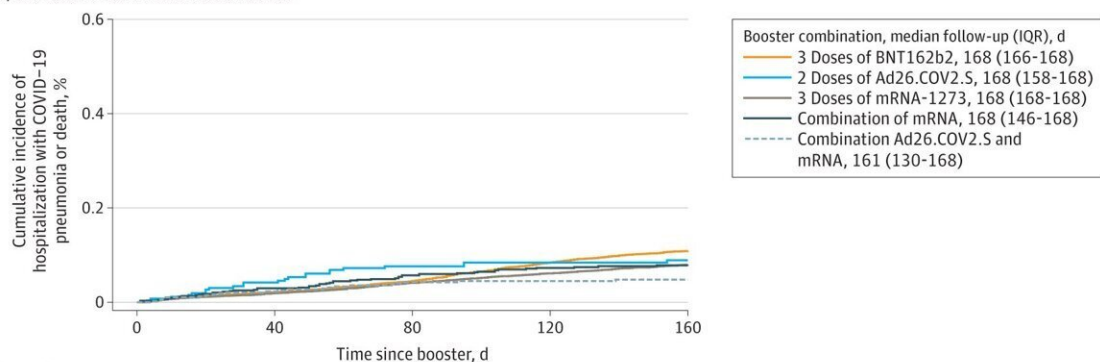


# Study reports very low incidence of severe COVID-19 following vaccination and booster

October 6 2022

**A** Vaccination and booster with all combinations of BNT162b2, mRNA-1273, and Ad26.COVS.2.S in the overall cohort



No. at risk (No. of events)	0	40	80	120	160
3 Doses of BNT162b2	674 167 (0)	671 178 (145)	659 622 (303)	635 372 (557)	562 759 (706)
2 Doses of Ad26.COVS.2.S	26 358 (0)	26 270 (11)	25 867 (20)	24 499 (22)	19 369 (23)
3 Doses of mRNA-1273	793 712 (0)	789 442 (151)	774 193 (322)	742 620 (477)	634 942 (605)
Combination of mRNA	68 025 (0)	67 336 (20)	64 601 (38)	59 686 (48)	45 351 (51)
Combination of Ad26.COVS.2.S and mRNA	48 457 (0)	47 468 (11)	44 183 (20)	38 819 (21)	25 377 (22)

**B** Vaccination and booster with mRNA-1273 in high-risk subgroups



24-Week Cumulative Incidence of Hospitalization With COVID-19 Pneumonia or Death Following Vaccination and Booster. Credit: *JAMA* (2022). DOI: 10.1001/jama.2022.17985

A large study of COVID-19 disease following vaccination and booster, published in the *Journal of the American Medical Association (JAMA)*,

reports surprisingly low incidence, especially in individuals younger than 65 years of age with no high-risk conditions.

Hospitalizations for COVID-19 disease among individuals who had received vaccines and boosters occurred almost exclusively among [high-risk patients](#) including older adults and adults of all ages with certain comorbidities or immunocompromising conditions.

This retrospective study of 1.6 million patients at Veterans Health Administration facilities, the largest integrated health care system in the U.S., found the incidence—new cases over time—of hospitalization for COVID-19 pneumonia or death was 8.9 per 10,000 persons who had been vaccinated and boosted. While the incidence for vaccinated and boosted [older adults](#) with comorbid or immunocompromising conditions was tenfold higher, it was still a relatively low rate of occurrence of bad outcomes.

"This is remarkable, good news about the power and effectiveness of receiving COVID-19 boosting for all groups," said co-author Regenstrief Institute and Roudebush VA Medical Center research scientist Dawn Bravata, M.D., who led the study's chart review core. "With the power of VA data, we had such complete information on a large number of patients including many who are older and those who have comorbidities or are immunocompromised, that we could examine this issue thoroughly.

"These results, from a period of Delta and Omicron predominance, should encourage people to get vaccinated and boosted," said Dr. Bravata, who is also a professor of medicine at Indiana University School of Medicine.

To avoid misclassification of death or other serious outcomes due to COVID rather than to other [health issues](#), the study authors rigorously

evaluated [patient medical records](#) for breakthrough COVID-19, COVID-19 pneumonia and death, as opposed to simply considering all hospitalizations among patients with a positive COVID-19 lab test.

"Early in the pandemic, many researchers, including our own group, published studies about COVID-19 hospitalizations. But we're in a different era now when patients who are admitted to the hospital with a non-COVID illness are screened; some of whom will test positive. Evaluating outcomes such as COVID-19 pneumonia or mortality—as opposed to simply considering all hospitalization—makes more sense," said Dr. Bravata.

**More information:** J. Daniel Kelly et al, Incidence of Severe COVID-19 Illness Following Vaccination and Booster With BNT162b2, mRNA-1273, and Ad26.COV2.S Vaccines, *JAMA* (2022). [DOI: 10.1001/jama.2022.17985](https://doi.org/10.1001/jama.2022.17985)

Provided by Regenstrief Institute

Citation: Study reports very low incidence of severe COVID-19 following vaccination and booster (2022, October 6) retrieved 18 May 2023 from <https://medicalxpress.com/news/2022-10-incidence-severe-covid-vaccination-booster.html>

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