

SARS-CoV-2 (COVID-19) and the Lessons Learned from Global Pandemic

The COVID-19 pandemic has had profound health, economic, educational, and social implications globally. As of August 20, 2021, the WHO has reported just under 210 million cases and more than 4.4 million deaths from COVID-19, since the declaration of the pandemic on March 11, 2020. About 40% of the infections were in the Americas, 31% in Europe, 20% in South East Asia, 7% in Eastern Mediterranean, 2.8% in Western Pacific, and 0.3% in Africa.

The pandemic now affects more than 220 countries and territories globally. The top three countries that have had the highest number of COVID-19 reported cumulatively are the USA (37 million; 620K), India (32 million; 434K), and Brazil (20.5 million; 571K) cases and deaths, respectively.^[1] Within India, the states of Maharashtra, Kerala, and Karnataka reported the highest cases and deaths.

About 5039.8 million doses of vaccines have been administered globally by August 24, 2021. In India, a total of 588.7 million doses have been administered, with 9.8% population fully vaccinated compared with 52% in the USA and 26.6% in Brazil.^[2]

The pandemic is not yet over, with globally 651K cases and 8.6K deaths being reported in the last 24 h on August 22, according to the WHO dashboard. One of the concerns is the spread of the COVID-19 variants – both variants of concern (VOCs) and variants of interest (VOIs) – which has been one of the causes of such global widespread of cases and devastating death counts. The alpha variant is now prevalent in 123 countries and the delta variant in 111 countries.

All health agencies and governments were aware that a pandemic was expected at some point. While some heroic efforts were made by frontline workers supported by wartime community spirit, many governments and agencies found themselves in a reactive mode rather than a proactive planned state. In this situation, the structural and historic health inequalities resulted in worldwide and within-country inequalities in the impact of COVID-19. One of the key lessons learned in this pandemic is that mitigation plans to reduce inequalities have to be built in any reactive or proactive plan. The consequence of not doing so has a devastating impact on

those who are already vulnerable and disadvantaged which is morally and ethically unacceptable.

INEQUALITIES IN SARS-CoV-2 (COVID-19)

Some population groups have been badly affected globally. Apart from those that were elderly and had known comorbidities, health-care workers (HCWs) and Black and ethnic minority groups (BAME) had both higher incidence and mortality rates at the beginning of the pandemic. Epidemiological data from European countries suggest that HCWs may account for 9%–26% of those infected during March and April 2020. Based on the WHO Case Report Form data, it is estimated that at the initial stages of the pandemic, between mid-March 2020 and mid-May 2020, HCWs had more than triple the risk of infection compared to the general population. An observational cohort study conducted in the UK and the US, reported a similarly high level of relative risk.

In the UK, the British Medical Association estimates that during early 2020, BAME HCWs were disproportionately affected. Almost 21% of all HCW staff are BAME, but 63% of HCWs who died were BAME. Twenty percent of nursing staff are BAME, but 64% of nurses who died were BAME. Forty-four of medical staff are BAME, but 95% of doctors who died were BAME.^[3] HCWs are at the forefront of the fight against the deadly SARS-CoV-2 virus, and the Indian Medical association states that 1492 modern medicine doctors died in service to the nation in the COVID-19 pandemic. Evidence shows that the pandemic has disproportionately affected women and girls. Globally, pandemic response has hampered women's access to sexual and reproductive health, violence against women has increased as an unintended consequence of stay-at-home orders, and people and children at home meant that the burden of unpaid care and domestic work increased for women and girls.^[4] Women make about 70% of the global health workforce and have been exposed to a higher risk of COVID-19 infection as frontline workers and not having PPE designed for women's bodies.^[5] These female frontline workers

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also suffered stigma from being exposed to COVID-19, increased mental stress and exhaustion, and secondary impacts such as loss of earnings and livelihood. Data from surveys conducted in India indicate similar experiences – lack of access to reproductive health services, hindered menstrual hygiene, and rising instances of gender-based violence.^[6]

Even though most of the attention has been focused on adults, we must not forget the devastating effect the COVID-19 pandemic has had on children globally. Despite children being considered to be at lower risk of mortality than adults, children are still being suffering from milder, postinfectious manifestations of COVID-19 such as postinfection multisystem inflammatory syndrome and also respiratory difficulties. The long-term effects of COVID are also still unraveling. Meantime, we must not forget the other alarming and secondary impacts on children's physical and mental health, social protection, education, and impact of the illness on their carers. Many children have been infected and affected by the virus itself, many were left isolated from their families and peers when schools closed, others have lost access to education, and many have gone hungry and continue to do so.

VACCINE INEQUALITIES

Despite the harsh lockdown and strict measures, India became one of the worst affected countries by June 2020, and the number of COVID-19 cases started increasing to peak by September/October 2020. True to its reputation as the world's largest vaccine manufacturer, India started its production of two types of vaccine, and began vaccinating HCWs since January 2021. In spite of various hiccups, seven million have been administered till August 24.^[7]

In the UK, it is clear that social distancing, handwashing, and mask wearing have been important measures in controlling COVID-19 transmission and that vaccination, prioritized to those at the highest risk of mortality and morbidity, has significantly reduced the risk of hospitalizations and death.

Globally, the situation is less good, as many countries have not been able to offer vaccination to the majority of their population. The risk of a new variant of concerns emerging from these countries with high levels of disease remains significant and indicates the importance of border controls to help prevent the importation of disease. The UK is currently in the third wave; cases are rising almost entirely due to the delta variant (previously called the Indian variant). However, mainly due to the protection afforded by vaccination, the link between cases and hospitalizations has been changed to the benefit of the population. Being double vaccinated offers a high degree of protection from being hospitalized.

Now UK has entered a new phase in the epidemic by announcing the full freedom and end of legal controls on July 19. The possible implications are already seen and likely to get worse. Nonetheless, modeling shows that there remains a risk in the UK of very high case numbers in the third wave

translating into significant numbers of hospitalizations and deaths. For this reason, the English government delayed its initial Freedom Day (June 21) by 4 weeks to allow the following three prudent policy objectives to be enacted – (i) to reduce vaccine hesitancy, especially in the BAME communities; (ii) to have offered two vaccinations to all aged over 40 years by July 19 (80%); and (iii) to have offered one vaccination to all aged over 18 years by July 19 (85.6%).^[8,9]

CURRENT AND FUTURE IMPACT

While vaccination programs are progressing to different degrees, the pandemic is not yet over with ongoing transmission in community in many countries. However, as governments remove social restrictions, it is important that we work to a new normal, which includes taking steps to limit the transmission and stepping up surveillance.

The long-term impacts of financial stress, educational loss, mental health impairment in long COVID and the backlog of delayed detection, care and management of long-term conditions and the structural inequalities are key factors that global and national recovery plans need to build in. Recovery is everybody's business and responsibility.

For India, the recovery policy to build back better may be better placed after learning lessons by commissioning external.

- Review of the roles and responsibilities and statutory duties of central, state, and district governments during normal and public health emergencies
- Review of regulations and quality standards including license to practice for all health-care providers and professionals
- Review of public health surveillance systems and coordination
- Review of the code of practice of media and providers of social media apps and platforms
- Mapping of supply chains across the country
- A counterfeit and hoarding surveillance and enforcement system
- Mapping and role of voluntary and community sector
- Review of structural inequalities due to access to good quality educational, housing, and employment opportunities.

This review should include a strong element of community engagement and behavioral insights considering communities which were most disadvantaged based on socioeconomic conditions, health status (sensory, physical, and learning disability), and rural/urban geographies and independent of caste, tribal, or state/political influences.

In summary, there are still a lot of unknowns:

1. COVID-19 is a new disease which can spread asymptomatically (like colds and flu)
2. Like other coronaviruses, new strains and mutations evolve continually

3. Vaccines against current strains have been shown to reduce transmission and severe illness, but the duration of vaccine effectiveness/immunity is unknown and their effectiveness against new strains has not been proven
4. The impact of infection ranges from none to mild-to-severe symptoms. Death occurs in about 2.7% of the population
5. The risk of severe disease is influenced by age (older), underlying conditions, and ethnicity
6. “Long COVID” occurs in some cases, but it is not known what factors in those affected will predispose to this.

FREEDOM COMES WITH RESPONSIBILITIES – POLICY IDEAS

Based on what we know of COVID-19 to date and responses to similar illnesses, it may be that we pursue the following approach and focus on reducing the risk of severe infection or death.

1. Promote vaccination in all age groups to ensure herd immunity (model based on childhood vaccination program for measles and for annual flu vaccination program)
2. General infection control advice to the population – coughs and sneezes spread diseases – stay away from people if you feel ill, cover your face and mouth if coughing or sneezing, wash hands regularly, and clean surfaces and work/public areas regularly. Increase ventilation and spacing in public transport/public areas
3. On notification of COVID-19 infection, investigate case for source and collate data on contacts
4. Risk assess contacts – fully vaccinated or not? If yes – daily testing for 10 days but no isolation. If test positive, isolate for 10 days from posttest. Send support advice. If not – isolate, advise re symptoms, daily testing, encourage vaccination. If test pos – isolate for 10 days from posttest. Send support advice
5. If increased vulnerability among older, pregnant, reduced immune system, some ethnic groups
6. Vulnerable settings – care home, HC facility, residential homes, and prisons – incident management team to review risk (infection spread and vaccination) and consider testing regime (model care home outbreaks)

Sushma Acquilla¹, Bharat Sibal², Heema Shukla³, Suzanna Mathews⁴, Gurpreet Kaur Rai⁵, Monica Laxhanpaul⁶

¹International Advisory Board Member, IJPH; Adjunct Professor PHFI/IIPH, Consultant in Public Health and Chair India Special Interest Group (SIG) Faculty of Public Health, ²Consultant in Communicable Disease Control (CCDC) PHE, ³Managing Director, Global Health Capacity Limited, ⁴Consultant in Public Health, ⁵MFPH; Consultant in Public Health, ⁶MFPH Prof Integrated Child Health, Members of India Special Interest Group, UK Faculty of Public Health (FPH), United Kingdom
E-mail: sdacquilla@btconnect.com

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