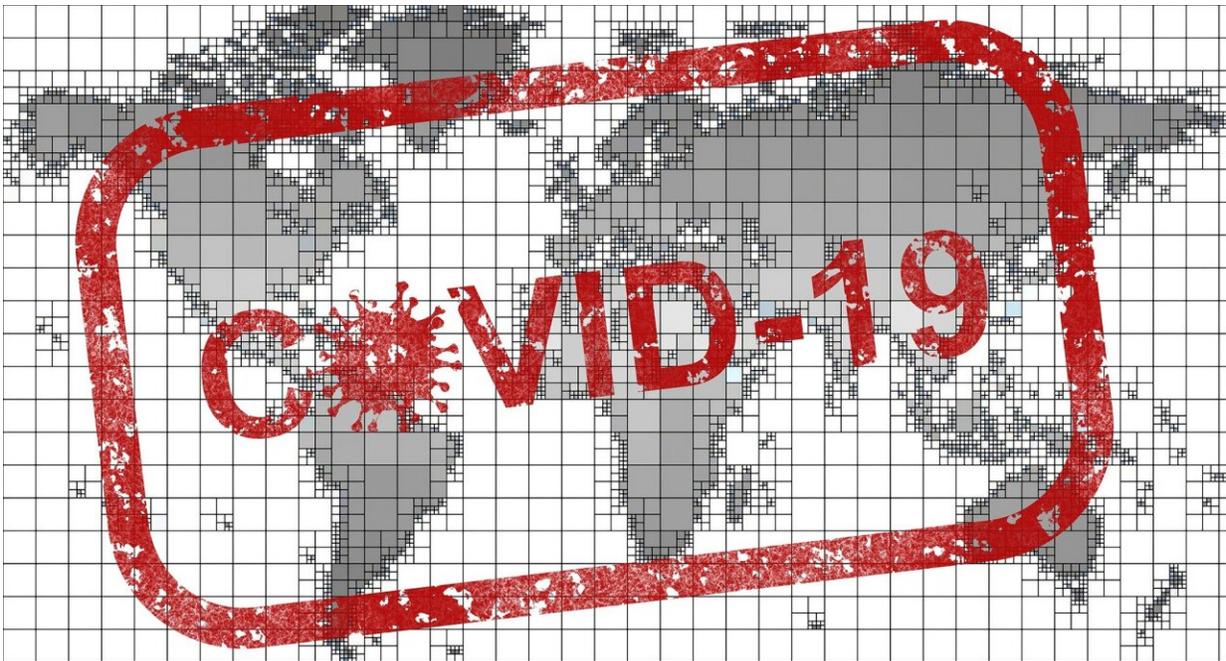


Study shows updated bivalent boosters are more effective at preventing hospitalization and death from Omicron

January 26 2023



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In a peer-reviewed study on the real-world effectiveness of updated bivalent mRNA vaccines, researchers at the University of North Carolina's Gillings School of Global Public Health found that bivalent boosters are more effective than original monovalent boosters at preventing COVID-19 hospitalization and death. The [study](#) was

published today in *The New England Journal of Medicine*.

"While original COVID-19 vaccines had been demonstrated to be safe and effective prior to the FDA's authorization, the Pfizer and Moderna bivalent vaccines that have been deployed in the United States since last fall were approved by the FDA for emergency use on the basis of non-clinical data for those two new vaccines," explains Dr. Danyu Lin, lead author on the study. "We were able to evaluate not only the effectiveness of the two bivalent boosters but also compare their effectiveness to that of monovalent boosters."

Researchers at the Gillings School compared the incidence of severe Omicron infection resulting in hospitalization or death for individuals 12 years of age or older who received a monovalent or bivalent booster dose to those who did not. The study analyzed vaccination and infection data of more than six million North Carolina residents from May to December of 2022, during which the Omicron variant's BA.4.6/BA.5 and BQ.1/BQ.1.1 strains were predominant in the United States. Both the Pfizer and Moderna bivalent vaccines were included in the study, which also considered different age groups, previous infection status, and the number of booster doses already received.

Booster effectiveness peaked at approximately four weeks after receipt of booster and waned afterward. Average effectiveness against severe infection resulting in hospitalization or death over a three-month period was 25% for one monovalent booster dose and 62% for one bivalent booster dose.

"The increased effectiveness found in this study demonstrates why it's important for people to protect themselves with the updated booster even if they had already gotten the original booster dose," says Dr. Zack Moore, State Epidemiologist with the North Carolina Department of Health and Human Services. "The takeaway is that the updated [booster](#)

offers significant protection against hospitalization or death from COVID-19. Only a small percentage of the North Carolinians have received updated boosters so far. Hopefully, the findings of our study will encourage people to take advantage of these effective vaccines."

Other researchers involved in this study include doctoral students Yangjianchen Xu and Yu Gu who performed the data analysis. Additional authors include Donglin Zeng, Ph.D., Professor of Biostatistics at the Gillings School, and epidemiologists from the N.C. Department of Health and Human Services: Bradford Wheeler, MPH, Hayley Young, MPH, and Shadia Khan Sunny, MD, Ph.D.

More information: Dan-Yu Lin et al, Effectiveness of Bivalent Boosters against Severe Omicron Infection, *New England Journal of Medicine* (2023). [DOI: 10.1056/NEJMc2215471](https://doi.org/10.1056/NEJMc2215471)

Provided by University of North Carolina at Chapel Hill

Citation: Study shows updated bivalent boosters are more effective at preventing hospitalization and death from Omicron (2023, January 26) retrieved 23 June 2024 from <https://medicalxpress.com/news/2023-01-bivalent-boosters-effective-hospitalization-death.html>

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