

# Prioritizing the elderly for COVID boosters reduces overall deaths in range of socio-economic settings, study finds

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When COVID-19 booster vaccines are in short supply, prioritizing the elderly over other age groups for booster vaccination results in the lowest

loss of life, reports Robin Thompson at the University of Oxford and colleagues, in a study published August 8 in the open-access journal *PLOS Computational Biology*.

Despite widespread vaccination against the virus that causes COVID-19, declining immunity and the emergence of new variants has resulted in continuing waves of infection and disease worldwide. Due to the cost of producing and administering [booster](#) vaccines, and insufficient supplies, policymakers must decide whether older individuals should be targeted to receive the boosters or whether other strategies are more effective at preventing [premature deaths](#).

In the new study, researchers used mathematical modeling to address this question, taking into account the spread of the [virus](#) that causes COVID-19 in a range of countries with different socioeconomic backgrounds.

They found that prioritizing older individuals for boosters consistently led to the best public health outcomes, regardless of a country's economic level or the proportion of people in different age categories.

The researchers looked at both the total number of deaths and "years of life lost," a metric that accounts for premature deaths in younger individuals.

The study concludes that [policymakers](#) should prioritize older individuals for boosters when [vaccine](#) supply is limited because they face a much higher risk of death and other negative outcomes from infection.

The researchers report that this recommendation holds true both for high-income countries, which tend to have more older individuals, and lower- or [middle-income countries](#), which often have a higher proportion of young people. Additionally, this strategy is more effective than

vaccinating individuals who have the most numbers of contacts, and works regardless of the timing and supply of the boosters.

Dr. Thompson adds, "Prioritizing older individuals for COVID-19 booster vaccination was projected to lead to the best public health outcomes in each country considered, regardless of the country's income group.

"This is because older individuals are substantially more likely to experience severe outcomes of infection than younger individuals.

"The benefits of targeting booster vaccines at older individuals outweigh any benefit that could be achieved by instead vaccinating younger individuals, even though younger individuals may contribute more to transmission."

**More information:** Bouros I, Hill EM, Keeling MJ, Moore S, Thompson RN (2024) Prioritising older individuals for COVID-19 booster vaccination leads to optimal public health outcomes in a range of socio-economic settings. *PLoS Computational Biology* (2024). [DOI: 10.1371/journal.pcbi.1012309](https://doi.org/10.1371/journal.pcbi.1012309)

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