

Statistical bulletin

Characteristics associated with the risk of death involving coronavirus (COVID-19) among people receiving a booster vaccination, England: January to March 2022

An analysis of the socio-demographic characteristics associated with the risk of coronavirus (COVID-19) death in boosted individuals in England.

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1 . Main points

- Age was the characteristic most associated with the risk of death involving coronavirus (COVID-19) in triple vaccinated individuals during the Omicron period, with the risk being over 30 times greater in those aged 80 years, compared with those aged 50 years.
- The risk of death involving COVID-19 was also elevated in people with several health conditions, including severe combined immunodeficiency, cancer of the blood or bone marrow, and dementia.
- In triple vaccinated individuals, there was no independent association between the risk of death involving COVID-19 and ethnicity, except for those of Indian background, who were at a slightly elevated risk compared with the White group.
- Triple vaccinated individuals living in less deprived areas were at lower risk of death involving COVID-19, compared with those living in more deprived areas.
- Being a care home resident was associated with a higher risk of COVID-19 death, however this risk may be caused by unmeasurable factors such as frailty and does not mean that the risk of COVID-19 death is raised solely by living in a care home.

2 . Characteristics associated with the risk of death involving coronavirus (COVID-19) among people receiving a booster vaccination data

[Characteristics associated with the risk of death involving coronavirus \(COVID-19\) among people receiving a booster vaccination, England: January to March 2022](#)

Dataset | Released 8 September 2022

An analysis of the socio-demographic characteristics associated with the risk of coronavirus (COVID-19) death in boosted individuals in England.

3 . Measuring the data

These analyses use data from the Office for National Statistics (ONS) Public Health Data Asset (PHDA) and build on the methods used in our [Updating ethnic contrasts in deaths involving the coronavirus \(COVID-19\), England: 24 January 2020 to 31 March 2021 article](#). The PHDA combines Census 2011 records, death registrations, NHS [Hospital Episode Statistics \(HES\)](#) and primary care records retrieved from the NHS [General Practice Extraction Service \(GPES\) Data for Pandemic Planning and Research \(GDPPR\)](#), with England coverage only.

Our study population included 19,473,570 adults living in England who had received three coronavirus (COVID-19) vaccinations at least 14 days ago on 31 December 2021. The population included adults aged between 18 and 100 years, with a mean of 60.8 years and a standard deviation of 16 years. The population was 45.2% male. There were 4,781 (0.02%) deaths involving COVID-19 and 58,020 (0.30%) deaths from other causes. The median age of those who died of COVID-19 was 85 years, with an interquartile age range of 78 to 99 years and a mean of 83.3 years.

We used Cox proportional hazards regression to model the risk of death involving COVID-19 in individuals who had received three vaccinations. The outcome was time to death involving COVID-19, defined as any death with codes U071 and U072 recorded anywhere on the death certificate, occurring between 1 January and 16 March 2022. For non-COVID-19 deaths, individuals were censored at the date of death if this occurred before the end of the study date. The predictors included in the model were socio-demographic characteristics (age, sex, ethnicity, Index of Multiple Deprivation, having a degree, and being a keyworker) and medical conditions. The medical conditions were derived using primary care based on the definitions used by the QCovid2 risk prediction model. Models were also adjusted for time since booster dose.

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4 . Related links

[Evaluation of Risk Factors for Postbooster Omicron COVID-19 Deaths in England](#)

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Academic article published in The Journal of the American Medical Association (JAMA) Network Open.

5 . Cite this statistical bulletin

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