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Vaccine distribution exacerbates the social divide

The COVID-19 pandemic has found health systems coming under substantially increased pressure globally. The pressure is widespread including staffing, supplies, bed numbers, availability of intensive care, and provision of ventilation. In February 2021, for example, the World Health Organization (WHO) pointed out that demand for oxygen for infected patients had been “constrained prior to COVID-19 and has been exacerbated by the pandemic” [1]. Although the strain on health systems has been extensive, capacity to prevent even more devastating impact of the disease and death to less fortunate individuals and those in poorer countries has been greatest.

Discovery and introduction of vaccines for COVID-19 is a sign of global cooperation, collaboration, and reflects decades of scientific research. As an attempt to ensure equitable access to COVID-19 vaccines, the World Health Organization (WHO) along with GAVI, the vaccine alliance, and the Coalitional for Epidemic Preparedness and Innovation (CEPI), along with key delivery partner UNICEF established COVAX to ensure an equitable supply of vaccines across the world. The COVAX website emblazons “Working for global equitable access to COVID-19 vaccines” and states that “with a fast moving pandemic, no-one is safe, unless everyone is safe”[2]. The aim of COVAX is to substantially increase production of suitable vaccines for fair and equitable distribution.

Despite global efforts and extensive advance marketing agreements through COVAX, the distribution of COVID-19 vaccines has clearly displayed the impact on the fortunate over the less fortunate. As at the start of October 2021, less than 5% of

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populations in low-income countries had received even one dose COVID-19 vaccine [3]. Global vaccine distribution patterns have highlighted what public health experts have been arguing for decades—that the most important factors in health outcomes are socially and economically determined [4]. Whether within nations or between them, the availability of vaccines has favoured the privileged.

The impact of the pandemic may be viewed through the lens of the *Global Charter for the Public's Health*. Protection, prevention, and health promotion are key elements supported by good governance, accurate information, capacity building, and advocacy. In 2016 the World Federation of Public Health Associations released this framework seeking to enhance resilience of public health systems internationally and warned “the current situation consists of fragmented, variable and incomplete public health services and functions, with little common understanding of what a good public health service should look like”. In attempting to build resilience in the public health system, one of the objectives was to “ensure a comprehensive approach to tackling the threats to health everywhere”[5]. The COVID-19 pandemic has revealed the extent to which public health systems internationally lack resilience and their inability to respond internationally to this public health crisis. The failure in achieving equitable distribution of vaccines is an important indicator of this failure.

Motivation for equity in distribution of vaccines is not simply altruistic. Marco Hafner and the Rand Corporation estimate the cost to developed countries of providing vaccines to low- and middle-resource countries would be in the order of US\$25 billion. They argue, “The US, the UK, the EU and other high-resource countries combined could lose about \$119 billion a year if the poorest countries are denied a supply ... for every \$1 spent, high-income countries would get back about \$4.8” [6].

Several causes have limited global supply of vaccines including the purchase of excess doses through bilateral deals by high-income countries [7]. Another key limiting factor internationally is industrial capacity to scale up production of vaccines in a safe way. Intellectual Property rights are held by a small number of companies and are protected by the World Trade Organization through the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreements. After substantial lobbying, a number of countries, including the USA, have called for the intellectual property rights on COVID-19 vaccines to be suspended to allow manufacture of vaccines in more facilities in more locations around the world [8]. The drive behind this action is to ensure that there are adequate supplies of vaccines at a reasonable cost for all countries. President Biden supported a proposal drafted by South Africa and India with the support of over one hundred countries [9]. Both these countries have considerable capacity to manufacture vaccines.

Vaccine manufacturing is complex and current manufacturers voice concerns about risks, in particular about manufacture of safe and effective mRNA vaccines. The concern is that a failure in manufacture that causes health problems will undermine acceptability of this new type of vaccines, not just for COVID-19 but for future applicability of the technology. According to Pfizer, “patent protection enables voluntary licensing, which allows us to make our products globally available in order to fight the pandemic”. The company considers protection of their intellectual property as relevant for several reasons including, “first, because



it helps to protect patents from potentially dangerous counterfeit and unapproved products. Second, it protects companies from improper use” [10].

An alternative perspective is put forward by Melody Okereke, who acknowledges the arguments of the big pharmaceutical companies that the waiver of Intellectual Property rights would not solve the global pandemic. She also recognises, however, that governments have contributed over US\$12 billion dollars towards research and development and suggests some actions would remove several roadblocks [11]. While there are risks with vaccine manufacturing, at least for some technologies, regulated technology transfer does have the potential to enable vaccine production in many low- to middle- income countries.

Countries have adopted different COVID-19 control, suppression, and elimination approaches. National capacity to use stringent public health and social measures such as border control and lockdowns demonstrate the privileged position of high-resource countries. Economic drivers mean that many low- and lower-middle-resource countries may not be able to achieve safe and effective ‘lockdown’, where people are largely restricted to their homes except for essential services, due to lack of capacity and resources to provide social and welfare security to their citizens. For many individuals there is simply no choice but to work—not working is a greater risk to well-being than perceived risk of the virus. Therefore, it is even more important to have faster vaccine roll out in low- and middle-resource countries with high COVID-19 incidence which is negatively impacting physical, social, and mental health and causing economic damage that also threatens health.

Vaccine hoarding is a major issue on the world stage. When some low- and middle-resource countries are in great need of vaccines for first and second doses, other countries already distribute a third dose of certain vaccines to improve immune response. Such an approach may be effective politics for those in power who have an eye on the next election. However, this inequity poses a daunting challenge for WHO and COVAX. How is it possible to ensure that those in greatest need and the most vulnerable gain access to safe and highly effective vaccines—no matter where they live?

A public health approach to the pandemic means addressing the impact of the disease on people in a wide range of settings. The social and economic determinants of health play a key role in prevention of COVID-19, including equitable access to vaccines, testing, and treatment to limit serious illness and avoid death.

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