

# COVID-19 Mass Vaccination

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## Abstract

While the COVID-19 pandemic has adversely affected global economies and healthcare systems, mass vaccination presents a permanent way to transition out of it. However, accessibility of the vaccines and vaccine hesitancy provide significant challenges to mass vaccination programs. Nevertheless, the WHO-approved vaccines, including Pfizer, AstraZeneca, Janssen, and Moderna, have helped reduce the global infection curve, severe cases, and mortality associated with the disease. Consequently, governments and non-governmental organizations globally should raise awareness among the public about the benefits of taking COVID-19 vaccines. The vaccines should also be made widely available, particularly to the underdeveloped and developing nations, through the manufacturing of generic forms of COVID-19 vaccines that are relatively affordable.

**Key words:** COVID-19, vaccination, vaccine hesitancy

## COVID-19 Mass Vaccination

Since the World Health Organization (WHO) declared the coronavirus disease of 2019 (COVID-19) as a global pandemic in March 2020, many people have lost their lives to the disease. According to Hasan et al. (2021), over 100 million infections and 2.5 million deaths from the disease had been reported. The pandemic has caused global economic stalls, stretched healthcare systems to the limit, and altered the way people associate. However, mass vaccination against the virus is now presenting a way to transition out the pandemic. In December 2020, a global drive to vaccinate people against the virus began with countries in Europe, Middle East, and North America leading mass vaccination rollout programs (Hasan et al., 2021). Consequently, this literature review focuses on the mass vaccination against COVID-19, its challenges, and its helpfulness to decrease the infection curve, and how it can be improved.

At the beginning of 2021, the WHO had approved various vaccines, including Pfizer, AstraZeneca, Janssen, and Moderna, for roll out in different countries Dagan et al. (2021) reported randomized clinical trials of mRNA-based COVID-19 vaccines indicate 94%-95% efficacy for preventing COVID-19. The findings reveal that mass vaccination may significantly reduce the incidences of severe cases of the disease, morbidity, and mortality, notably if the vaccination can cause "herd immunity" among the vaccinated people. While randomized clinical trials are often regarded as the "golden standard" for examining clinical interventions' effects, they are associated with sample size and subgroup analysis limitations.

The success of mass vaccination programs depends on governments' high level of commitment and well-resourced collaboration between healthcare providers and governments. According to Moore (2021), as of March 2021, approximately 300 million vaccine doses

had been administered worldwide, giving hope of a return to normalcy. Nonetheless, the worldwide mass vaccination drive faces various challenges that may adversely influence its success. Accessibility is the primary challenge facing mass vaccination programs globally. For instance, Al Awaidy and Khamis (2020) indicate that the accessibility of the COVID-19 vaccines is insufficient to ensure broad immunological protection because the vaccine should be enough for the public and the healthcare community. Our World in Data (2021) also reveals that only 0.8% of individuals in low-income nations have received at least one dose of the vaccine since its launch in mid-December 2020. Therefore, accessibility of vaccines, especially in underdeveloped countries, is a significant challenge affecting mass vaccination.

Vaccine hesitancy is another obstacle to mass vaccination undertakings. According to Wouters et al. (2021), hesitancy in taking the vaccination is predominant in low-income and high-income nations alike, with disbelievers and critics found in nearly all religious, socioeconomic, and ethnic groups. The speed at which the vaccines have been developed is a primary factor contributing to the challenge of COVID-19 hesitancy (Wouters et al., 2021).

Some people and interest groups feel that the vaccine trials were rushed and regulatory standards were relaxed. Additionally, Forman et al. (2021) explain that COVID-19 vaccine hesitancy is prevalent amongst downgraded populations that have been worst affected by the pandemic because of the long history of structurally racist systems that have caused health injustices and inequalities. Thus, interventions are needed to overcome vaccine hesitancy and encourage vaccine uptake.

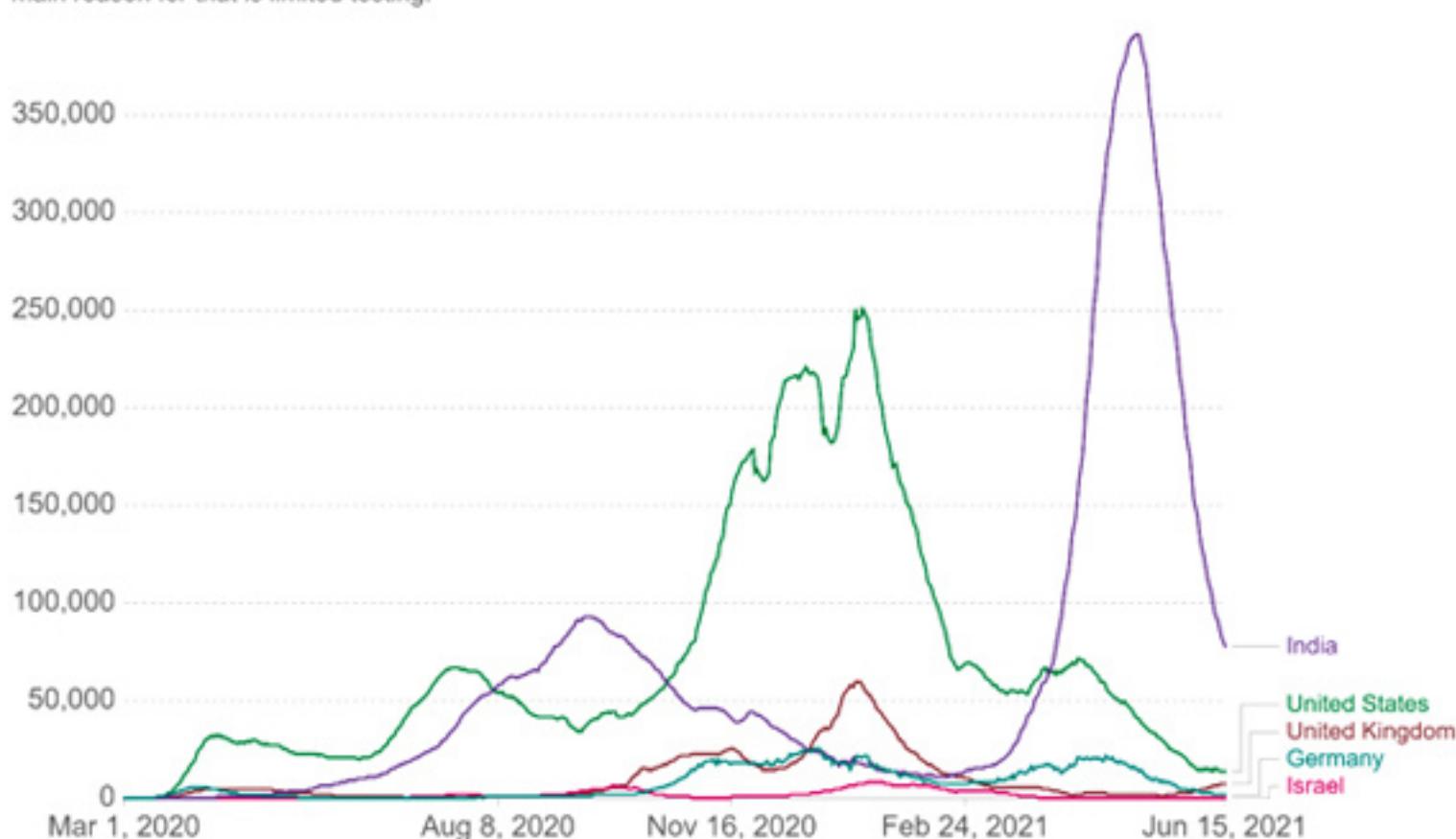
Mass vaccination programs have been successful in decreasing the curve of COVID-19 infections. Feuer (2021) note that a study conducted in Israel, which is reported to have vaccinated a significant proportion of its population with the Pfizer COVID-19 vaccine, reveals that mass vaccination has prevented severe COVID-19 cases in the country. Data from Israel provides a glimpse into the effectiveness of mass vaccination in decreasing the COVID-19 infections' curve. Figure 1 below shows a decrease in the COVID-19 new confirmed cases in India, United States, United Kingdom, Israel, and Germany since January 2021. The downward sloping of the COVID-19 new cases curve can be attributed to the rollout of the mass vaccination drive.

**Figure 1:**

## Daily new confirmed COVID-19 cases

Shown is the rolling 7-day average. The number of confirmed cases is lower than the number of actual cases; the main reason for that is limited testing.

Our World  
in Data



Source: Johns Hopkins University CSSE COVID-19 Data

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Retrieved from: <https://ourworldindata.org/covid-cases?country=IND~USA~GBR~DEU~ISR>

According to the Israeli health ministry data, only 0.04% of individuals who had been fully vaccinated got infected a week after getting the vaccination against COVID-19 (Holmes, 2021). Hence, mass vaccination has helped decrease the COVID-19 infection curve.

While mass vaccination against COVID-19 has been successful in many European, North American, and Middle East nations, more can be done to improve it. For instance, governments and non-governmental organizations should play an active role in communicating and raising awareness about the benefits of COVID-19 vaccination to the public. Since lack of trust in the vaccines is one of the contributing factors for hesitancy in accepting the vaccines, governments can significantly help enhance public trust in the vaccines. Additionally, vaccines should be made more available globally to increase the rate of administration. Currently, the gap between the population that has been vaccinated in the developed countries and underdeveloped countries is wide. Availing the vaccines would be critical in filling this gap. Another strategy for improving mass vaccination involves manufacturing generic COVID-19 vaccines that developing countries can afford. Therefore, the world would only be safe from COVID-19 if a large proportion of the world population is fully vaccinated.

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