

# Vaccine effectiveness lower for teens with predominant omicron

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For adolescents, BNT162b2 vaccine effectiveness (VE) was lower

against COVID-19-associated emergency department and urgent care encounters during omicron predominance, according to research published in the March 1 early-release issue of the U.S. Centers for Disease Control and Prevention *Morbidity and Mortality Weekly Report*.

Nicola P. Klein, M.D., from the Kaiser Permanente Vaccine Study Center in Oakland, California, and colleagues estimated VE with a case-control test-negative design using 39,217 emergency department and urgent care encounters and 1,699 hospitalizations among persons aged 5 to 17 years with COVID-19-like illness across 10 states during April 9, 2021, to Jan. 29, 2022.

- The researchers found that VE against laboratory-confirmed COVID-19-associated emergency department and urgent care encounters was 46% at 14 to 67 days after dose 2 among children aged 5 to 11 years.
- At 14 to 149 days after dose 2, VE was 83 and 76% among adolescents aged 12 to 15 and 16 to 17 years, respectively; at  $\geq 150$  days after dose 2, VE was 38 and 46%, respectively.
- VE increased to 86% seven or more days after dose 3 (booster dose) among adolescents aged 16 to 17 years.
- Among adolescents aged 12 to 17 years, VE against COVID-19-associated [emergency department](#) and urgent care encounters was substantially lower during the [omicron](#)-predominant period than the delta-predominant period; during omicron predominance, there was no significant protection  $\geq 150$  days after dose 2.
- VE during the omicron predominant period increased to 81% seven or more days after a third booster dose in adolescents aged 16 to 17 years.

"The findings in this report also align with studies among adults that report lower VEs during omicron variant predominance and an increase

in VE after receipt of a third vaccine dose," the authors write.

**More information:** Nicola P. Klein et al, Effectiveness of COVID-19 Pfizer-BioNTech BNT162b2 mRNA Vaccination in Preventing COVID-19–Associated Emergency Department and Urgent Care Encounters and Hospitalizations Among Nonimmunocompromised Children and Adolescents Aged 5–17 Years—VISION Network, 10 States, April 2021–January 2022, *MMWR. Morbidity and Mortality Weekly Report* (2022). [DOI: 10.15585/mmwr.mm7109e3](https://doi.org/10.15585/mmwr.mm7109e3).  
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Several authors disclosed financial ties to the pharmaceutical industry.

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