

Estimated number of deaths directly averted as a result of COVID-19 vaccination

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12b. Epidemiology - local, regional, national, global

Likely attendance

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Oral presentation

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Background

Since the emergence and subsequent spread of the severe acute respiratory virus coronavirus 2 (SARS-CoV-2) in early 2020, over 2 million coronavirus disease 2019 (COVID-19) laboratory confirmed deaths have been officially recorded in the World Health Organization Regional Office for Europe 1. Countries in the region have introduced COVID-19 vaccine programmes to protect vulnerable groups from severe disease with several waves of variants of concern (VOC). Here, we estimate how many lives have been saved by vaccinating adults until March 2023 in WHO European Region (which includes all countries in the European Union and European Economic Area).

Methods

Weekly reported counts of deaths and vaccination doses per age group (25 to 49 years, 50 to 59 years and ≥ 60 years) as reported by 26 countries or areas to The European Surveillance System (TESSy) between weeks 50/2020 and 12/2023 were used. Vaccine Effectiveness was considered in the context of each VOC dominant period. We calculated the number of lives saved by vaccination dose, VOC period, age group and country or area.

Results

COVID-19 vaccinations have directly saved at least 1,004,927 lives between weeks 50/2020 and 12/2023, with the majority (95%) in those aged 60 years and older. Among this age group, the first booster saved the most lives, accounting for 64% of lives saved. Overall, across all age groups and countries or areas, vaccination were estimated to have saved the largest number of lives during the Omicron wave: at least 568,064 deaths were averted representing a 57% reduction in the number of deaths from what could have been expected.

Conclusions

As the 2022/23 winter season comes to an end and levels of circulating SARS-CoV-2 are expected to drop, countries and areas with low vaccination coverage are encouraged to fully vaccinate their most vulnerable populations against COVID-19.

Keyword 1

Epidemiology of infection

Keyword 2

Infection control and prevention

Keyword 3

Vaccine effectiveness

References, word count: 30 words

World Health Organization. COVID-19 Weekly Epidemiological Update (109). Geneva, Switzerland: World Health Organization; 2022.

Conflicts of interest

Do you have any conflicts of interest to declare?

No