

## Commentary

## One Year in: Lessons from China's Fight Against COVID-19

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Since emerging one year ago, coronavirus disease 2019 (COVID-19) has inflicted tremendous suffering on mankind and has devastated the global economy. China was the first country affected by the pandemic and promptly warned the world about this novel coronavirus on January 24, 2020 (1). Despite China's efforts to contain the initial outbreak, COVID-19 continues to rampage around the globe, claiming millions of lives in the process. Nevertheless, China's success in limiting the damage inflicted by COVID-19 on its people offers lessons for effective epidemic control and response, both with respect to the ongoing pandemic and future outbreaks of known and unknown epidemic threats.

The Chinese people responded to COVID-19 with solidarity and resilience. They have waged an epic fight against the pandemic, implementing a comprehensive and stringent set of non-pharmaceutical interventions to curb the disease. For example, Wuhan initiated lockdown immediately after health officials announced human-to-human transmission (2). In the early stage of the pandemic, China also extended the Chinese Lunar New Year holiday, using this time to impose many social distancing measures, such as school and workplace closures and discouragement of mass gatherings (3). Implementation of this "outbreak-control holiday" substantially dampened COVID-19's epidemic spread and bought time to research the new virus, build physical infrastructure, organize medical supplies, and deploy human resources required for long-term epidemic control (4). Fangcang shelter hospitals were also built to isolate, treat, and monitor mild cases, representing an entirely novel concept in humanity's long history of fighting against infectious diseases (5). Following China's lead, many other countries adopted a strategy of facility-based isolation of mild cases (6–7). Taken together, China's multipronged approach of social distancing measures, mass testing, effective contact tracing, quarantine of suspected cases and close contacts, facility-based isolation of all confirmed cases (including asymptomatic and mild ones), and community outreach and health education collectively fueled the

successful containment of its national epidemic, saving many lives and minimizing economic harms (8–9).

The COVID-19 pandemic has triggered many changes in the global geopolitical situation and outlook. First, the pandemic has created an uncertain and potentially volatile state of affairs with respect to economic development both in China and internationally. With the virus lingering, some harbor concerns over rising protectionism and the potential for global economic downturn. Yet, increasingly, forceful calls have also emerged for solidarity, collaboration, and multilateralism. Second, the pandemic has demonstrated the importance of quality medical care for ensuring human health, economic development and wellbeing, and social stability and security. As such, it is crucial to establish an efficient system for promoting high-quality public health research and innovation in medical science and technology. Third, the pandemic has altered many people's perception and behaviors in ways that are likely to persist in the long run. In the future, people may maintain social distancing, reduce unnecessary social contact, and pursue new ways to work and shop remotely, which will in turn boost the development of the digital economy.

Looking forward, China and the global community also continue to face much uncertainty with respect to the course of the COVID-19 pandemic itself. The virus that causes COVID-19 has been mutating, and we will likely see more mutations that could lead to changes in infectivity, incubation period, transmissibility, pathogenicity, duration of viral shedding, and antigenicity in the future (10–11). We may need to tailor our non-pharmaceutical and pharmaceutical interventions to new variants and constantly be alert and responsive to the ongoing pandemic. Under this uncertainty, it is crucial that our surveillance systems, policy decisions, and interventions remain based on science and professionalism.

The COVID-19 pandemic will not be the last pandemic and humans would do well to reflect on and draw lessons from the current moment in order to

better respond to future infectious disease threats. We need to increase investment in healthcare, promote innovation in medical science and technology through efficient research and development mechanisms, improve our relationship with the environment by addressing issues such as climate change, and make an all-out effort to achieve the United Nations Sustainable Development Goals. Accomplishing these aims will ultimately provide future generations with a healthier and safer world.

doi: [10.46234/ccdcw2021.033](https://doi.org/10.46234/ccdcw2021.033)

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Submitted: January 29, 2021; Accepted: February 01, 2021

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