

# Mortality study reinforces safety of COVID-19 vaccinations

October 25 2021

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COVID-19 vaccine recipients had lower non-COVID-19 death rates than people who weren't vaccinated, according to Kaiser Permanente research published October 22 in the Centers for Disease Control and

Prevention's *Morbidity and Mortality Weekly Report*.

"Despite numerous studies showing the safety of COVID-19 vaccines, some people have remained hesitant to get vaccinated," said lead author [Stanley Xu](#), Ph.D., of the [Kaiser Permanente Southern California Department of Research & Evaluation](#). "This study provides reassurance that the vaccines are very safe, and, in fact, people who received COVID-19 vaccines in the United States had a lower [death](#) rate than those who didn't, even if you don't count COVID deaths."

To determine mortality risk associated with COVID-19 vaccination, researchers evaluated the [electronic health records](#) of 6.4 million COVID-19 vaccine recipients compared to 4.6 million [unvaccinated people](#) with similar demographics and geographic locations from December 14, 2020, through July 31, 2021. The study looked at only non-COVID-19-related deaths to avoid masking any safety concerns regarding COVID-19 vaccine-related death with the protective effects of COVID-19 vaccine.

The study population included members of 7 Vaccine Safety Datalink sites: Kaiser Permanente Southern California, Kaiser Permanente Northern California, Kaiser Permanente Colorado, Kaiser Permanente Northwest, Kaiser Permanente Washington, HealthPartners in Minnesota, and Marshfield Clinic in Wisconsin.

The Pfizer and Moderna mRNA vaccines require 2 doses for full vaccination, while the Johnson & Johnson adenoviral vector vaccine requires only one dose. The 1-dose and 2-dose vaccines had different comparison groups due to differences in when the vaccines were available and potential differences in the demographics of people who chose the 1- or 2-dose vaccines. All analyses were adjusted for age, sex, race, ethnicity, and Vaccine Safety Datalink site.

- Pfizer COVID-19 vaccine recipients had a mortality rate of 4.2 deaths per 1,000 vaccinated people per year after first dose, and 3.5 deaths after second dose.
  - The unvaccinated comparison group had a mortality rate of 11.1 deaths per 1,000 people per year.
- Moderna COVID-19 vaccine recipients had 3.7 deaths per 1,000 people per year after the first dose, and 3.4 deaths after the second dose.
  - The unvaccinated comparison group had a mortality rate of 11.1 deaths per 1,000 people per year.
- Johnson & Johnson COVID-19 [vaccine](#) recipients had 8.4 deaths per 1,000 people per year.
  - The unvaccinated comparison group had a mortality rate of 14.7 deaths per 1,000 people per year.

**More information:** Stanley Xu et al, COVID-19 Vaccination and Non-COVID-19 Mortality Risk—Seven Integrated Health Care Organizations, United States, December 14, 2020–July 31, 2021, *MMWR. Morbidity and Mortality Weekly Report* (2021). [DOI: 10.15585/mmwr.mm7043e2](#)

Provided by Kaiser Permanente

Citation: Mortality study reinforces safety of COVID-19 vaccinations (2021, October 25) retrieved 16 June 2024 from <https://medicalxpress.com/news/2021-10-mortality-safety-covid-vaccinations.html>

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