Vaccination inequality during COVID-19: a worldwide and national issue

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The COVID-19 pandemic had a major impact worldwide on social, economic and (mental) health aspects. In 2023, more than 6,9 million COVID-19 deaths had been confirmed worldwide. Due to the relatively quick development of a vaccine, the pandemic was suppressed. However, there was a skewed distribution of the vaccine worldwide with great disparity between high-and-low-income countries. Only 2% of the total vaccine doses has been administered in low-income countries (1). These low-income and lower-middle-income countries depended on COVAX, an international initiative to make COVID-19 vaccines available to all. Despite this, the vaccination rate in these countries remained low resulting in negative consequences on social, economic and health aspects. Even within high-income countries, vaccination rates remained low in certain subgroups for different reasons causing the same adverse consequences.
So, vaccine inequality can arise on a global but also national level. This paper will inform more about this by discussing vaccine nationalism and vaccine misinformation. Finally, advice will be given to prevent these phenomena in the future.

Vaccine Nationalism

A significant factor contributing to the global vaccine inequality during COVID-19, has been vaccine nationalism. This occurs when high-income countries prioritize their own populations, instead of contributing to the global need. This strategy, where richer countries secured billions of vaccines for their citizens, at the expense of lower- and middle-income countries, created inequality of vaccine access and distribution during COVID-19.

An important cause of vaccine nationalism was the competition between high-income countries to secure vaccines early. It is expected that a country would want to protect its citizens, but according to Wouters et al. (2021), richer countries ordered billions of vaccines for their citizens, often exceeding the amount they would need to vaccinate their populations. This led to big disparities between high- and low-income countries in terms of how many people are fully vaccinated and in what time frame (see figure 1). By early 2021, high-income countries, representing only 16% of the world's population, had secured 70% of the available vaccine doses (2).

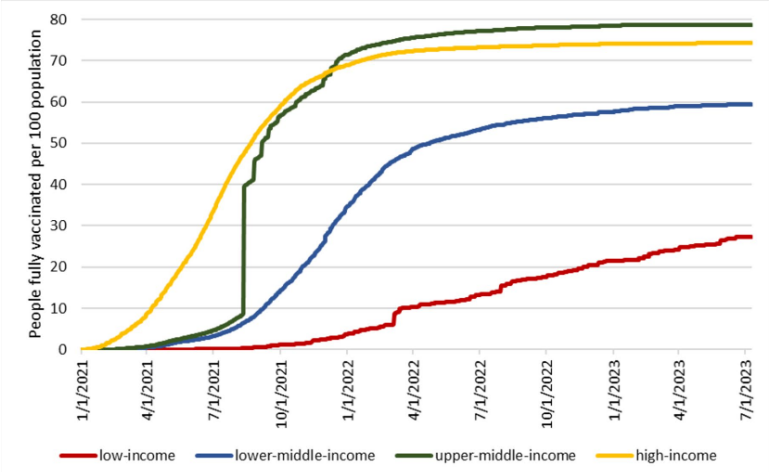

Figure 1: Percentage of people fully vaccinated over time by income group (1)

Some reasons for the hoarding of vaccines by high-income countries, is a social and economic pressure on the governments. Rapid access to a vaccine was seen as a crucial task to relieve the populations from the effects of the COVID-19 pandemic as soon as possible. Social pressure was created by the population, because the rules made by the governments had several restrictions on freedom. The economy was negatively influenced by the pandemic and therefore the high-income countries focused on reopening their own economies as soon as possible. Countries with connections to big pharmaceutical companies invested millions into developing vaccines swiftly, while also locking in a bilateral agreement to receive most of those vaccines for their own populations.

Because of political and economic urgency, vaccine competition became more important than collaboration. By 2021, the U.S. had already ordered over 1 billion doses for its population of 332 million. According to the Center for Disease Control and Prevention, 82.1 million COVID-19 vaccine doses were discarded by 2022 (3). Due to initiatives like COVAX, the U.S. donated over 600 million vaccines in the following years, but the damage of hoarding had already been done. The pandemic went on for longer, because of the inequal access to vaccines, which allowed the virus to spread and mutate. This led to variants that could evade the vaccines, like Delta and Omicron. These variants appeared in low-and-middle income countries, where the availability of vaccines was lower. These countries were already facing health and economic challenges. However now by being disproportionally affected by the virus, the impact on morbidity, mortality and the economy was significantly higher compared to high income countries.

Vaccine misinformation in the Netherlands

Limitations on vaccines are not the only cause for vaccine inequality. Even within countries where the vaccine was widely available, such as in the Netherlands, does vaccine inequality take place. During the pandemic, anti-vaccine beliefs grew within the population and by the end of 2020 self-reported likelihood of getting the vaccine decreased from 74% in April to 56% in December (4).
At the end of the pandemic, only 84% of the Dutch population was fully vaccinated (5).
Vaccine hesitancy contributed to new waves of COVID-19 cases and deaths in developed countries. This led to prolonged duration of the pandemic. The anti-vaccine subgroup is not only a danger to themselves, but also to individuals who are vaccinated as they give the opportunity to the virus to continue spreading within the population.

Vaccine hesitancy is influenced by the source and types of information that people use to decide whether the vaccine is safe or not.
In the last decade, social media has become a large information source for people. However, social media uses an algorithm where a person receives information based on their previous content interactions. This leads to information bubbles and people receiving information confirming what they already believed, thus creating a confirmation bias. Unfortunately, a lot of information spread on social media is fake news, which is information that cannot be verified or is not evidence-based. If people do not know how to interpret the internet, they may be more perceptive to fake news. The increase in fake news may in turn make people more hesitant and decrease trust in news sources or the government.

Studies show that higher educated adults gain their information from various reliable sources, whereas lower educated adults gain their information about health from friends and family. This creates more secondhand misinformation (5).
Vaccine hesitancy is more common among lower educated adults and more associated with having a religion other than Catholicism in the Netherlands. This is explained because some religions are against vaccination (5).
These differences create a gap in the Dutch population. This disparity means that marginalized communities are more vulnerable to COVID-19, experiencing higher rates of infection and mortality.

Vaccine equality

It is important that we recognize our selfishness in times of crisis. Initiatives like COVAX improve our global solidarity and are one step in the right direction, but there are limitations. There are no binding international agreements that force high-income countries and pharmaceutical companies to cooperate with fair global distribution. If we do not create these agreements, the next pandemic will again be most devastating for middle- to low-income countries.
Vaccine hesitancy must be addressed by tackling vaccine misinformation and thus improving access to reliable information and overcoming these challenges is essential for creating equal health outcomes in future global health crises.

Both vaccine nationalism and vaccine misinformation can lead to vaccine inequality. While vaccine nationalism is the responsibility of high-income countries, we can still see that even in a high-income country there can be vaccine inequality resulting from misinformation. Misinformation does impact the lower educated adults more than the higher educated adults, but still has an impact on the whole population if we look at the consequences such as the repeated mutation of the virus. To create vaccine equality, it is important for countries to work together and create a world where everyone has got the same equal chance to choose for a vaccine based on reliable information.

Sources

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