

vaccines—has been the principal global expression of solidarity. The ACT Accelerator embodied a global effort to address perhaps the pandemic's central moral—and human rights—concern, would people everywhere be able to access vital medical technologies equitably? Medical technologies should be regarded as global public goods, but many high-income nations hoarded scarce resources.

Failures began early, as countries engaged in a bidding war for scarce medical resources, including diagnostics, PPE, and ventilators. Low-income and middle-income countries (LMICs) had little chance.⁹² A similar dynamic unfolded with vaccines. By June, 2021, only 1% of people in low-income countries had received even one vaccine dose, with less than 0.2% having received two-dose coverage. In high-income countries, however, 48% had received their first dose by June, 2021, with 33% having two-dose coverage.⁹³ High-income countries and some middle-income countries began administering third doses—and even fourth-shot boosters—while most people in low-income countries, even health workers, were still not fully vaccinated.

The COVID-19 Global Vaccine Access Facility (COVAX), the vaccine arm of the ACT Accelerator, was an innovative, unprecedented global initiative that has fallen short. It aimed to cover the most clinically vulnerable 20% of each participating country in 2021, including delivering 1.3 billion doses to 92 primarily low-income and lower-middle-income countries.⁹⁴ By mid-January, 2022, COVAX had delivered only 1 billion doses, 85% to those 92 countries.⁹⁵ At this time, most people in low-income and lower-middle-income countries were still not fully vaccinated, much less boosted. By the time COVAX had accumulated enough doses of vaccines, the demand had fallen and operational bottlenecks remained.⁹⁶

There are two features that most impeded COVAX's capacity to ensure the right to health for all. First, countries could participate in COVAX and simultaneously sign exclusive vaccine purchase agreements,⁹⁷ as many high-income countries did, undermining the notion of health as a global common good. Consequently, COVAX could not access adequate vaccine doses and had reduced flexibility on which vaccines it could acquire.⁹⁸ Second, COVAX funding is voluntary and thus inadequate.

Countries often did not prioritise the most clinically vulnerable populations. COVAX, however, established a humanitarian buffer in 2021, setting aside 5% of funding for populations at high risk who could otherwise not access vaccines, particularly in conflict settings or areas controlled by non-state armed groups.⁹⁹ This could encompass at least a small portion of refugees and internally displaced people, who often receive low priority in national vaccination campaigns.¹⁰⁰

Intellectual property rights also stand in the way of equitable distribution of life-saving resources. It was primarily high-income countries that opposed South Africa and India's proposal in October, 2020, that

Panel 2: A pandemic of inequality

Native American, Black, and Latinx people in the USA died from COVID-19 at about twice the rate of White Americans through to mid-2022.²⁸ In the pandemic's early months, Somali people in Norway and Sweden had ten times the COVID-19 prevalence of the national average.²⁹ Further, Black British people and other minority ethnics, who comprise 13% of the UK's population, comprised a third of COVID-19 patients in critical care units.²⁹ Although some disparities in the UK were reduced during the 2020–21 winter surge, age-adjusted mortality rates for Pakistani and Bangladeshi British people were three-to-four times that of White British people.³⁰

Indigenous populations worldwide have been especially impacted. COVID-19 prevalence during Brazil's first wave was four-times higher for Indigenous populations than White Brazilian people.³¹ At least early on, Aboriginal and Torres Strait Islander Australians had among the worst health outcomes worldwide.³²

Migrant workers living in densely crowded quarters have been at particular risk. 47% of Singapore's migrant labourers had been infected with SARS-CoV-2 by the end of 2020,³³ and Asian migrant workers in Saudi Arabia faced disproportionate rates of infection during the first months of the pandemic.³⁴ India's lockdown, announced only hours before it took effect in March, 2020, left millions of internal migrants without work in cities, forcing them to travel, often by foot and for hundreds of miles, to rural home villages.³⁵

Disproportionate impacts of the pandemic have been felt across populations at the margins of society, including people who are incarcerated,^{36,37} people with disabilities,³⁸ people who are homeless,³⁹ and long-term care residents.⁴⁰ The lives of people with disabilities have been particularly devalued, with medical decisions sometimes affording their lives less importance than those of the general population.⁴¹

Impacts of COVID-19 disproportionately affect people with little money due to a plethora of risk factors, including crowded housing, inability to access clean water and adequate sanitation, inadequate health care, disproportionate levels of underlying health conditions (themselves linked to poverty and marginalisation), and the need to work outside the home. These factors implicate human rights, including rights to housing, to clean water and decent sanitation, and to health. Meanwhile, there are long-term effects of COVID-19's unequal nature. It is expected that marginalised populations will disproportionately suffer from long COVID. Apart from the health implications, the difficulty or inability to work faced by people with long COVID can have implications on not only their right to work, but also their ability to pay for food and other necessities.

the World Trade Organization (WTO) waive certain provisions of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).^{101,102} The Biden

Panel 3: Inequities harm rights to health, education, food, and an adequate standard of living

Two-thirds of countries reported routine childhood and adult immunisation interruptions during 2020.⁴² Service disruptions were responsible for an estimated 47 000 additional malaria deaths in 2020 compared with 2019,⁴³ and 100 000 additional tuberculosis deaths.⁴⁴ 121 (93%) of 130 countries reported mental health service disruptions, as depression and anxiety levels greatly increased.⁴⁵ By 2022, more than 200 million additional people faced acute hunger compared with in 2019,⁴⁶ while COVID-19 forced nearly 80 million people into extreme poverty.⁴⁷ Government health and social protection programmes ostensibly purposed to blunt these impacts have often been discriminatory, such as excluding undocumented migrants,⁴⁸ not being transparent or equitable, and favouring the politically connected.⁴⁹

The rights of children and women have been particularly burdened, from the right to an education to the right to effective remedy for human rights violations. Nearly a third (463 million) of children could not access digital or broadcast learning during school closures as the pandemic enveloped the world.⁵⁰ COVID-19 could lead to 10 million additional child marriages in the 2020s;⁵¹ gender-based violence and human trafficking are increasing. Countries closed or restricted access to sexual and reproductive health services.^{52–55} As courts moved online, and with women often without access to technologies needed for remote hearings, women's already restricted access to justice faced new restrictions, undermining their safety and access to justice.⁵⁶ In addition, women generally bear primary or exclusive caregiving responsibilities,^{57,58} undermining their right to work.

administration supported the waiver, but WTO consensus remained elusive until mid-2022. WTO member states agreed to a waiver for LMICs for COVID-19 vaccines, both to use domestically and to export to other LMICs. A decision on COVID-19 therapies and diagnostics is due before the end of 2022.¹⁰³

Even beyond intellectual property rights, what LMICs need is the knowledge and technical expertise to make their own vaccines. Technology transfer to LMICs would increase access to affordable technologies and enable LMICs to scale up production.

The most effective, equitable way to increase vaccine supplies is through regional hubs empowered to produce COVID-19 vaccines. That process began in 2021, when WHO, in collaboration with a South African consortium, moved to establish a COVID-19 mRNA vaccine technology transfer hub in South Africa,¹⁰⁴ with five more vaccine hubs for Africa announced in early 2022.¹⁰⁵ Meanwhile, as several antiviral therapies have become available, with Pfizer's Paxlovid proving highly effective, the same inequitable distribution that has unfolded since the beginning of the pandemic is unfolding once again.

Panel 4: Abrogating freedoms

Suppression of truthful information—or even affirmatively spreading disinformation—has been a hallmark of authoritarian regimes. News organisations have documented extensive evidence that Wuhan officials in China covered up early warnings of the outbreak of a novel virus, evidently placing concerns of social stability and fears of political repercussions from the central government above the public's right to information.^{60–65} Then the Chinese Government misled WHO, and the world, about community spread.^{2,66} Although total transparency might not have been enough to contain COVID-19—the disease spread rapidly in countries both transparent and dishonest about data—it is certainly possible that it could have mitigated the impact at this crucial early stage, particularly before the extensive travel that occurred during the Lunar New Year. Had the government been transparent with its data, and permitted health workers to communicate with the public, health and political authorities in China and abroad could have had more time to prepare, enabling them to implement measures that might have slowed the initial spread of COVID-19. The Chinese Government also sentenced a journalist whistleblower to 4 years' imprisonment,⁶⁷ while restricting life-saving medical care during early 2022 lockdowns of Wuhan and the wider Hubei province.⁶⁸ Even now, the government is drastically restricting freedoms to maintain its zero-COVID-19 strategy, including in Shanghai—where residents found themselves denied urgently needed medical care, and many were not even able to access food.⁶⁹

The Chinese Government turned its vast COVID-19 surveillance and control architecture against activists. It has manipulated the app that assigns a colour to each person based on their health status and determines whether they can travel freely to restrict the movement of activists. This manipulation has undermined their freedom of movement, freedom from arbitrary detention through unjustified home confinements, and it has restricted their freedom of expression.^{70–72}

Tanzania ceased reporting SARS-CoV-2 test results in May, 2020,⁷³ preventing an effective response, thus violating people's right to health, and resumed reporting only after President John Magufuli's death in March, 2021.⁷⁴ Health workers in Egypt, Russia, and Pakistan were detained for criticising their governments' response,⁷⁵ and Venezuela detained at least a dozen health workers for public COVID-19 comments.⁷⁶ Madagascar investigated, detained, and imprisoned journalists and public health experts for criticising the government or disputing official case data.⁷⁷ Police in Bangladesh arrested a journalist who had reported on health sector corruption. This arrest was part of a series of severe measures to restrict press freedoms that—along with others targeted for their COVID-19 coverage—ensnared a cartoonist whose COVID-19 cartoons offended politicians and a writer whose offence was criticising the scarcity of personal protective equipment.^{78,79}

COVID-19 penalties also especially targeted marginalised populations, political opponents, or both. Venezuela quarantined

tens of thousands of returning refugees as a clear and intentional political retribution. Detainees were often housed in crowded, unsanitary conditions, without enough food, water, and medical care, probably amounting to inhuman or degrading treatment. Many were arbitrarily held beyond the WHO-recommended 14-day quarantine at that time.^{76,80} Some countries also extended quarantines beyond 14 days, from the Cayman Islands (for those unable to get a COVID-19 test to prove they were not infected)⁸¹ to China.⁸² Other countries, such as Burundi,⁸³ quarantined individuals in crowded and unsanitary conditions. During India's spring, 2021 COVID-19 surge, the police targeted poor and marginalised populations, such as people living in slums, street vendors, and migrant workers, in arrests for violating lockdown rules.⁸⁴ Such arbitrary arrests or detentions, and cruel, inhuman, or degrading treatment of detainees, represent common human rights deprivations.

Grabbing or holding onto power under the guise of a health emergency is particularly corrosive to democratic values and rights to political participation. Hungary's Prime Minister Viktor Orbán used emergency powers to rule by decree and target political opponents by redirecting money away from cities, many governed by the opposition.⁸⁵ Malaysia's Prime Minister Muhyiddin Yassin twice suspended parliament in 2020 and 2021 under the guise of COVID-19 control to prevent a vote of no confidence, although he ultimately resigned in August, 2021.⁸⁶ Similarly, to bolster an ultimately unsuccessful 2021 re-election bid, Zambia's former President Edgar Lungu used COVID-19 regulations as an excuse to ban political rallies—even as his own party continued to hold rallies under the pretense that they were face mask distribution events.⁸⁷ El Salvador's President Nayib Bukele defied a Supreme Court ruling prohibiting the government from arresting people for violating stay-at-home orders, and suspended the national assembly.⁸⁸ Governments have used COVID-19 to justify political protest restrictions and detaining protesters.⁸⁹

In another misuse of COVID-19 restrictions, Amnesty International reports that France, Thailand, Kazakhstan, and Morocco were among countries where COVID-19 restrictions disproportionately restricted the rights of assembly and free expression.¹² Greece banned outdoor assemblies for 4 days in November, 2020, coinciding with planned annual demonstrations against the 1973 student uprising against the military government.¹²

Governments have also used COVID-19 emergency powers to manipulate political processes to their advantage, as Ethiopia's Government did to justify delaying its 2020 elections by a year despite widespread opposition to the decision by opposition parties.¹² Russia selectively relaxed COVID-19 restrictions in ways that had no scientific basis—permitting sports and entertainment events, but not outdoor gatherings—to prevent a protest on proposed constitutional reforms.¹² Meanwhile Uganda's Government used COVID-19 restrictions to justify its restrictions on press freedoms preceding the 2020 elections.¹²

High-income countries secured the largest share of the supply for themselves. Meanwhile, LMICs see people infected with SARS-CoV-2 who might have benefited from Paxlovid becoming seriously ill and dying.

The other main area in which cooperation was needed was funding, both for the ACT Accelerator and to support response and recovery in LMICs. However, funding has been inadequate, as evidenced by the number of people who fell into poverty and faced acute hunger. A high-profile G20 debt service moratorium for low-income countries¹⁰⁶ led to only US\$7 billion in delayed payments in 2020, 24% of what countries owed.¹⁰⁷

The ICESCR and further human rights guidance⁵ are insufficiently precise on what the human rights “international assistance and co-operation” obligation entails. However, given the paltry funding to support response and recovery in LMICs compared with the pandemic’s scale, and the highly inequitable access to medical technologies, we believe that states, particularly those with the greatest financial wherewithal, have fallen short by any reasonable metric of what is required. The UN COVID-19 Humanitarian Response Plan of 2020 received only 40% of the needed \$9.5 billion.¹⁰⁸ The world’s wealthiest countries devoted trillions of dollars to domestic COVID-19 responses, yet their official development assistance increased by only 3.5% in real terms (ie, taking into account inflation and exchange rates) in 2020, including \$12 billion related to COVID-19, a mix of new and reprogrammed funds.¹⁰⁹ The following year saw some progress, with a 4.4% rise in official development assistance in 2021, including nearly \$19 billion for COVID-19-related activities, including the value of vaccine donations.¹¹⁰

Rights-impacting failures to cooperate have extended further. Sanctions and export controls have undermined rights abroad and violated human rights obligations to avoid embargoes that could restrict access to medicines and harm marginalised populations (appendix p 2), while Russia’s unprovoked attack against Ukraine and its string of atrocities have severely undermined the COVID-19 response and right to health more broadly. In addition, China’s failure to cooperate with WHO’s investigation on COVID-19’s origins, and China and Russia’s lack of vaccine transparency, have harmed the right to health by impeding all countries’ ability to prevent future health emergencies and to make informed decisions on how best to protect their populations’ health at present (see appendix p 3).

Building back better with justice: a human rights response to COVID-19

Human rights are paramount in the next phases of COVID-19, as is embedding human rights into the global health architecture going forward. We must also strengthen health within the human rights architecture, deepening connections between the two. Central to these

tasks is ensuring that marginalised populations and civil society organisations that advocate alongside them are full and equal participants in all international institutions and in government bodies.

Our proposals (panel 5) would ensure far more equitable and rights-respecting responses to health emergencies and go far towards embedding the right to health in people’s daily experiences. However, they cannot stop governments that are unaccountable to their own people from perpetuating rights violations. Such governments, whose officials’ main concern might be their own power and wealth, could well violate international law and disregard international agreements—and even their own constitutions—and be willing to bear any reputational damage or international sanction that might result. Securing the right to health also demands the hard work of brave activists struggling to achieve democratic reforms. Therefore, the global community must provide all possible support.

Funding a rights-based recovery

WHO’s Independent Panel for Pandemic Preparedness and Response proposed an International Pandemic Financing Facility funded at \$50–100 billion to enable countries to prepare for and quickly respond to health emergencies,¹¹¹ advancing the right to health and international assistance obligations. WHO special assessments could raise needed funds.

Sadly, although a new financing facility is being developed, it will be of a far smaller scale. Building on a proposal from the G20 High Level Independent Panel on Financing the Global Commons for Pandemic Preparedness and Response, and with support from the G20 and beyond, The World Bank is establishing and will host a Fiduciary Intermediary Fund for Pandemic Prevention, Preparedness and Response. The fund, with over \$1.4 billion in contributions by early September, 2022, will build capacity at national, regional, and global levels in such areas as disease surveillance, emergency communications, laboratory systems, and community engagement.^{112,113}

But funding will be needed far beyond pandemic-related activities. Governments should urgently mobilise funds to mitigate the harms to health and other rights, including food, housing, and education. Governments possess the primary responsibility for ensuring their inhabitants’ rights and should substantially increase domestic funding, using inclusive national processes to develop financing strategies using the “maximum of... available resources”,¹³ and prioritising the needs of marginalised populations.¹⁴

Although more domestic financing is necessary, domestic financing alone will be insufficient given the scale of the need. An International Monetary Fund analysis based on several case studies suggests that pandemic setbacks could increase the Sustainable Development Goals spending requirements in LMICs by

See Online for appendix

Panel 5: Key recommendations for incorporating human rights into health emergency preparedness and response, and global health and rights architecture

States, and as relevant, other actors, should:

Equitably distribute medical technologies for health emergencies

- Develop substantial and advanced vaccine development and manufacturing capacity in all regions, including mRNA vaccine technology, to enable rapid, universal, equitable distribution of variant-specific and other COVID-19 vaccine boosters, as well as vaccines during future health emergencies or instances of regional vaccine shortage
- Agree through the World Trade Organization to waive relevant intellectual property protections contained in the Agreement on Trade-Related Aspects of Intellectual Property Rights during health emergencies for medical technologies required during those emergencies
- Establish a global equitable distribution facility with universal country participation, which could draw on regional vaccine manufacturing capacities, to ensure rapid, universal, equitable distribution of diagnostics, therapies, vaccines, and medical supplies and equipment during health emergencies

Ensure and fund rights-respecting, equitable preparations for and responses to future health emergencies

- Adopt a pandemic treaty that integrates human rights throughout, such as by mandating full participation of marginalised populations in health emergency response planning, requiring special measures to protect marginalised populations from consequences of public health emergencies, and requiring non-discrimination in pandemic preparedness and response, including regarding undocumented migrants
- Establish a global funding mechanism to strengthen health systems and enable social protection during health emergencies
- Establish an International Pandemic Financing Facility to enable countries to prepare for and quickly respond to health emergencies, or greatly increase funding for the Fiduciary Intermediary Fund for Pandemic Prevention, Preparedness and Response

Respect civil and political rights during health emergencies

- Through a revision of the Siracusa Principles on the Limitation and Derogation Provisions in the International

Covenant on Civil and Political Rights, a new pandemic treaty, or a revision to the International Health Regulations, develop specific standards regarding respect for civil and political rights during health emergencies

- Amend the International Health Regulations to fully protect the confidentiality and privacy of whistleblowers who provide non-official information

Respect and protect the right to health information during health emergencies and beyond

- Adopt a World Health Assembly resolution on protecting the right to health information, including by working with civil society to establish ongoing health literacy campaigns to combat misinformation

Strengthen the right to health and equity in national and global health and rights architecture

- Implement a new general comment that the Committee on Economic, Social and Cultural Rights should adopt on health equity, including key measures needed for different populations
- Negotiate and adopt a Framework Convention on Global Health, a new treaty on the right to health aimed at national and global health equity, which would include clear standards and mechanisms for countries to implement to advance the right to health and establish a robust regime of accountability
- Establish national health equity programmes of action and comprehensive sets of actions across social determinants of health that encompass marginalised populations and are aimed at health equity
- Establish, in concert with civil society organisations, marginalised populations, and foundations, a Right to Health Capacity Fund to support civil society right to health advocacy and mechanisms for right to health accountability and participation in health-related decision making
- Adopt a World Health Assembly resolution that incorporates key measures to implement the right to health, including right to health assessments and health equity programmes of action

an average of about 20% across key sectors including health, education, and water and sanitation.¹¹⁵ The Sustainable Development Goals funding gaps were already immense, and the harms to health and other rights during COVID-19 far-reaching (panel 3).

Therefore, besides meeting the UN target of 0.7% gross national income for official development assistance as a matter of course, high-income countries should designate the equivalent of at least 3% of their domestic COVID-19 stimulus, response, and recovery measures for global assistance. Domestic COVID-19 funding from the G20 countries (the world's largest economies) was at

least \$14 trillion.¹¹⁶ 3% is approximately what the USA—which has a small foreign aid budget when compared with its gross domestic product relative to most other high-income nations¹¹⁷—spends from its discretionary budget annually on foreign assistance;¹¹⁸ at least as much should be expected for global public health emergency spending. This amount of funding would be a reasonable starting point for negotiating a global standard.

Repayment of international debts by low-income countries, and even many middle-income countries, displaces funding that they could use for health,

education, and other areas crucial to their people's rights. This displacement impedes the full realisation of human rights in these countries and is at odds with the international cooperation obligation and with building health resilience.¹¹⁹ In line with the call of the UN Independent Expert on foreign debt and human rights,¹¹ the G20 should develop a long-term rights-based and rights-prioritised framework for debt restructuring and cancellation. States should use all available measures to incentivise private creditor participation.^{120,121}

To meet the human rights non-discrimination obligation, funding for marginalised populations and traditionally marginalised areas must be a priority, now and in future health emergencies.¹²² Social and economic support is needed to help children catch up with their education, particularly children in low-income households unable to access remote learning.¹²³ Robust funding and comprehensive programming can counter increases in domestic violence, child marriages, and human trafficking.¹²⁴

People who depend on the international community for support are especially vulnerable during global health emergencies—from both the emergency itself and from emergency-related funding diverted from their own specific situations. To safeguard their health and rights, the UN Central Emergency Response Fund, which provides urgently needed funds for underfunded emergencies, and was far short of its \$1 billion funding target in 2020, should be bolstered.^{125,126} Funds—with a much higher target than \$1 billion—could come from additional member dues based on regular or peacekeeping UN budget assessment formulas.

Equitable distribution of medical technologies: COVID-19 and beyond

High-income countries and others in a position to assist must fully fund efforts aimed at the equitable distribution of COVID-19 vaccines, therapeutics, and diagnostics, including to enable COVAX and other regional and global vaccine funding mechanisms to purchase sufficient doses of COVID-19 vaccines. The ACT Accelerator sought \$23.4 billion from October, 2021, to September, 2022, including \$16.8 billion in grant financing.¹²⁷ Yet funding for the ACT Accelerator has been deeply off track. As the 12-month period came to a close, not even \$6 billion in contributions towards grant financing had been achieved.¹²⁸ The ACT Accelerator continues to seek funding and will do so until at least March, 2023, but at considerably reduced levels.¹²⁹ With the ACT Accelerator planning a transition to support countries as COVID-19 moves from an acute emergency to a sustained disease with new waves and variants likely,¹³⁰ questions on equitable distribution of and funding for COVID-19 technologies over the long term have grown only more pressing. The Board of Gavi, the Vaccine Alliance did, however, decide to extend COVAX, which it co-leads, through December, 2023, although

possibly folding its work into Gavi's core programming.¹³¹

The right to health is, more specifically, the right of everyone to the highest attainable standard of health, and everyone equally has the right to the benefits of scientific progress.¹³ That means everyone should have equal access to the most effective mRNA vaccines. Yet as 2021 came to an end, mRNA vaccines accounted for less than a third of the doses that COVAX had secured,¹³² and this accounted for slightly less than 40% of doses that COVAX had shipped by late September, 2022.¹³³

The diminishing number of remaining unvaccinated people in the world should have access to mRNA vaccines. The world needs enough mRNA production capacity for universal third shots and rapid, universal, equitable access to booster shots, particularly important for new variants. Yet mRNA production capacity is concentrated in high-income countries and could be insufficient. In late 2021, when global demand was still outpacing supply, Pfizer/BioNTech and Moderna expected to produce 7 billion doses in 2022.^{134,135}

The surest mechanism for equal access is widely distributed mRNA vaccine production capacity, building on several mRNA production initiatives in Africa and Latin America already under way.^{136,137} Governments and international organisations should provide funding and guarantee access to specialised training for producing billions of mRNA COVID-19 vaccine doses in LMICs, with Pfizer, BioNTech, and Moderna sharing their technology, knowledge, and technical expertise and licensing their vaccines to qualified manufacturers. This collaboration between Pfizer, BioNTech, and Moderna could happen voluntarily or through US Government use of the Defense Production Act and any additional contracts with the companies. All sites should have the capacity to rapidly switch to other vaccines if they prove more effective (eg, nasal vaccines),¹³⁸ and to modified mRNA vaccines that better target variants.

One analysis found ten companies across six countries and three continents capable of producing mRNA vaccines if they had the necessary instructions.¹³⁹ South Africa's Afrigen announced in February, 2022, that using publicly available data, it reproduced the Moderna vaccine, with plans to begin clinical trials in November, 2022.¹⁴⁰ A month later, Moderna agreed not to enforce its patent with respect to Afrivac's or other vaccination efforts in 92 LMICs¹⁴¹—ironically, not including South Africa itself.¹⁴² Furthermore, it is important to note that not enforcing patents is not the same as affirmatively sharing knowledge and technical expertise. Pfizer and BioNTech will collaborate with Brazil's Europharma to manufacture COVID-19 vaccine doses for Latin America,¹⁴³ and Moderna will build a plant in Kenya for distribution in Africa.^{141,144}

As vaccine supplies increase, delivery bottlenecks have now become the core obstacle to vaccination—for example, cold storage, trained vaccinators, transportation, equipment, and vaccination education campaigns—with

education campaigns particularly important considering the reduced public demand. Yet as of January, 2022, nearly \$7 billion was still required for vaccine delivery and administration infrastructure in LMICs without disrupting other essential health services;¹⁴⁵ however, some of this gap has since been filled.

WTO's belated waiver of intellectual property rights for COVID-19 vaccines is an important step to further expand access and facilitate universal enjoyment of the rights to health and scientific progress, and must quickly be extended to diagnostics and therapies. Meanwhile, governments should use all available legal tools and provide funding to maximise production of all such goods that are in short supply globally, such as COVID-19 treatments, including facilitating technology transfer.

Governments in high-income countries should take the steps necessary to ensure equitable access to antivirals, particularly Paxlovid. These governments need to donate a substantial portion of the antiviral supply that they have already secured, cease their practice of purchasing the largest share of the global supply, and use whatever mix of persuasion and legal tools are required to ensure that generic versions are available to people in all LMICs. Currently, Pfizer and the other antiviral manufacturer, Merck, have signed licensing agreements with the Medicines Patent Pool, making their COVID-19-related drugs available for generic versions, with dozens of companies planning to produce a generic Paxlovid, but the licensing agreements exclude many middle-income countries.¹⁴⁶ Targeted measures developed with the full participation of marginalised communities can ensure key technologies reach these populations.

We must not permit the next pandemic to again feature inequitable global distribution of medical technologies. Legal and institutional reforms could go far towards ensuring equity within and among nations, advancing the human rights command of equality, and giving substance to the international assistance and cooperation requirement.

Standing equitable distribution global mechanism for health emergencies

Building on COVAX and aligning with the People's Vaccine's principles,¹⁴⁷ a new equitable distribution mechanism would cover vaccines, therapies, diagnostics, and medical equipment required for health emergencies. Participation should be universal, which could be achieved through a pandemic treaty that all countries join or through revised International Health Regulations. Separate bilateral deals should be prohibited or strictly restricted. Access could be conditioned on domestic equitable distribution strategies and non-discrimination, with ample guidance and support. The mechanism would ensure priority coverage for all people under international care. WHO and the Office of the UN High Commissioner for Human Rights could lead an inclusive process to develop global equitable distribution principles—focused

on the human toll rather than simply treating all countries the same¹⁴⁸—that the World Health Assembly could adopt. Funds could come through special WHO budgetary assessments.

Global stockpile

Although vaccines, therapies, and diagnostics for novel diseases cannot be stockpiled, PPE and equipment such as vials and syringes can be. So can diagnostics and medical countermeasures for Ebola, severe acute respiratory syndrome, and other known threats. Now is the time to develop this stockpile. The UN or WHO could launch and oversee this initiative, including agreed financing and production, and storage spread across countries,¹⁴⁹ protecting against political, security, and logistic risks of central storage.

Intellectual property reforms

The right to health and to the benefits of scientific progress must take precedence over intellectual property rights. WTO should codify that during a public health emergency TRIPS provisions are waived with respect to needed medical technologies. More ambitiously, a WHO, WTO, government, and civil society collaboration could propose changes to TRIPS that would bring it in line with human rights, with WTO members amending TRIPS and national laws accordingly.

The right to accurate health information

The right to health includes the right to comprehensible and accurate health-related information.¹⁵ Yet we have seen how states can stifle scientific information, or even promote misinformation. Around the world, disinformation and misinformation campaigns have spread rapidly across social media platforms. A World Health Assembly resolution could urge specific actions to address misinformation, such as sustained national health literacy campaigns, tailored to communities, and developed and implemented in close collaboration with civil society. These campaigns could expand access to accurate information and create resilience against health misinformation.¹⁵⁰ WHO could also make the expectations of social media and other distribution platforms clearer.

Protecting civil and political rights during public health emergencies

Human rights law imposes strict conditions for restricting rights in public health emergencies. The Siracusa Principles on the Limitation and Derogation Provisions in the International Covenant on Civil and Political Rights provide important guidance.¹⁵¹ Yet, governments have largely ignored the Siracusa Principles. The International Commission of Jurists is revising these principles in light of the lessons learnt from the COVID-19 pandemic. Going forward, clear human rights standards and compliance are crucial. These rights could be clarified in the International

Health Regulations, a new pandemic treaty, or as an addendum to the Siracusa Principles.

Such standards could: (1) protect people from state over-reach, when governments use emergency powers, such as suppressing free expression and peaceful protest; (2) protect people's rights during isolation, quarantine, and stay-at-home orders, from guarding against arbitrary arrest to ensuring access to food and medicine; and (3) protect the right to privacy, preventing abuse of surveillance, quarantine enforcement, risk notification, and related technologies.

Furthermore, the International Health Regulations should be amended to expressly clarify that the privacy and rights of whistleblowers will be fully protected. Currently, the International Health Regulations permit WHO to protect confidentiality of non-state sources of information only when "duly justified".⁹⁰

Embedding human rights into a pandemic treaty

At the time of writing this Health Policy the WHO's International Negotiating Body is meeting to negotiate the terms of a pandemic instrument. The International Negotiating Body must ensure that human rights—and global solidarity—are at the core of a pandemic treaty. Incorporating the global stockpile and equitable distribution mechanisms, committing countries to intellectual property rights reform, open data,¹⁵² and clear standards to protect civil and political rights would be a good start. Further, the treaty could advance the right to science-based health information by establishing an independent mechanism—unencumbered by the political pressures that WHO faces—to investigate and substantiate reports of unexpected or unusual public health events.¹⁵³ It could establish a new global funding mechanism to support health systems and social protection programmes during public health emergencies.¹⁵³

Crucially, the treaty should require rights-based and evidence-based national responses that incorporate principles of equity, participation, and accountability. It could mandate that marginalised populations fully participate in developing and implementing pandemic preparedness and response plans, and require countries to take special measures to protect them from harmful consequences of necessary emergency measures (eg, temporary stay-at-home orders) and ensure their access to medical technologies. The treaty could require vaccination strategies to prioritise populations at high risk, including migrants regardless of their documentation.

Global health with justice embedded into legislation and institution

All that we have proposed so far in this Health Policy will not be enough. People will still not trust unaccountable governments during health emergencies. Furthermore, the extensive human rights violations during the COVID-19 pandemic, with roots preceding

the pandemic, demand equally extensive structural reforms. A new rights-based national and global governance for the right to health would respond to the daily health emergency of health inequities that COVID-19 revealed and reinforced. Future governance, and the mechanisms that underpin it, must ensure equitable and effective responses to health emergencies by embedding the right to health, accountability, participation, and equity in global and national policies and international responses.

Securing the right to health will vastly improve health security for everyone, everywhere. Increased accountability and participation would augment trust in public health authorities, leading to improved compliance during health emergencies and reduced vaccine hesitancy. Trust in science and public health agencies has proven to be perhaps the most important national asset during this pandemic; it has been linked to decreased infection rates and rates of fatalities per infection.¹⁵⁴ Dedicating the obligatory maximum of available resources to health and other rights and ending discrimination should accelerate equitable, high-quality universal health coverage, improving surveillance, disease detection, and care.¹⁵⁵ Marginalised populations' participation in health planning will help ensure that when an epidemic strikes, no one is left behind. Rights-based international standards and mechanisms could lead to far more equitable distribution of medical technologies. Furthermore, health equity would substantially restrict health emergencies' inequities—reducing community and international spread of disease.¹⁵⁶

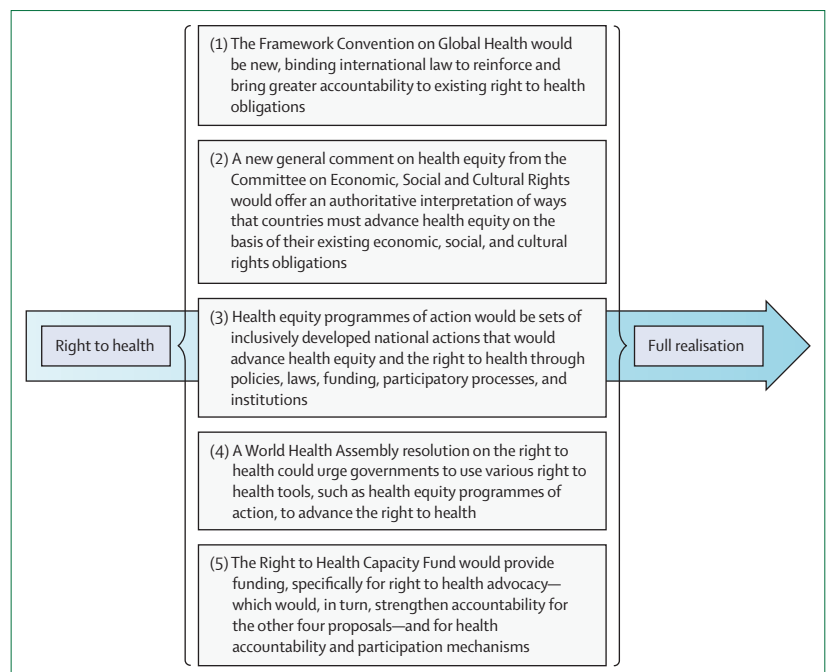


Figure: Five proposals to embed the right to health throughout laws, funding, and actions

We offer five proposals to push the right to health nearer to full realisation. They each contribute towards this end from a different direction.

Several new mechanisms would accelerate action to realise the right to health (figure). First, the Committee on Economic, Social and Cultural Rights could issue a general comment on health equity. It would bring together the many equity strands of ICESCR rights, comprehensively portraying actions to enable the highest attainable standard of health to be realised for all, without discrimination. Further, it could cover key topics such as obligations for following equitable pathways towards universal health coverage, actions required for marginalised populations to enjoy this right equally, and international health equity obligations.¹⁵⁰

Second, more is possible with a treaty on the right to health. Its power in advancing the right to health could come through unambiguous legal obligations from express state commitments in the treaty to specific standards and mechanisms for implementing and ensuring accountability to all aspects of the right to health, including its global dimensions. Just such a treaty has been proposed: the Framework Convention on Global Health.^{157,158} With national and global standards such as providing more clarity on the “international assistance and co-operation”¹³ obligation, and implementation mechanisms, this treaty would advance equality, participation, and accountability, increase health funding, and enhance transparency and accountability for all actors, in all sectors, locally to globally.¹⁵⁸

Third, states could develop health equity programmes of action: comprehensive, systemic, and inclusive sets of actions to maximise health equity. These programmes of action would systematically encompass the structural and other social determinants of health as they affect all marginalised populations—and these programmes would be developed and led by marginalised populations. A comprehensive regime of accountability would buttress these health equity programmes of action. International funders could provide robust support for LMICs; however, all countries could develop programmes of action.^{159,160}

Fourth, to accelerate state action to implement the right to health while a Framework Convention on Global Health or similar treaty is being developed and negotiated, the World Health Assembly should adopt a resolution to urge states to deploy key tools for health equity. These key tools could include health equity programmes of action and inclusively conducted right to health assessments of laws, policies, and projects that could substantially affect the right to health. The assessments would examine these from the perspective of right to health obligations, including non-discrimination and equality, and provide recommendations on how they could be altered to better protect and advance this right.

Finally, a Right to Health Capacity Fund (appendix p 4) would fill a gap in the global health architecture by financing right to health advocacy and health-related mechanisms for participation and accountability. A Right to Health Capacity Fund could prioritise

community-based organisations, including basic capacity building, and have a community-led and civil society-led governance structure.¹⁶¹

Had these mechanisms been in place before COVID-19, its inequities would have been far less, vaccine hesitancy lower, health systems better prepared, adherence to masking and physical distancing recommendations and mandates greater, and vaccine distribution faster and more equitable than they actually were. These instruments of both health justice and pandemic preparedness should be established before the next health emergency strikes.

Global health security and human rights: an inseparable combination

COVID-19 has created a catastrophic record of how human rights shortcomings undermine pandemic preparedness and response, and how health emergencies undermine human rights and fuel further violations. Equity demands treating health as a global public good and creating new legal instruments grounded in rights and equity. A reimagined, strengthened global health architecture, with human rights as its foundation, would be a fitting monument to the tens of millions who have died and suffered grievously—and would better prepare the world to address climate change, antimicrobial resistance, and other global threats. Furthermore, it would enable a swift, effective response the next time a novel or emerging infection threatens the globe—honouring the dignity of each of us.

Contributors

All authors contributed equally.

Declaration of interests

LOG is Director of the WHO Collaborating Center on National and Global Health Law, is a member of WHO's International Health Regulations Review Committee, and is a member of the Independent Panel for a Global Public Health Convention. WHO paid for LOG's travel for an International Health Regulations Review Committee meeting. All other authors declare no competing interests.

Acknowledgments

The authors thank Tlaleng Mofokeng for inspiring and helping formulate this Health Policy, Mirta Roses Periago and Jashodhara Dasgupta for having reviewed and provided valuable feedback on an earlier draft of this Health Policy, and Alexandra Finch for assistance with the figure.

References

- 1 International Commission of Jurists. Living like people who die slowly: the need for right to health compliant COVID-19 responses. September, 2020. <https://www.icj.org/wp-content/uploads/2020/09/Universal-Global-Health-COVID-19-Publications-Reports-Thematic-Reports-2020-ENG.pdf> (accessed May 13, 2021).
- 2 CMP Staff. The truth about “dramatic action.” China Media Project. Jan 27, 2020. <https://chinamediaproject.org/2020/01/27/dramatic-actions/> (accessed Feb 4, 2021).
- 3 Editorial Board. As the pandemic exploded, a researcher saw the danger. China's leaders kept silent. Washington Post. April 22, 2022. <https://www.washingtonpost.com/opinions/interactive/2022/china-researcher-covid-19-coverage/> (accessed Sept 2, 2022).
- 4 Loewenson R. Structural adjustment and health policy in Africa. *Int J Health Serv* 1993; 23: 717–30.
- 5 Püras D, de Mesquita JB, Cabal L, Maleche A, Meier BM. The right to health must guide responses to COVID-19. *Lancet* 2020; 395: 1888–90.

For more on the Framework Convention on Global Health see <https://fcghalliance.org/>

For more on health equity programmes of action see <https://oneill.law.georgetown.edu/publications/health-equity-programs-of-action-an-implementation-framework/>

- 6 Balakrishnan P, Namboodhary SK. The importance of investing in a public health system: evidence from COVID-19 mortality. *Indian Econ Rev* 2021; 56: 233–54.
- 7 Colombo F, Jakab Z, Uribe JP. Pathway to UHC: three priorities for stronger, more resilient, more inclusive health systems. World Bank blogs. Dec 10, 2021. <https://blogs.worldbank.org/health/pathway-uhc-three-priorities-stronger-more-resilient-more-inclusive-health-systems> (accessed April 13, 2022).
- 8 The Economist. Shots fired: the many guises of vaccine nationalism. March 13, 2021. <https://www.economist.com/finance-and-economics/2021/03/11/the-many-guises-of-vaccine-nationalism> (accessed May 17, 2021).
- 9 Kaye D. Disease pandemics and the freedom of opinion and expression: report of the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression. April 23, 2020. <https://www.undocs.org/A/HRC/44/49> (accessed Feb 7, 2022).
- 10 Mofokeng T. Report of the Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health, Tlaleng Mofokeng: sexual and reproductive health rights: challenges and opportunities during the COVID-19 pandemic. July 16, 2021. <https://www.undocs.org/en/A/76/172> (accessed Feb 7, 2022).
- 11 Li Y. Report of the independent expert on the effects of foreign debt and other related international financial obligations of states on the full enjoyment of all human rights, particularly economic, social and cultural rights, Yuefen Li: addressing, from a human rights perspective, the debt-related problems of developing countries caused by the coronavirus disease (COVID-19) pandemic. July 31, 2020. <https://www.undocs.org/A/75/164> (accessed Feb 3, 2022).
- 12 de Mesquita JB, Kapilashrami A, Meier BM. Human rights dimensions of the COVID-19 pandemic. May, 2021. <https://theindependentpanel.org/wp-content/uploads/2021/05/Background-paper-11-Human-rights.pdf> (accessed Feb 7, 2022).
- 13 UN General Assembly. International Covenant on Economic, Social and Cultural Rights. Dec 16, 1966. <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-economic-social-and-cultural-rights> (accessed Sept 7, 2022).
- 14 Hodgson TF. COVID-19 and Africa Symposium: lockdowns, separation of powers and the right to social security in Malawi (part 1). *OpinioJuris*. Dec 12, 2020. <http://opiniojuris.org/2020/12/08/covid-19-and-africa-symposium-lockdowns-separation-of-powers-and-the-right-to-social-security-in-malawi-part-1/> (accessed April 18, 2022).
- 15 Committee on Economic, Social and Cultural Rights. General comment no. 14: the right to the highest attainable standard of health (Art. 12). Aug 11, 2000. <https://www.refworld.org/pdfid/4538838d0.pdf> (accessed Sept 7, 2022).
- 16 The Lancet. COVID-19 in Brazil: “So what?”. *Lancet* 2020; 395: 1461.
- 17 Kahn C, Shapiro A. Mexico’s President has been muddying the country’s COVID-19 vaccine messaging. All Things Considered (National Public Radio). April 20, 2021. <https://www.npr.org/2021/04/20/989234468/mexicos-president-has-been-muddying-the-countrys-covid-19-vaccine-messaging> (accessed April 14, 2022).
- 18 Cathey L. Trump, downplaying virus, has mocked wearing masks for months. ABC News. Oct 2, 2020. <https://abcnews.go.com/Politics/trump-downplaying-virus-mocked-wearing-masks-months/story?id=73392694> (accessed Jan 28, 2021).
- 19 Merco Press. Bolsonaro tells UN his gov’t is for COVID-19 vaccination but against mandates. Sept 22, 2021. <https://en.mercopress.com/2021/09/22/bolsonaro-tells-un-his-gov-t-is-for-covid-19-vaccination-but-against-mandates> (accessed April 14, 2022).
- 20 Pathi K, Saaliq S, Nessman R. India’s virus surge damages Modi’s image of competence. Associated Press. May 5, 2021. <https://apnews.com/article/india-sports-coronavirus-pandemic-health-d38a9060e8a115a5389f816b857cd481> (accessed May 8, 2021).
- 21 Bariyo N, Parkinson J. Tanzania’s leader urges people to worship in throngs against coronavirus. Wall Street Journal. April 9, 2020. <https://www.wsj.com/articles/tanzanias-leader-urges-people-to-worship-in-throngs-against-coronavirus-11586347200> (accessed Jan 29, 2021).
- 22 Smith S, Rueda J. Maduro’s “miracle” treatment for COVID-19 draws skeptics. ABC News. Jan 26, 2021. <https://abcnews.go.com/Health/wireStory/maduros-miracle-treatment-covid-19-draws-skeptics-75501140> (accessed May 13, 2021).
- 23 Baker A. “Could it work as a cure? Maybe.” A herbal remedy for coronavirus is a hit in Africa, but experts have their doubts. Time. May 22, 2020. <https://time.com/5840148/coronavirus-cure-covid-organic-madagascar/> (accessed May 13, 2021).
- 24 Krauze L. Mexico City decision to distribute ivermectin marked a new low for pandemic mismanagement. Washington Post. Feb 9, 2022. <https://www.washingtonpost.com/opinions/2022/02/09/mexico-city-ivermectin-covid-pandemic-mismanagement/> (accessed Feb 14, 2022).
- 25 Bjorklund K. The inside story of how Sweden botched its coronavirus responses. *Foreign Policy*. Dec 22, 2020. <https://foreignpolicy.com/2020/12/22/sweden-coronavirus-covid-response/> (accessed Feb 11, 2022).
- 26 Muvunyi F. South Africa’s double blow: corruption and the coronavirus. DW. Aug 3, 2020. <https://www.dw.com/en/south-africas-double-blow-corruption-and-the-coronavirus/a-54423065> (accessed April 19, 2021).
- 27 Committee on Economic, Social and Cultural Rights. General comment no. 20, non-discrimination in economic, social and cultural rights (art. 2, para. 2, of the International Covenant on Economic, Social and Cultural Rights). July 2, 2009. <https://www.refworld.org/docid/4a60961f2.html> (accessed Sept 7, 2022).
- 28 Centers for Disease Control and Prevention. COVID-19 hospitalization and death by race/ethnicity. July 28, 2022. <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html> (accessed Sept 2, 2022).
- 29 Yaya S, Yeboah H, Charles CH, Otu A, Labonte R. Ethnic and racial disparities in COVID-19-related deaths: counting the trees, hiding the forest. *BMJ Glob Health* 2020; 5: e002913.
- 30 Race Disparity Unit, Cabinet Office. Final report on progress to address COVID-19 health inequalities. December, 2021. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1038338/2021-12-03_Final_COVID-19_disparities_report_updated_3_Dec.pdf (accessed Feb 11, 2022).
- 31 Henderson E. Brazil becomes global hotspot for COVID-19 pandemic. *News-Medical Life Sciences*. Sept 24, 2020. <https://www.news-medical.net/news/20200924/Brazil-becomes-global-hotspot-for-COVID-19-pandemic.aspx> (accessed Jan 28, 2021).
- 32 Yashadhana A, Pollard-Wharton N, Zwi AB, Biles B. Indigenous Australians at increased risk of COVID-19 due to existing health and socioeconomic inequities. *Lancet Reg Health West Pac* 2020; 1: 100007.
- 33 Illmer A. COVID-19: Singapore migrant workers infections were three times higher. BBC News. Dec 16, 2020. <https://www.bbc.com/news/world-asia-55314862> (accessed Jan 28, 2021).
- 34 Sherlock R. Migrants are among the worst hit by COVID-19 in Saudi Arabia and Gulf countries. National Public Radio. May 5, 2020. <https://www.npr.org/sections/coronavirus-live-updates/2020/05/05/850542938/migrants-are-among-the-worst-hit-by-covid-19-in-saudi-arabia-and-gulf-countries> (accessed Jan 27, 2022).
- 35 Sharma R. The rich love India’s lockdown. For the poor it’s another story. *New York Times*. May 30, 2020. <https://www.nytimes.com/2020/05/30/opinion/sunday/india-coronavirus-lockdown-inequality.html> (accessed Jan 28, 2021).
- 36 Carlisle M, Bates J. With over 275,000 infections and 1,700 deaths, COVID-19 has devastated the U.S. prison and jail population. Time. Dec 28, 2020. <https://time.com/5924211/coronavirus-outbreaks-prisons-jails-vaccines/> (accessed Jan 28, 2021).
- 37 Levenson E. Prison inmates are twice as likely to die of COVID-19 than those on the outside, new report finds. CNN. Sept 3, 2020. <https://www.cnn.com/2020/09/02/us/prison-coronavirus-clusters-report/index.html> (accessed Jan 28, 2021).
- 38 Hakim D. ‘It’s hit our front door’: homes for the disabled see a surge of COVID-19. *New York Times*. April 8, 2020. <https://www.nytimes.com/2020/04/08/nyregion/coronavirus-disabilities-group-homes.html> (accessed Jan 28, 2021).
- 39 Perri M, Dosani N, Hwang SW. COVID-19 and people experiencing homelessness: challenges and mitigation strategies. *CMAJ* 2020; 192: e716–19.
- 40 Chidambaram P. Over 200,000 residents and staff in long-term care facilities have died from COVID-19. Kaiser Family Foundation, Feb 3, 2022. <https://www.kff.org/policy-watch/over-200000-residents-and-staff-in-long-term-care-facilities-have-died-from-covid-19/> (accessed Feb 8, 2022).

- 41 UN. COVID-19: Bachelet urges states to take extra steps to include people with disabilities. April 30, 2020. <https://www.ohchr.org/en/press-releases/2020/04/covid-19-bachelet-urges-states-take-extra-steps-include-people-disabilities> (accessed Feb 7, 2022).
- 42 WHO. WHO Director-General's opening remarks at the media briefing on COVID-19—22 June 2020. <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---22-june-2020> (accessed Jan 28, 2021).
- 43 WHO. More malaria deaths and cases in 2020 linked to COVID-19 disruptions. Dec 6, 2021. <https://www.who.int/news/item/06-12-2021-more-malaria-cases-and-deaths-in-2020-linked-to-covid-19-disruptions> (accessed Jan 27, 2022).
- 44 WHO. Global tuberculosis report 2021. Oct 14, 2021. <https://www.who.int/publications/i/item/9789240037021/> (accessed Jan 27, 2022).
- 45 WHO. The impact of COVID-19 on mental, neurological, and substance use services: results of a rapid assessment. 2020. <https://www.who.int/publications/i/item/978924012455> (accessed Sept 2, 2022).
- 46 World Food Programme. A global food crisis. <https://www.wfp.org/global-hunger-crisis> (accessed Oct 8, 2022).
- 47 UN Inter-agency Task Force on Financing for Development. Financing for sustainable development report 2022. 2022. <https://desapublications.un.org/file/955/download> (accessed April 13, 2022).
- 48 Congressional Research Service. Unauthorized immigrants' eligibility for COVID-19 relief benefits: in brief. May 7, 2020. <https://crsreports.congress.gov/product/pdf/R/R46339> (accessed May 21, 2021).
- 49 Ali TO, Hassan M, Hossain N. The moral and political economy of the pandemic in Bangladesh: weak states and strong societies during Covid-19. *World Dev* 2021; 137: 105216.
- 50 Benner K, Bennhold K, Blinder A, et al. Almost 500 million children are cut off from school in pandemic, report says. *New York Times*. Aug 26, 2020. <https://www.nytimes.com/2020/08/26/world/covid-19-coronavirus.html> (accessed Jan 28, 2021).
- 51 UNICEF. 10 million additional girls at risk of child marriage due to COVID-19. March 7, 2021. <https://www.unicef.org/press-releases/10-million-additional-girls-risk-child-marriage-due-covid-19> (accessed Jan 27, 2022).
- 52 Ndunde J. COVID-19: gender-based violence cases rise. *Business Today*. Jan 25, 2021. <https://businesstoday.co.ke/covid-19-gender-based-violence-cases-rise/> (accessed Feb 4, 2021).
- 53 Blake N, Grant P, Nitz S. Human rights org sees 185% rise in human trafficking cases amid COVID-19 pandemic. *abc7*. Dec 17, 2020. <https://abc7.com/human-trafficking-rights-month-what-is-statistics/8846598/> (accessed Feb 4, 2021).
- 54 UN. The pandemic is fuelling slavery and sexual exploitation, UN experts warn. Nov 30, 2020. <https://news.un.org/en/story/2020/11/1078792> (accessed Feb 4, 2021).
- 55 Cousins S. COVID-19 has "devastating" effect on women and girls. *Lancet* 2020; 396: 301–02.
- 56 Dawuni J. The gendered face of COVID-19: women and access to justice. UN Office on Drugs and Crime. April, 2020. <https://www.unodc.org/dohadecaration/en/news/2020/04/gendered-face-of-covid19-women-and-access-to-justice.html> (accessed May 21, 2021).
- 57 US Centers for Disease Control and Prevention. Women, caregiving, and COVID-19. June 21, 2021. <https://www.cdc.gov/women/caregivers-covid-19/index.html> (accessed Feb 8, 2022).
- 58 Hammarberg K. Women bear the cost of the COVID-19 care load. *Lens* (Monash University). Dec 7, 2020. <https://lens.monash.edu/@coronavirus-articles/2020/12/07/1381836/women-bear-the-cost-of-the-covid-19-care-load> (accessed Feb 8, 2022).
- 59 Gostin LO, Monahan JT, Kaldor J, et al. The legal determinants of health: harnessing the power of law for global health and sustainable development. *Lancet* 2019; 393: 1857–910.
- 60 Yang DL. Wuhan officials tried to cover-up COVID-19 — and sent it careening outward. *Washington Post*. March 10, 2020. <https://www.washingtonpost.com/politics/2020/03/10/wuhan-officials-tried-cover-up-covid-19-sent-it-careening-outward/> (accessed Oct 10, 2022).
- 61 Buckley C, Myers SL. China kept world in dark as outbreak rippled. *New York Times*. Feb 2, 2020. <https://www.nytimes.com/2020/02/01/world/asia/china-coronavirus.html> (accessed Nov 2, 2022).
- 62 Kuo L. Coronavirus: Wuhan doctor speaks out against authorities. *The Guardian*. March 11, 2020. <https://www.theguardian.com/world/2020/mar/11/coronavirus-wuhan-doctor-ai-fen-speaks-out-against-authorities> (accessed Nov 2, 2022).
- 63 The Associated Press. China delayed releasing coronavirus info, frustrating WHO. June 2, 2020. <https://apnews.com/article/united-nations-health-ap-top-news-virus-outbreak-public-health-3c061794970661042b18d5aeaed9fae> (accessed Nov 2, 2022).
- 64 Wong E, Barnes JE, Kanno-Youngs Z. Local officials hid dangers from Beijing, says U.S. report. *New York Times*. Aug 20, 2020. <https://www.nytimes.com/2020/08/19/world/asia/china-coronavirus-beijing-trump.html> (accessed Nov 2, 2022).
- 65 Hegarty S. The Chinese doctor who tried to warn others about coronavirus. *BBC News*. Feb 6, 2020. <https://www.bbc.com/news/world-asia-china-51364382> (accessed Nov 2, 2022).
- 66 The Associated Press. China didn't warn public of likely pandemic for 6 key days. April 15, 2020. <https://apnews.com/article/virus-outbreak-health-ap-top-news-international-news-china-clamps-down-68a9e1b91de4ffc166acd6012d82c2f9> (accessed Sept 2, 2022).
- 67 COVID-19 coronavirus: China sentences journalist Zhang Zhan who reported on outbreak to 4 years. *New Zealand Herald*. Dec 28, 2020. <https://www.nzherald.co.nz/world/covid-19-coronavirus-china-sentences-journalist-zhang-zhan-who-reported-on-outbreak-to-4-years/DNA34YG2C4XR4QZ1A44QPWSPU/> (accessed Jan 29, 2021).
- 68 Yeung J, Gan N. Xi'an lockdown brings heartbreak and dysfunction as political pressure to contain outbreak grows. *CNN*. Jan 6, 2022. <https://www.cnn.com/2022/01/06/china/xian-lockdown-zero-covid-intl-hnk/index.html> (accessed March 1, 2022).
- 69 Schiffrin N. Frustration and anger among Shanghai residents as China doubles down on zero-COVID policy. *PBS NewsHour*. April 14, 2022. <https://www.pbs.org/newshour/show/frustration-and-anger-among-shanghai-residents-as-china-doubles-down-on-zero-covid-policy> (accessed April 15, 2022).
- 70 Mazur P, Zhong R, Krolik A. In coronavirus fight, China gives citizens a color code, with red flags. *New York Times*. March 2, 2020. <https://www.nytimes.com/2020/03/01/business/china-coronavirus-surveillance.html> (accessed Feb 15, 2022).
- 71 PBS Newshour. How China is trying to maintain a zero-COVID policy while hosting the Winter Olympics. Feb 4, 2022. <https://www.pbs.org/newshour/show/how-china-is-trying-to-maintain-a-zero-covid-policy-while-hosting-the-winter-olympics> (accessed Feb 7, 2022).
- 72 Yuan L. Zeal in China for zero Covid is taking a toll. *New York Times*. Jan 13, 2022. <https://www.nytimes.com/2022/01/12/business/china-zero-covid-policy-xian.html> (accessed Feb 15, 2022).
- 73 Bariyo N. Tanzanian President is re-elected. *Wall Street Journal*. Nov 2, 2020. <https://www.wsj.com/articles/tanzanian-president-wins-in-widely-disputed-landslide-11604141717> (accessed Jan 29, 2021).
- 74 Kombe C. Tanzania publishes first COVID-19 data in over a year. *Voice of America*. June 29, 2021. <https://www.voanews.com/a/africa-tanzania-publishes-first-covid-19-data-over-year/6207608.html> (accessed Feb 16, 2022).
- 75 Malsin J, El-Fekki M. Egypt is arresting doctors who raise alarm over coronavirus approach. *Wall Street Journal*. July 1, 2020. <https://www.wsj.com/articles/egypt-is-arresting-doctors-raising-alarms-over-coronavirus-approach-11593533638> (accessed Jan 29, 2021).
- 76 Kurmanaev A, Herrera I, Urdaneta S. Venezuela deploys security forces in coronavirus crackdown. *New York Times*. Aug 19, 2020. <https://www.nytimes.com/2020/08/19/world/americas/coronavirus-venezuela.html> (accessed February 4, 2021).
- 77 Leger T. Danger and despair in Madagascar: President Rajoelina opts for "miracle cure" over Covid-19 vaccine. *Maverick Citizen*. March 22, 2021. <https://www.dailymaverick.co.za/article/2021-03-22-danger-and-despair-in-madagascar-president-rajoelina-opts-for-miracle-cure-over-covid-19-vaccine/> (accessed May 13, 2021).
- 78 Rozina Islam. Bangladesh arrests journalist for COVID reporting. *Al Jazeera*. May 18, 2021. <https://www.aljazeera.com/news/2021/5/18/rozina-islam-bangladesh-arrests-journalist-for-covid-reporting> (accessed May 21, 2021).

- 79 No authors listed. Bangladeshi journalists, cartoonist, arrested for COVID-19 coverage. Reporters Without Borders. May 14, 2020. <https://rsf.org/en/news/bangladeshi-journalists-cartoonist-arrested-covid-19-coverage> (accessed April 13, 2022).
- 80 Human Rights Watch. Venezuela: abusive treatment of returnees. Oct 13, 2020. <https://www.hrw.org/news/2020/10/13/venezuela-abusive-treatment-returnees> (accessed Feb 4, 2021).
- 81 Whittaker J. The issue explained: COVID restrictions and human rights. Cayman Compass. Jan 20, 2022. <https://www.caymancompass.com/2022/01/20/the-issue-explained-covid-restrictions-and-human-rights/> (accessed March 28, 2022).
- 82 Lau J. Quarantine in China: why is it so long and does science back it up? South China Morning Post. Nov 22, 2021. <https://www.scmp.com/news/china/science/article/3156796/quarantine-china-why-so-long-and-does-science-back-it> (accessed March 28, 2022).
- 83 No authors listed. COVID-19: a human rights checklist. Human Rights Watch. April 14, 2020. <https://www.hrw.org/news/2020/04/14/covid-19-human-rights-checklist> (accessed March 28, 2022).
- 84 Al Jazeera. For India's poor, lockdown policing adds to pandemic hardships. April 21, 2021. <https://www.aljazeera.com/news/2021/4/21/for-indias-poor-lockdown-policing-adds-to-pandemic-hardships> (accessed April 9, 2022).
- 85 Hinshaw D. Hungarian parliament ends controversial state of emergency. Wall Street Journal. June 17, 2020. <https://www.wsj.com/articles/hungarian-parliament-ends-controversial-state-of-emergency-11592331389> (accessed Feb 4, 2021).
- 86 The Economist. Malaysia's politics are rotten from the top. Aug 7, 2021. <https://www.economist.com/asia/2021/08/05/malysias-politics-are-rotten-from-the-top> (accessed Feb 7, 2022).
- 87 Brown RL. How COVID-19 restrictions on rallies are roiling elections in Africa. Christian Science Monitor. Aug 11, 2021. <https://www.csmonitor.com/World/Africa/2021/0811/How-COVID-19-restrictions-on-rallies-are-roiling-elections-in-Africa> (accessed March 28, 2022).
- 88 Editorial Board. El Salvador's President is using COVID-19 as an excuse to abuse his power. Washington Post. May 1, 2020. https://www.washingtonpost.com/opinions/global-opinions/el-salvadors-president-is-using-covid-19-as-an-excuse-to-abuse-his-power/2020/05/01/7941a4a4-8afd-11ea-ac8a-fe9b8088e101_story.html (accessed Feb 4, 2021).
- 89 CIVICUS Monitor. Country rating changes. <https://findings2020.monitor.civicus.org/rating-changes.html> (accessed Feb 4, 2021).
- 90 WHO. International health regulations (2005) third edition. Geneva: World Health Organization, 2006. <https://www.who.int/publications/i/item/9789241580496> (accessed Feb 4, 2021).
- 91 UN. United Nations charter. June 26, 1945. <https://www.un.org/en/charter-united-nations/> (accessed Feb 4, 2021).
- 92 Bradley J. In scramble for coronavirus supplies, rich countries push poor aside. New York Times. April 9, 2020. <https://www.nytimes.com/2020/04/09/world/coronavirus-equipment-rich-poor.html> (accessed Feb 4, 2021).
- 93 Our World in Data. Coronavirus (COVID-19) vaccinations. Feb 4, 2022. <https://ourworldindata.org/covid-vaccinations> (accessed Feb 4, 2022).
- 94 UNICEF. First COVID-19 COVAX vaccine doses administered in Africa. March 1, 2021. <https://www.unicef.org/press-releases/first-covid-19-covax-vaccine-doses-administered-africa> (accessed Sept 2, 2022).
- 95 UNICEF. COVAX: 1 billion vaccines delivered. Jan 19, 2022. <https://www.unicef.org/supply/stories/covax-1-billion-vaccines-delivered> (accessed Feb 1, 2022).
- 96 GAVI, the Vaccine Alliance. COVAX calls for urgent action to close vaccine equity gap. May 20, 2022. <https://www.gavi.org/news/media-room/covax-calls-urgent-action-close-vaccine-equity-gap> (accessed Aug 4, 2022).
- 97 Gavi, the Vaccine Alliance. COVID-19 Vaccine Global Access (COVAX) Facility. June 11, 2020. <https://www.keionline.org/wp-content/uploads/COVAX-Facility-Preliminary-technical-design-061120-vF.pdf> (accessed Feb 4, 2021).
- 98 Duke Global Health Innovation Center. Launch and scale speedometer. Feb 1, 2021. <https://launchandscalefaster.org/COVID-19> (accessed Feb 4, 2022).
- 99 Gavi, the Vaccine Alliance. COVAX board approves COVAX buffer for high-risk groups in humanitarian settings. March 23, 2021. <https://www.gavi.org/news/media-room/gavi-board-approves-covax-buffer-high-risk-groups-humanitarian-settings> (accessed Feb 1, 2022).
- 100 The Lancet. Protecting refugees during the COVID-19 pandemic. *Lancet* 2021; 397: 2309.
- 101 Farge E. Wealthy countries block COVID-19 drugs rights waiver at WTO-sources. Reuters. Nov 20, 2020. <https://www.reuters.com/article/uk-health-coronavirus-wto-idUKKBN28020X> (accessed Feb 4, 2021).
- 102 World Trade Organization. Members to continue discussion on proposal for temporary IP waiver in response to COVID-19. Dec 10, 2020. https://www.wto.org/english/news_e/news20_e/trip_10dec20_e.htm (accessed Feb 4, 2021).
- 103 World Trade Organization. Ministerial decision on the TRIPS agreement. June 17, 2022. <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/WT/MIN22/30.pdf> (accessed June 30, 2022).
- 104 WHO. WHO supporting South African consortium to establish first COVID mRNA vaccine technology transfer hub. June 21, 2021. <https://www.who.int/news/item/21-06-2021-who-supporting-south-african-consortium-to-establish-first-covid-mrna-vaccine-technology-transfer-hub> (accessed Jan 28, 2022).
- 105 WHO. WHO announces first technology recipients of mRNA vaccine hub with strong support from African and European partners. Feb 18, 2022. <https://www.who.int/news/item/18-02-2022-who-announces-first-technology-recipients-of-mrna-vaccine-hub-with-strong-support-from-african-and-european-partners/> (accessed March 18, 2022).
- 106 Barbuscia D, Shalal A. G20 to extend debt relief to mid-2021, pushes private sector to help. Reuters. Nov 22, 2020. <https://www.reuters.com/article/us-g20-saudi-debt-idUSKBN2820NJ> (accessed Feb 4, 2021).
- 107 UNAIDS. Confronting inequalities: lessons for pandemic responses from 40 years of AIDS. 2021. https://www.unaids.org/sites/default/files/media_asset/2021-global-aids-update_en.pdf (accessed Jan 27, 2022).
- 108 Financial Tracking Service. COVID-19 humanitarian response plan. <https://fts.unocha.org/appeals/952/summary> (accessed April 14, 2022).
- 109 Organisation for Economic Co-operation and Development. COVID-19 spending helped to lift foreign aid to an all-time high in 2020: detailed note. April 13, 2021. <https://www.oecd.org/dac/financing-sustainable-development/development-finance-data/ODA-2020-detailed-summary.pdf> (accessed Jan 28, 2022).
- 110 Organisation for Economic Co-operation and Development. ODA levels in 2021—preliminary data: detailed summary note. April 12, 2022. <https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/ODA-2021-summary.pdf> (accessed Aug 4, 2022).
- 111 Independent Panel for Pandemic Preparedness and Response. COVID-19: make it the last pandemic. May 2020. https://theindependentpanel.org/wp-content/uploads/2021/05/COVID-19-Make-it-the-Last-Pandemic_final.pdf (accessed May 14, 2021).
- 112 World Bank. Fact sheet: Fiduciary Intermediary Fund for Pandemic Prevention, Preparedness and Response. June 30, 2022. <https://www.worldbank.org/en/topic/pandemics/brief/factsheet-financial-intermediary-fund-for-pandemic-prevention-preparedness-and-response> (accessed Oct 7, 2022).
- 113 World Bank. A proposed Financial Intermediary Fund (FIF) for Pandemic Prevention, Preparedness and Response hosted by The World Bank. May 17, 2022. <https://thedocs.worldbank.org/en/doc/018ab1c6bd8305933661168af757737-0290032022/original/PPR-FIF-WB-White-Paper.pdf> (accessed Sept 7, 2022).
- 114 Committee on Economic, Social and Cultural Rights. Statement on the coronavirus disease (COVID-19) pandemic and economic, social and cultural rights. April 17, 2020. https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=E%2fC.12%2f2020%2f1&Lang=en (accessed May 23, 2021).
- 115 Benedek D, Gemayel E, Senhadji A, Tieman A. A post-pandemic assessment of the Sustainable Development Goals. International Monetary Fund. April 27 2021. <https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2021/04/27/A-Post-Pandemic-Assessment-of-the-Sustainable-Development-Goals-460076> (accessed Sept 5, 2022).
- 116 Nahm JM, Miller SM, Urpelainen J. G20's US\$14-trillion economic stimulus reneges on emissions pledges. *Nature*. March 2, 2022. <https://www.nature.com/articles/d41586-022-00540-6> (accessed Sept 6, 2022).

- 117 Organisation for Economic Co-operation and Development. Official development assistance (ODA). <https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/official-development-assistance.htm> (accessed Feb 24, 2022).
- 118 Morgenstern EM, Brown NM. Foreign assistance: an introduction to U.S. programs and policies. Jan 10, 2022. <https://sgp.fas.org/crs/row/R40213.pdf> (accessed Feb 24, 2022).
- 119 UN Human Rights Office of the High Commissioner. Debt relief for human rights. May 17, 2010. <https://web.archive.org/web/20210702112824/https://www.ohchr.org/EN/NewsEvents/Pages/DebtReliefForHR.aspx> (accessed Feb 3, 2022).
- 120 Oxfam, Christian Aid, Catholic Agency for Overseas Development, Jubilee Debt Campaign, Global Justice Now. Under the radar: private sector debt and coronavirus in developing countries. Oct 14, 2020. <https://oxfamilibrary.openrepository.com/bitstream/handle/10546/621063/mb-under-radar-private-sector-debt-121020-en.pdf> (accessed Feb 14, 2021).
- 121 Gladstone A. New York lawmakers float crackdown on hedge funds' sovereign-debt tactics. Wall Street Journal. February 8, 2021. <https://www.wsj.com/articles/new-york-lawmakers-float-crackdown-on-hedge-funds-sovereign-debt-tactics-11612780201> (accessed Feb 12, 2021).
- 122 UN General Assembly. Comprehensive and coordinated response to the coronavirus disease (COVID-19) pandemic. Sept 11, 2020. <https://undocs.org/en/A/RES/74/306> (accessed Feb 11, 2022).
- 123 UNICEF. COVID-19: are children able to continue learning during school closures? August, 2020. <https://data.unicef.org/resources/remote-learning-reachability-factsheet/> (accessed March 2, 2021).
- 124 UN General Assembly. Women and girls and the response to the coronavirus disease (COVID-19). Dec 23, 2020. <https://undocs.org/en/A/RES/75/157> (accessed Feb 11, 2022).
- 125 UN Central Emergency Response Fund. Contributions. <https://cerf.un.org/our-donors/contributions> (accessed Feb 14, 2021).
- 126 UN Central Emergency Response Fund. Who we are. <https://cerf.un.org/about-us/who-we-are> (accessed Feb 14, 2021).
- 127 ACT-A Facilitation Council Financial and Resource Mobilization Working Group. Consolidated financing framework for ACT-A agency & in-country needs, October 2021 to September 2022. 2022. https://www.who.int/docs/default-source/coronaviruse/act-accelerator-financing-framework_14-feb-2022_web.pdf (accessed July 5, 2022).
- 128 WHO. Access to COVID-19 tools funding commitment tracker. June 27, 2022. <https://www.who.int/publications/m/item/access-to-covid-19-tools-tracker> (accessed Sept 4, 2022).
- 129 WHO. ACT-Accelerator transition plan (01 Oct 2022 to 31 Mar 2023). Oct 28, 2022. [https://www.who.int/publications/m/item/act-accelerator-transition-plan-\(1-oct-2022-to-31-mar-2023\)](https://www.who.int/publications/m/item/act-accelerator-transition-plan-(1-oct-2022-to-31-mar-2023)) (accessed Nov 3, 2022).
- 130 ACT-Accelerator. ACT-A transition. <https://www.act-a.org/transition> (accessed Nov 3, 2022).
- 131 Gavi, the Vaccine Alliance. Gavi board responds to an uncertain world: fragile and conflict settings, future pandemics and the ongoing fight against COVID-19. June 24, 2022. <https://www.gavi.org/news/media-room/gavi-board-responds-uncertain-world-fragile-conflict-settings-future-pandemics> (accessed July 5, 2022).
- 132 CEPI, Gavi, the Vaccine Alliance, UNICEF, WHO. COVAX global supply forecast. Dec 14, 2021. <https://www.gavi.org/sites/default/files/covid/covax/COVAX-Supply-Forecast.pdf> (accessed Jan 29, 2022).
- 133 Gavi, the Vaccine Alliance's Office of the COVAX Facility. COVAX data brief. Sept 23, 2022. https://www.gavi.org/sites/default/files/covid/covax/COVAX-data-brief_13.pdf (accessed Oct 12, 2022).
- 134 Herper M. Moderna turns to biotech startup to ramp up Covid vaccine manufacturing. STAT. Sept 8, 2021. <https://www.statnews.com/2021/09/08/moderna-turns-to-biotech-startup-to-ramp-up-covid-vaccine-manufacturing/> (accessed Feb 2, 2022).
- 135 Erman M, Mishra M. Pfizer expects 2021, 2022 COVID-19 vaccine sales to total at least \$65 bn. Reuters. Nov 2, 2021. <https://www.reuters.com/business/healthcare-pharmaceuticals/pfizer-raises-covid-19-vaccine-sales-forecast-36-billion-2021-11-02/> (accessed Feb 2, 2022).
- 136 No authors listed. WHO to G20 health ministers: meet COVID-19 pledges, support regional vaccine manufacturing. UN News. Sept 5, 2021. <https://news.un.org/en/story/2021/09/1099212> (accessed Feb 11, 2022).
- 137 WHO. Call for expression of interest to: contribute to the establishment of a COVID-19 mRNA technology transfer hub. April 16, 2021. <https://www.who.int/news-room/articles-detail/call-for-expression-of-interest-to-contribute-to-the-establishment-of-a-covid-19-mrna-vaccine-technology-transfer-hub> (accessed Feb 11, 2022).
- 138 Mandavilli A. The Covid vaccine we need now may not be a shot. New York Times. Feb 3, 2022. <https://www.nytimes.com/2022/02/02/health/covid-vaccine-nasal.html> (accessed Feb 3, 2022).
- 139 Nolan S. Here's why developing countries can make mRNA Covid vaccines. New York Times. Oct 22, 2021. <https://www.nytimes.com/interactive/2021/10/22/science/developing-country-covid-vaccines.html> (accessed Feb 2, 2022).
- 140 Stark V. Africa's first COVID-19 mRNA vaccine produced. Voice of America. Feb 4, 2022. <https://www.voanews.com/a/africa-s-first-mrna-covid-19-vaccine-produced-/6426738.html> (accessed February 4, 2022).
- 141 Mahr K. Moderna says that it will "never" enforce Covid-19 patent in dozens of low- and middle-income countries. Politico. March 7, 2022. <https://www.politico.com/news/2022/03/07/moderna-never-enforce-covid-vaccine-patents-low-income-countries-00014874> (accessed March 9, 2022).
- 142 Baker B. Moderna's Global Health Access Strategy: parsing the hype and shameful access gaps. Health Gap. March 8, 2022. <https://healthgap.org/modernas-global-public-health-strategy-parsing-the-hype-and-shameful-access-gaps/> (accessed March 9, 2022).
- 143 No authors listed. Pfizer and BioNTech announce collaboration with Brazil's Eurofarma to manufacture COVID-19 vaccine doses for Latin America. Business Wire. Aug 26, 2021. <https://www.businesswire.com/news/home/20210826005385/en/> (accessed Feb 2, 2022).
- 144 Khandekar A, Obulutsa G, Osmond E. Moderna to build mRNA vaccine manufacturing facility in Kenya. March 8, 2022. <https://www.reuters.com/business/healthcare-pharmaceuticals/moderna-build-mrna-vaccine-manufacturing-facility-kenya-2022-03-07/> (accessed Sept 6, 2022).
- 145 COVAX Readiness and Delivery Working Group on Delivery Costing. Costs and predicted financing gap to deliver COVID-19 vaccines in 133 low- and middle-income countries. Jan 10, 2022. <https://www.unicef.org/media/114216/file/Costs-and-Predicted-Financing-Gap-to-Deliver-COVID-19-Vaccines-in-133-Low-and-Middle-Income-Countries.pdf> (accessed Feb 2, 2022).
- 146 Stolberg SG. Seeking Covid pills, fearing the same old outcome. New York Times. May 8, 2022. <https://www.nytimes.com/2022/05/08/us/politics/covid-pills-global-aids-hiv.html> (accessed May 9, 2022).
- 147 The People's Vaccine. The people's vaccine. <https://peoplesvaccine.org> (accessed Feb 11, 2021).
- 148 Emanuel EJ, Persad G, Kern A, et al. An ethical framework for global vaccine allocation. *Science* 2020; **369**: 1309–12.
- 149 Dave RK. COVID-19 "Global Stockpile for Health Emergency Response (GSHER)" – a conceptual framework. 2020. https://www.academia.edu/42645401/COVID_19_Global_Stockpile_for_Health_Emergency_Response_GSHER_A_conceptual_Framework (accessed Feb 11, 2021).
- 150 Sustainable Health Equity Movement Human Rights and Equity Working Group. Statement and call to action of the Sustainable Health Equity Movement's Human Rights and Equity Working Group. June, 2022. <https://www.sustainablehealthequity.org/human-rights-and-equity> (accessed July 6, 2022).
- 151 UN Economic and Social Council. Siracusa Principles on the Limitation and Derogation Provisions in the International Covenant on Civil and Political Rights. Sept 28, 1984. <https://www.refworld.org/docid/4672bc122.html> (accessed Feb 12, 2021).
- 152 Haynes LK, Friedman EA, Bertscher A, Xu J, Galvao L. Addressing inequity and advancing the right to health to strengthen pandemic prevention, preparedness, and response. Framework Convention on Global Health Alliance 2021. <https://fcghalliance.org/wp-content/uploads/2021/11/FCGHAlliance-advancing-the-right-to-health-for-pandemic-prevention-preparedness-and-response.pdf> (accessed Feb 4, 2022).
- 153 Gostin LO, Friedman EA, Dueck L. The world needs a post-pandemic health treaty with teeth. Foreign Policy. April 5, 2021. <https://foreignpolicy.com/2021/04/05/who-un-pandemic-treaty-health-regulations/> (accessed Feb 4, 2022).

- 154 Bollyky TJ, Hulland EN, Barber RM, et al. Pandemic preparedness and COVID-19: an exploratory analysis of infection and fatality rates, and contextual factors associated with preparedness in 177 countries, from Jan 1, 2020, to Sept 30, 2021. *Lancet* 2022; **399**: 1489–512.
- 155 Gostin LO. *Global health security: a blueprint for the future*. Boston, MA: Harvard University Press, 2021.
- 156 Friedman EA, Hevia M. On the framework convention on global health. *Think Global Health*. Aug 25, 2020. <https://www.thinkglobalhealth.org/article/framework-convention-global-health> (accessed Feb 14, 2021).
- 157 The Framework Convention on Global Health Alliance. *The Framework Convention on Global Health: a legal foundation for sustainable health equity*. October, 2020. <https://fcghalliance.org/wp-content/uploads/2021/01/FCGH-briefing-paper-11-6-20.pdf> (accessed Feb 14, 2021).
- 158 Gostin LO, Friedman EA. Imagining global health with justice: transformative ideas for health and well-being while leaving no one behind. *Georgetown Law Journal* 2020; **108**: 1535–606.
- 159 O’Neill Institute for National and Global Health Law. *Health equity programs of action*. <https://oneill.law.georgetown.edu/projects/tuberculosis-law-and-human-rights-project/health-equity-programs-of-action/> (accessed Feb 14, 2021).
- 160 Friedman EA, Gostin LO, Kavanagh MM, et al. Putting health equity at heart of universal coverage—the need for national programmes of action. *BMJ* 2019; **367**: 15901.
- 161 Friedman EA, Gostin LO, Maleche A, et al. Global health in the age of COVID-19: responsive health systems through a right to health fund. *Health Hum Rights* 2020; **22**: 199–207.

Copyright © 2022 Elsevier Ltd. All rights reserved.