

COVID booster cuts death rate by 90%, Israeli study finds

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(HealthDay)—Booster doses of Pfizer's coronavirus vaccine set

recipients up to effectively withstand the ravages of both the Delta and Omicron variants, a group of new studies suggest.

Boosted folks are 90% less likely to die from a Delta infection than [people](#) relying solely on the initial two-dose vaccination, Israeli data show.

That protection will be critically important during the next couple of months as the [Delta variant](#) continues to dominate throughout the United States, said Dr. William Schaffner, medical director of the [National Foundation for Infectious Diseases](#).

"While we are preoccupied with Omicron, you need to remember that Delta is essentially in every town and city in the United States today—being transmitted, infecting new people, sending people to the hospital, in some parts of the country stressing the health care system once again," Schaffner said. "Although we have Omicron in the United States and it's starting to take hold, nonetheless well over 95% of all new infections today are caused by Delta."

Some infectious disease experts expect [Omicron](#) will eventually crowd out Delta and become the predominant variant of COVID, given its increased transmissibility.

But there's good news for boosters on that front, too: Pfizer announced Wednesday that a third dose of its vaccine will counter Omicron's ability to undercut a person's antibody protection against COVID.

Lab studies show the Omicron variant cuts vaccine protection by more than 25-fold in people who've gotten the full two-dose course of the Pfizer jab, the company said in a [statement](#).

However, a third dose boosts antibody levels back to where they were

before Omicron made its way onto the world stage, Pfizer said.

"Although two doses of the vaccine may still offer protection against severe disease caused by the Omicron strain, it's clear from these preliminary data that protection is improved with a third dose of our vaccine," Pfizer Chairman and CEO Albert Bourla said in the company statement. "Ensuring as many people as possible are fully vaccinated with the first two-dose series and a [booster](#) remains the best course of action to prevent the spread of COVID-19."

The new data from Israel found that people who received a Pfizer booster at least five months after finishing their initial two-dose series had a 90% lower death rate than people who didn't receive a booster.

That study tracked more than 843,000 Israelis who had received the full two-dose series of the Pfizer vaccine and were eligible to get a booster. Around 758,000 people from that group actually got the booster.

There were 65 people in the booster group who died during the study period, compared with 137 in the non-booster group. The study ran through August and September, when Delta was the predominant COVID variant.

A second study out of Israel focused on infection and severity of illness, and it also produced good tidings for boosters in the face of the Delta variant. This study involved nearly 4.7 million Israelis who'd been fully vaccinated with Pfizer and were eligible for boosters.

Confirmed infections were tenfold lower in the group of people who got the Pfizer booster, researchers reported. Further, results showed that the longer a booster was in a person's system, the more resistant they became to infection from the Delta strain.

The Pfizer booster also reduced rates of severe illness by nearly 18 times in people aged 60 or older and by nearly 22 times in people aged 40 to 59, compared to those without the booster, according to results reported Dec. 8 in the *New England Journal of Medicine*.

"If anyone were at all skeptical of the need for boosting in any age group, I think these two studies together would go a long way to eliminating that skepticism and reinforcing the program that we have here in the United States to get everyone age 18 and older who's eligible for a booster to get them that booster vaccine," Schaffner said.

Dr. Amesh Adalja, a senior scholar with the Johns Hopkins Center for Health Security in Baltimore, agreed.

"High-risk individuals should be boosted for protection against Delta—the bigger threat today," Adalja said.

While the Israeli studies could not predict how vaccines will fare against Omicron, Pfizer announced some hopeful [findings](#) early Wednesday.

The booster increases antibody levels in a way that could overcome the potential of Omicron's mutations to evade the [immune system](#), replenishing antibody levels even as the new strain undercuts them, Pfizer said.

It also appears that "killer" T-cells produced by the Pfizer vaccine remain able to recognize at least 80% of receptors targeted on the Omicron variant's spike protein, the company added.

"Killer" T-cells are so named because these immune cells can directly attack and eliminate virus-infected cells. They also recruit other types of cells to create a greater immune response through the use of cytokines, small signaling proteins that create inflammation.

The T-cell findings indicate that both vaccines and [boosters](#) will help protect people against hospitalization and death from the Omicron variant, Pfizer said.

But experts warn that real-world data will be needed before people can feel comfortable about vaccine protection against Omicron.

"It's unclear what benefit the booster will have against Omicron breakthrough cases—the variant has a lot of immune-evasive mutations," Adalja said. "However, it appears to be the case that fully vaccinated individuals are protected against severe disease from Omicron and that is the primary goal."

That said, you shouldn't delay your booster shot in hopes that drug companies will come out with an improved vaccine that protects against Omicron, said Stephen Kissler, a postdoctoral infectious disease research fellow with the Harvard T.H. Chan School of Public Health in Boston.

"I would highly recommend getting one now, because by the time we formulate an Omicron-specific [vaccine](#) and get it approved and get the supply ramped up enough to administer to everyone who wants it, Omicron will have already done what it's going to do," Kissler said. "It might be continuing to spread after the fact, but we're going to see a surge of Omicron in the coming weeks, and we're not going to have an Omicron-specific booster in that time."

More information: The U.S. Centers for Disease Control and Prevention has more about [COVID-19 boosters](#).

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