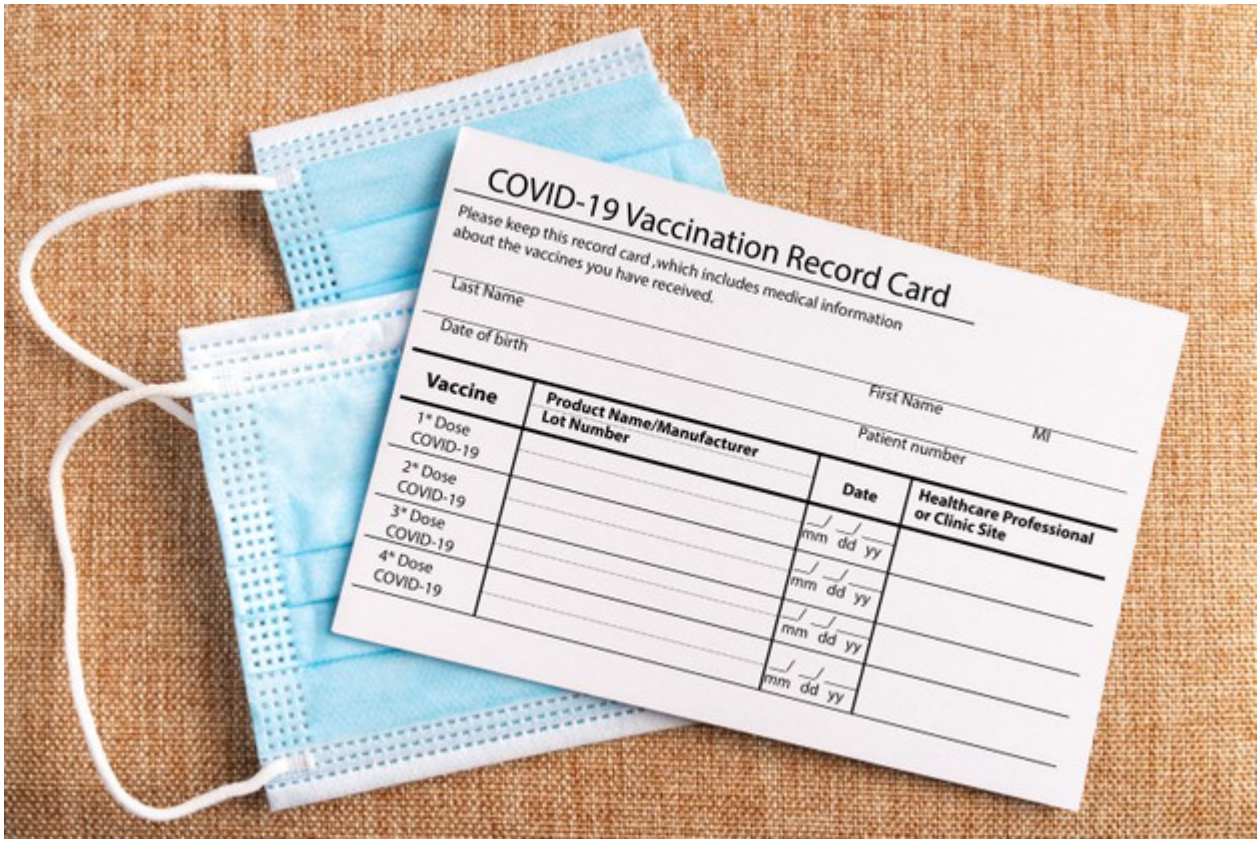
Study Considers Benefits Of Delaying Second Dose Of COVID-19 Vaccines



Officials with the Biden Administration believe the available supply of the COVID-19 vaccine will exceed demand in the United States by mid-May.

That is not the case in other countries: COVID-19 vaccines have not been distributed equally across the globe. By and large, the world's wealthiest countries have secured more of the available supply than poorer ones.

The U.S. is currently using two COVID-19 vaccines: Moderna and Pfizer. Both require two doses, administered 3–4 weeks apart.

With new, potentially more contagious SARS-CoV-2 variants emerging, health officials across the globe are discussing the option of vaccinating more people with the first dose by pushing back the date for giving the second dose of these vaccines.

According to a report by *The Wall Street Journal*, the World Health Organization (WHO) recently suggested that in countries without an adequate supply of vaccines, officials could focus on getting the first dose to as many people as possible, even if that means delaying the second dose by more than the recommended 12 weeks.

In February, Dr. Anthony S. Fauci, director of the National Institute of Allergy and Infectious Diseases, said the scientific data on delaying the second dose of the vaccines were too limited for him to

recommend the approach in the U.S.

In the United Kingdom, however, health officials frequently delay the second vaccine dose by up to 12 weeks in order to get the first dose to more people.

Earlier in April, Canada's National Advisory Committee on Immunization, an external advisory board, advised that second doses could be delayed up to 16 weeks.

Lower protection for more people

A recent study, published in *PLOS Biology*, suggests stretching out the time between the first and second dose could be a solid strategy.

The researchers found that delaying the second dose of either of the vaccines for 9–15 weeks after the first dose may minimize new infections, hospitalizations, and deaths in areas where there is limited vaccine supply and distribution capacity.

For the study, the researchers built a mathematical model to compare the epidemiological impact of differing vaccination strategies. The model simulated both SARS-CoV-2 transmission and different schedules for giving the second vaccine and took into account levels of preexisting immunity to SARS-CoV-2 in the population.

To identify the best time for administering the second dose, they based their analysis on "vaccine efficacy estimated in clinical trials and population-level studies following first and second doses."

The researchers found that delaying the second dose of the Moderna vaccine would likely thwart more infections compared with following the recommended schedule of 28 days between doses.

However, with the Pfizer vaccine, researchers found delaying the second dose did not reduce the number of infections. That said, the model found that delaying the second dose of both vaccines averted additional hospitalizations and deaths.

Delaying the second dose of the Moderna vaccine by 12–15 weeks could achieve the largest reduction of hospitalizations and deaths, according to the researchers' model. With the Pfizer vaccine, delaying the second dose by 6–12 weeks would achieve "the highest benefits" in reducing hospitalizations and deaths, the researchers wrote.

More data needed

The researchers caution that their study is based on relatively scant clinical evidence about how COVID-19 vaccines perform when doses are provided at different intervals.

Dr. William Schaffner, professor of preventive medicine and specialist on infectious diseases at Vanderbilt

University School of Medicine in Nashville, TN, feels that is not likely to be an issue, however. Speaking with *Medical News Today*, he said:

“Every other vaccine that we use that is a multidose vaccine, if you delay the second or the third dose, no problemo.”

The authors of the study plan to update their model as the scientific world acquires more information on how the vaccines tackle different coronavirus variants.

“We still do not have the full picture of vaccine effectiveness as new and more contagious variants spread,” said Dr. Seyed Moghadas, professor of applied mathematics and computational epidemiology and lead author of the study.

He added, “Efficacy of vaccines against these variants is an additional factor that would need to be considered in determining the outcomes of on-time versus delayed second dose and interval between doses.”

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