# Article information:

COVID-19 Incidence and Death Rates Among Unvaccinated and Fully Vaccinated Adults with and Without Booster Doses During Periods of Delta and Omicron Variant Emergence — 25 U.S. Jurisdictions, April 4–December 25, 2021 | MMWR
<https://www.cdc.gov/mmwr/volumes/71/wr/mm7104e2.htm>

# Article summary:

1. COVID-19 vaccination provides protection against SARS-CoV-2 infection, even with the emergence of the Omicron variant.

2. The incidence rate ratios for COVID-19 cases decreased among fully vaccinated individuals with booster doses compared to those without boosters during the Delta and Omicron variant periods.

3. Booster doses provided the highest level of protection against infection and death among adults aged 50-64 and ≥65 years.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article titled "COVID-19 Incidence and Death Rates Among Unvaccinated and Fully Vaccinated Adults with and Without Booster Doses During Periods of Delta and Omicron Variant Emergence" provides an analysis of COVID-19 case and death rates among vaccinated and unvaccinated adults during different periods of variant emergence. While the article presents important findings regarding the effectiveness of vaccines and booster doses, there are several potential biases and limitations that need to be considered.

One potential bias in the article is the reliance on self-reported vaccination status. The data used in the analysis were obtained from state and local health departments that link case surveillance to vaccination data from immunization registries. However, there may be inaccuracies or inconsistencies in reporting vaccination status, which could affect the validity of the results.

Another potential bias is the lack of multivariable adjustments in the analysis. The study did not account for other factors that could influence COVID-19 infection rates, such as testing practices, infection-derived immunity, or prevention behaviors. These factors could confound the relationship between vaccination status and infection rates, leading to biased results.

The article also makes unsupported claims about the effectiveness of booster doses. While it is stated that booster doses provided added benefits compared to a primary series alone, no evidence or data are provided to support this claim. The article does not present any comparative analysis between fully vaccinated individuals with booster doses and those without boosters.

Additionally, there are missing points of consideration in the article. For example, it does not discuss breakthrough infections among vaccinated individuals or provide information on vaccine breakthrough rates during different periods of variant emergence. This information would be important for understanding the overall effectiveness of vaccines against new variants.

Furthermore, there is a lack of exploration of counterarguments or alternative explanations for the observed trends in case and death rates. The article assumes that changes in vaccination status directly correlate with changes in infection rates without considering other factors that could contribute to the observed patterns.

The article also appears to have a promotional tone, emphasizing the importance of staying up to date with COVID-19 vaccinations. While vaccination is an important public health measure, the article does not provide a balanced discussion of potential risks or limitations associated with vaccines or booster doses.

Overall, while the article provides some valuable insights into the effectiveness of vaccines and booster doses, there are several biases and limitations that need to be considered. The reliance on self-reported vaccination status, lack of multivariable adjustments, unsupported claims, missing points of consideration, unexplored counterarguments, and promotional tone all contribute to potential biases in the article. Further research and analysis are needed to fully understand the impact of vaccines and booster doses on COVID-19 infection rates.

# Topics for further research:

* Breakthrough infection rates among vaccinated individuals during Delta and Omicron variant emergence
* Comparative analysis of fully vaccinated individuals with booster doses vs. those without boosters in terms of COVID-19 infection rates
* Factors influencing COVID-19 infection rates apart from vaccination status (e.g.
* testing practices
* infection-derived immunity
* prevention behaviors)
* Potential risks or limitations associated with COVID-19 vaccines and booster doses
* Alternative explanations for observed trends in case and death rates among vaccinated and unvaccinated adults
* Long-term effectiveness of COVID-19 vaccines and booster doses against emerging variants.

# Report location:

<https://www.fullpicture.app/item/1ac9ec436cd6a1e5aa75d977c3f76d6d>