

Editorial

The COVID-19 End-Game?

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DOI:10.37821/ruhsjhs.7.3.2022.458



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Over the past 30 months of COVID-19 pandemic, we have commissioned several editorials and commentaries highlighting this disease in our Journal.¹⁻¹¹ The scope of these articles range from description of the *SARS-CoV-2* virus,¹ development of vaccines and their deployment,^{3,7,9} structural interventions to mitigate the epidemic,^{4,5} and a look into the future with lessons learnt from the pandemic relevant for our state and the country.^{2,8} Faculty of the university affiliated hospital has also spearheaded number of publications in national and international journals of repute using the patient-specific registry data.¹²⁻¹⁶ One of the articles has highlighted greater mortality among the low socioeconomic patients suffering from COVID-19 due to delayed presentation (*BMJ Open*);¹⁵ while another has reported significantly higher in hospital mortality in individuals with cardiovascular risk factors such as hypertension and diabetes (*PLoS Global Health*).¹⁶

It was predicted that once a high level of vaccination is achieved globally, and in India, the epidemic would abate.¹⁷ Unfortunately, this has not happened and there are marked country-level geographic and socioeconomic differences in vaccination deployment as well the status of the pandemic.¹⁸ The more developed countries have achieved more than 80% primary and booster vaccination while low-income countries in Africa and Asia stagnate at less than 10%.^{18,19} This inequity is a global concern and international collaborative efforts are being made to improve the situation.¹⁹ The pandemic continues to spread with emergence of the virus variants which are more communicable with greater vaccination escape albeit with slightly reduced virulence.²⁰ An important consequence of the pandemic has been the deterioration of routine health services and childhood vaccinations leading to excess non-COVID related deaths in most countries.²¹

The flip side of the pandemic is rapid implementation of lessons from the pandemic to improve health care facilities

with better services and surveillance for the future.^{8,22} A few learnings from the COVID-19 pandemic relevant to India have been reported earlier.⁸ These include universal vaccination at worldwide scale, creation of infrastructure to support surveillance for new *SARS CoV-2* variants, establishment of permanent surveillance units for early identification of similar virological illnesses, creation of primary care as centre-of-excellence in infectious disease epidemiology and primary management, specialised clinics for management of Long COVID syndrome, deployment of a plan for future surges of COVID-19, drug development and therapeutic research, indoor and outdoor pollution control, strategies for social engineering, and identification of post-COVID era as a new normal for healthcare. A new Lancet Commission report²² has reported regarding failures of international cooperation for deployment of COVID-19 control strategies and has highlighted the following gaps:

- Lack of timely notification of the initial outbreak of COVID-19;
- Delays in acknowledging the airborne exposure and transmission of *SARS-CoV-2*;
- Slow implementation of appropriate measures at national and global levels to decrease spread of the virus;
- Lack of coordination among countries regarding suppression strategies;
- Failure of governments to rapidly examine evidence and adopt best practices for controlling the pandemic and managing socioeconomic consequences;
- Shortfall of global funding for low-income and lower-middle income countries;
- Failure to ensure adequate global supplies and equitable distribution of commodities including protective gear, diagnostics, medicines, medical devices, and vaccines;
- Lack of timely, accurate, and systematic data on infection, deaths, viral variants, health system responses and indirect health consequences;

- Poor enforcement of appropriate biosafety regulations;
- Failure to combat systemic disinformation; and
- Lack of global and national safety nets to protect vulnerable populations.

In context of the COVID-19 pandemic, the Commission has identified varying policy responses ranging from strict quarantine in China, suppression strategies in the Western Pacific region, flatten-the-curve policies in the Americas and Europe, epidemic denial in Sub-Saharan Africa, and a mixture of all these in South and Southeast Asia.²² Premature lifting of public health and social measures combined with widespread political ineffectiveness in some regions and disinformation by the social media have also been implicated for persistence of the epidemic.

The commission has provided solutions for the future so that the gaps in healthcare delivery are minimised. These recommendations include (a) policy recommendations focussed specifically on multilateral cooperation led by the United Nations and WHO institutions to address global health crises; (b) increased investments for creating preparedness to tackle future health crises through strong national health systems; and (c) greater international financing and technology cooperation with low and lower-middle income countries to forestall the next pandemic, promote sustainable development, and protect human rights.²² The interventions suggested for better future preparedness are:²²

- Intensified investigation into origins of the viruses;
- Maintaining WHO as the lead institution for response to emerging infectious diseases;
- Establish a global pandemic agreement and strengthen the international health capacities;
- Reform of WHO governance;
- Regulations for the prevention of pandemics from natural spill-overs and research-related activities and for investigating their origins;
- G-20 nations' support for financing and development of research capacities of emerging epidemics;
- Creation and strengthening of production capacities of low and lower-middle income countries;
- Strengthening of national health systems by increasing investments in primary and public health, and development of national pandemic preparedness plans; and
- Creation of a global health fund for sustainable development and a green recovery.

All these measures provide important learnings and the way forward for India and other lower-middle income countries. However, given the low public investments for health in our country it is imperative that we start a dialogue on future of healthcare in India.²³ Apart from greater focus on high-quality universally-available primary health services, there must be a rethink on inclusion of both communicable and non-communicable conditions in the public health services in primary care in both rural and urban regions of the country, as envisaged in the National Health Policy.²⁴ The greatest contribution of COVID-19 pandemic shall be achieved when there are policy initiatives towards total revamping of public health, primary healthcare, and secondary healthcare services to promote the stated political vision of universal high-quality healthcare for all.

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