

# Nearly 700,000 US hospitalizations and 110,000 deaths prevented from the Pfizer-BioNTech COVID-19 vaccine

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The profound health and economic impact of the Pfizer-BioNTech vaccine during its first year of rollout in the US is described in detail in a new study in the peer-reviewed *Journal of Medical Economics*.

It is estimated that in 2021 the vaccine, the most widely used against COVID-19 in the US, prevented 8.7 million symptomatic cases of the virus, as well as 690,000 hospitalizations and more than 110,000 deaths.

The vaccine is also credited with saving more than \$30 billion in [healthcare costs](#) and over \$40 billion in lost productivity.

The Pfizer-BioNTech vaccine was the first COVID-19 vaccine to become available in the US and, according to [estimates](#) from the US [public health agency](#), the Centers for Disease Control, was given to almost six in ten citizens who were fully vaccinated in 2021.

The study's authors—all of whom received funding from Pfizer, either as direct employees, consultants or employees of firms paid by Pfizer—used a model, real-world and trial data to estimate how many symptomatic COVID-19 cases, hospitalizations and deaths would have occurred that year if the vaccine had not been available.

They also estimated how much these cases would have cost the [healthcare system](#) and the wider economy.

Data fed into the model included information on the numbers vaccinated, the efficacy of the vaccine in different age groups, as well as the probability of catching COVID-19, developing symptoms and being hospitalized.

The effects of long COVID were also taken into account, as were the number of working days likely to have been lost due to short-term illness and the economic cost of premature deaths.

The results not only led to [health benefits](#) for millions of people, but also an estimated \$30.4 billion of savings in healthcare costs and \$43.7 billion of savings in productivity losses.

"The analyses show that the Pfizer-BioNTech COVID-19 vaccine contributed substantial public health impact in the US in 2021, and had a deep effect on the trajectory of the pandemic. It was estimated to prevent millions of COVID-19 symptomatic cases, thousands of hospitalizations and deaths, and generated billions in societal economic value in the US in 2021," says researcher Manuela Di Fusco, of Pfizer's [health economics](#) and outcomes research team.

She adds that the results, "highlight the opportunity to continue widespread vaccination uptake to prevent COVID-19 related disease and generate societal benefits".

The research team lists several limitations of the study, which they say could have led to their figures being an underestimate. These include not factoring in the potential of the vaccine to reduce transmission, the severity of cases and the overall impact of long COVID.

They also acknowledge their results can't be generalized to other COVID-19 [vaccine](#) brands, indications and populations not specifically analyzed. Moreover, the [model](#) excluded the impact of the Omicron variant which emerged in the US at the end of the study period.

**More information:** Manuela Di Fusco et al, Public health impact of the Pfizer-BioNTech COVID-19 vaccine (BNT162b2) in the first year of rollout in the United States, *Journal of Medical Economics* (2022). [DOI: 10.1080/13696998.2022.2071427](https://doi.org/10.1080/13696998.2022.2071427)

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