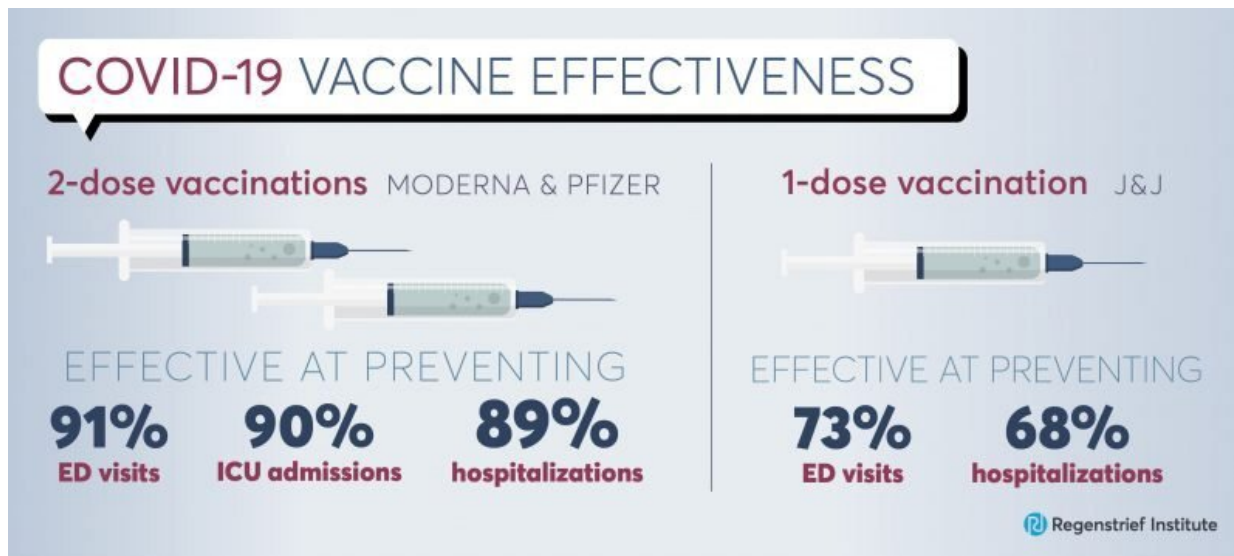


# COVID-19 vaccines are highly effective in preventing hospitalizations, emergency visits

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A study published in the *New England Journal of Medicine* involving data from nearly 200 hospitals around the United States shows that 2-dose COVID-19 vaccinations are highly effective at preventing hospitalizations, emergency department visits, and intensive care admissions due to the virus. The real-world evidence gathered from electronic health records (EHRs) demonstrates that the vaccines provide high levels of protection for populations disproportionately affected by the virus, including older adults and minorities.

The U.S. Centers for Disease Control and Prevention (CDC) collaborated with six U.S. healthcare systems plus the Regenstrief Institute, to create the VISION network to assess COVID-19 [vaccine effectiveness](#). Regenstrief, Columbia University Irving Medical Center, HealthPartners, Intermountain Healthcare, Kaiser Permanente Northern California, Kaiser Permanente Northwest and University of Colorado all contributed hospitalization and ICU data for patients older than 50 from a total of 187 hospitals, in addition to data from emergency departments and urgent care clinics. The data covered 45,000 medical encounters.

Data analysis showed 2-dose mRNA vaccination (Moderna and Pfizer) was:

- 89 percent effective at preventing COVID-19 hospitalizations
- 91 percent effective at preventing COVID-19 emergency department or urgent care visits
- 90 percent effective at preventing COVID-19 intensive care unit admission

The effectiveness was significantly lower in individuals who received only the first dose of the two shot-vaccination.

"This study confirms that these vaccines are highly effective," said lead author Mark Thompson, Ph.D., a member of the CDC COVID-19 Response Team. "They offer significant protections for people older than 85, people with chronic medical conditions, as well as Black and Hispanic adults. All are groups who have been hit particularly hard by this disease. We hope this information will convince more people to get vaccinated to protect not only themselves but their community."

This study was also one of the first to look at the effectiveness of the single-dose Johnson and Johnson [vaccine](#). It was found to be 73 percent effective against emergency department and urgent care visits, and 68

percent against hospitalizations. However, the authors note the smaller sample size may affect the precision of these estimates and state that more data is needed.

"This real-world evidence corroborates the results of clinical trials and provides even more confidence in the vaccines," said paper author Shaun Grannis, M.D., M.S., Regenstrief [vice president](#) for data and analytics and Indiana University School of Medicine professor of family medicine. "This study is an excellent example of how EHR data can be leveraged for public health, and how collaboration between health entities can provide new and beneficial insights."

"Effectiveness of COVID-19 Vaccines in Preventing Ambulatory and Inpatient Care" is published in the *New England Journal of Medicine*.

**More information:** Mark G. Thompson et al, Effectiveness of Covid-19 Vaccines in Ambulatory and Inpatient Care Settings, *New England Journal of Medicine* (2021). [DOI: 10.1056/NEJMoa2110362](https://doi.org/10.1056/NEJMoa2110362)

Provided by Regenstrief Institute

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