The world is experiencing a once-in-a-lifetime pandemic, causing untold human suffering and death, unraveling of social relationships, and robbing individuals of livelihoods and countries of prosperity. The coronavirus pandemic has strained health systems, revealed unconscionable inequalities, and upended international institutions. Here are 7 critical lessons.

First, Build Resilient Health Systems

The most important element of pandemic preparedness is a resilient health system to rapidly detect, assess, report, and respond to novel outbreaks. The International Health Regulations, which govern pandemic response, require all countries to have core health system capacities, including surveillance, laboratories, human resources, and risk communication. Health systems also need capacity to test for, diagnose, and treat infectious diseases.

Although high-income countries have robust health systems, they often lacked sufficient capacity to treat large numbers of patients with coronavirus disease 2019 (COVID-19) or to protect health workers from infection. In the US, hospitals and governors had to compete for access to ventilators and personal protective equipment. Resilient health systems require surge capacity to cope with health emergencies in the event hospitals become overrun.

Second, Leadership and Public Trust Are the Single Greatest Indicator of Success

Although health systems are important, COVID-19 demonstrated that even countries with strong capacities often performed badly. The Global Health Security Index, for example, ranked the US first in the world for pandemic preparedness. Yet, as of August 12, the US had reported more than 5 million cases, the most COVID-19 cases and deaths globally—2 million more than Brazil, which was second, and far ahead of the more than 300 000 cases in each of the 2 hardest hit European nations, Spain and the United Kingdom. The coronavirus pandemic teaches that leadership is crucial.

Perhaps the single greatest indicator of success in responding to COVID-19 has been whether governments gain the public's trust. Population-based health behaviors—handwashing and other aspects of personal hygiene, physical distancing, and face coverings—can significantly reduce community spread.

Third, Defend the Integrity of Science and Public Health Agencies

Science has enabled societies to understand the virus, its modes of transmission, and most effective public health interventions. Within weeks of reports of a cluster of atypical pneumonia cases in Wuhan, China, scientists had sequenced the virus. Epidemiological studies subsequently determined severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection was transmitted person to person, including by asymptomatic individuals. Further research showed that personal hygiene, physical distancing, and face coverings were effective nontherapeutic interventions. Research laboratories rapidly developed viral and antibody testing technologies. There is promising scientific research into effective vaccines and therapeutics. Within 6 months, 6 vaccine candidates were in
Despite remarkable, albeit incomplete, scientific discovery, populist political leaders have sown doubt about the value of science and have undermined public health agencies. In Brazil and the US, for example, political leaders have publicly recommended COVID-19 treatments that their own agencies have not approved, such as hydroxychloroquine. President Trump publicly criticized US Centers for Disease Control and Prevention guidelines for reopening schools. If political leaders fail to implement evidence-based policies or to convey consistent messages based on science, the COVID-19 response will be suboptimal.

Fourth, Invest in Biomedical Research and Development

The integrity of science is necessary but insufficient. Governments must sustainably invest in biomedical research and development, not just during a health crisis but also during interpandemic periods. After the West Africa Ebola epidemic, the Commission on a Global Health Risk Framework for the Future recommended an incremental increase of $1 billion per year to accelerate research and development for innovative medical technologies. Even $1 billion annually is far too low given the economic devastation of the pandemic, with the World Bank projecting a 5.2% contraction in global GDP in 2020. A World Health Organization (WHO) initiative, the R&D Blueprint for COVID-19, shows the vast undertaking needed to develop safe and effective therapeutics and vaccines.

Fifth, Focus on Equity: The Prevailing Narrative of This Age

Even before the coronavirus pandemic, social, economic, and health inequities became the prevailing global narrative. Yet, COVID-19 amplified long-standing systemic inequalities, including access to health care. SARS-CoV-2 infections and COVID-19 deaths disproportionately affected racial minorities including Black, Hispanic, and Native American individuals. Many lower-paid workers, such as those in grocery stores, meatpacking plants, and truck drivers, were exposed to individuals with SARS-CoV-2 infection.

Also, although many white-collar professionals could work remotely with a secure income, lower-income US workers lost their jobs, with many facing evictions. US unemployment rose from 3.8% in February to 13.0% in May. Infectious diseases should affect populations similarly, but COVID-19 demonstrated that the poor, less educated, and racial minorities are disproportionately affected. It is unsurprising that the Black Lives Matter protests coincided with the COVID-19 pandemic. Populations everywhere are expressing anger with enduring health, social, and economic injustices.

Sixth, Adopt Evidence-Based Laws: Safeguard the Rule of Law

State laws have long authorized public health powers to test, trace, isolate, and quarantine. These traditional powers can be expanded in declared emergencies. Public health laws are narrow and measured, requiring individual assessments of risk. Yet, the COVID-19 response has gone beyond anything seen since the 1918-1919 influenza pandemic. It was previously unimaginable that the government could lock down an entire city the size of New York or Los Angeles. Yet, in April, more than half of all US residents were under stay-at-home orders. Mayors and governors closed down all nonessential businesses. Currently, nearly half the states have imposed interstate travel restrictions requiring travelers to self-quarantine for 14 days.

These sweeping powers have not been definitively tested. The US Supreme Court has ruled on COVID-19–related cases in relation to voting and religious freedom, but it has not yet opined on the liberty-limiting regulations imposed during the COVID-19 response. Responding to expansions of political power in countries like Russia, Turkey, and Hungary, the United Nations launched a Rule of Law project on COVID-19. Emergency health powers should be based on evidence and used only
when there are no less restrictive alternatives. Usurpation of power under the pretext of a health crisis threatens to erode democratic freedoms, which can endure even after the crisis ends.

Seventh, Fund and Support Robust Global Institutions: We Are in This Together

A once-in-a-lifetime threat that all the world shares in common should bring people and nations together. Yet the COVID-19 pandemic has frayed international relations. In the midst of a historic pandemic, 2 superpowers—China and the US—blamed one another, even at the World Health Assembly. In July, President Trump notified the UN General Secretary the US would withdraw from the WHO.

Yet, there are also hopeful signs of international cooperation. Public and private partners joined with the WHO to launch the Access to COVID-19 Tools (ACT) Accelerator, a global collaboration to accelerate research and development, production, and equitable access to COVID-19 tests, treatments, and vaccines. COVAX—a partnership between Gavi, the Coalition for Epidemic Preparedness Innovations, and the WHO—is the vaccine arm of ACT, designed to facilitate the discovery of COVID-19 vaccines and guarantee fair and equitable global access.

Governments and international institutions have clear choices on how best to respond to COVID-19 and to prepare for future pandemics. Choosing science, the rule of law, and equity as core values would be transformational. Building universal health systems would not only prepare countries for epidemic response, it would also vastly improve the health and well-being for all people, across the full spectrum of health threats faced by humankind.

ARTICLE INFORMATION

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