

What's the science behind CDC's decision to say fully vaccinated people don't need masks?



CNN Films' "Race for the Vaccine," produced and narrated by Chief Medical Correspondent Dr. Sanjay Gupta, traces the world-changing discoveries of the vaccines against Covid-19. Watch Saturday, May 15, at 9 p.m. ET.

(CNN) — A fresh batch of data from a big study of health care workers across the country helped prompt the US Centers for Disease Control and Prevention to say fully vaccinated people can go without masks in most circumstances, the agency said Friday.

[The study](#) found that real-life use of the Moderna and Pfizer vaccines provided 94% protection for the front-line workers immunized at the

beginning of the vaccine rollout. A single dose provided 82% protection, the CDC-led team reported in the agency's weekly report, the MMWR.

It was the findings from the new study, on top of earlier studies, that pushed CDC to decide to loosen its advice on who needs to wear a mask and when, CDC Director Dr. Rochelle Walensky said.

"This report provided the most compelling information to date that COVID-19 vaccines were performing as expected in the real world," Walensky said in a statement Friday.

"COVID-19 vaccines are effective at preventing COVID-19 disease, especially severe illness and death," CDC says on [its new web page](#) describing guidance for the fully vaccinated.

"COVID-19 vaccines reduce the risk of people spreading COVID-19."

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After weeks of telling people that even fully vaccinated people might carry virus in their noses, mouths or throats and breathe or spit it out onto others, the CDC says the evidence shows this is unlikely.

The reason -- viral load. At least three major studies have shown that fully vaccinated people are not likely to test positive for coronavirus, which indicates they are not carrying it in their bodies, whether they have symptoms or not.

Last March 29, a network of researchers [released a study](#) via the CDC that

involved nearly 4,000 health care workers who tested themselves weekly. That's the only real way to tell if people become infected with the virus without developing symptoms.

Reduced viral load

About 63% of them were vaccinated.

Only about 11% had asymptomatic infections, the research team found at the time. Those who got both doses of either Pfizer/BioNtech's or Moderna's vaccine were 90% less likely to get a positive test and those who got only a single dose had 80% protection.

A similar study from Israel, published on the same day [in the journal Nature Medicine](#), found vaccinated people who got infected had a lower viral load -- fourfold lower than unvaccinated people.

"In this analysis of a real-world dataset of positive severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) test results after inoculation with the BNT162b2 messenger RNA vaccine (Pfizer's) we found that the viral load was substantially reduced for infections occurring 12--37 days after the first dose of vaccine," Roy Kishony of the Technion - Israel Institute of Technology and colleagues wrote.

"These reduced viral loads hint at a potentially lower infectiousness, further contributing to vaccine effect on virus spread."

The latest study was released Friday.

"This assessment, conducted in a different study network with a larger sample size from across a broader geographic area than in the clinical trials, independently confirms U.S. vaccine effectiveness findings among health



care workers that were first reported March 29," the CDC said in a statement.

"This study, added to the many studies that preceded it, was pivotal to CDC changing its recommendations for those who are fully vaccinated against COVID-

19."

The study involved more than 1,800 workers and compared people who tested positive for coronavirus to those who tested negative.

"Health care personnel are at high risk for COVID-19," the report reads. "The early distribution of two mRNA COVID-19 vaccines (Pfizer-BioNTech and Moderna) to health care personnel provided an opportunity to examine vaccine effectiveness in a real-world setting," they added.

Real-life data shows little risk of breakthrough infection

"The first U.S. multisite test-negative design vaccine effectiveness study among health care personnel found a single dose of Pfizer-BioNTech or Moderna COVID-19 vaccines to be 82% effective against symptomatic COVID-19 and 2 doses to be 94% effective."

With more Americans being vaccinated, the risk of infection is dropping, said Dr. Peter Hotez, a vaccine expert and dean of the school of tropical medicine at the Baylor College of Medicine in Houston.

According to CDC data, nearly 47% of the US population has received at least one dose of Covid-19 vaccine and about 36% of the US population is fully vaccinated.

"The transmission rates are going way down," Hotez told CNN's Alisyn Camerota and Victor Blackwell on Friday.



"And I think the other piece that's really important is the data coming out of real-life situations like Israel, showing that anyone who does get breakthrough asymptomatic infection -- which is very uncommon -- has dramatically reduced virus loads and virus shedding, so this

really is interrupting transmission, which is just such good news and so exciting."

In theory, if only fully vaccinated people went mask-free, there should be little risk of the virus spreading. But most US states have dropped mask mandates and more are dropping them after the CDC guidance.

Some critics have complained that the CDC has made no provision for people who have not been vaccinated but who will not wear masks.

"While we all share the desire to return to a mask-free normal, today's CDC guidance is confusing and fails to consider how it will impact essential workers who face frequent exposure to individuals who are not vaccinated and refuse to wear masks," United Food and Commercial Workers union president Marc Perrone said Thursday.

And President Joe Biden confirmed that Americans will be on the honor system for making sure they are vaccinated before discarding face masks. "We're not going to go out and arrest people," Biden said in remarks Thursday.

There are some caveats to the science behind the new guidance. Right now,

it looks like the authorized vaccines are very effective against new variants of the virus that are arising—but that's not certain.

"Early data show the vaccines may work against some variants but could be less effective against others," the CDC notes.



Other unknowns include how well the vaccines protect people with weakened immune systems, including cancer patients and people with autoimmune disorders who take immunosuppressive medications.

Plus, the CDC says, it's not clear [how long coronavirus vaccine protection lasts](#), although studies indicate it's at least six months and likely longer.

Walensky denies the changes were made to motivate people to get vaccinated -- although many public health experts had urged CDC to make the changes as an incentive.

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Back in April, when the CDC said fully vaccinated people should still wear masks inside when around other people, the agency did note that encouraging people to get vaccinated might be a legitimate factor in changing guidance.

"In summary, relaxing certain prevention measures for fully vaccinated people may be a powerful motivator for vaccination, and thus should be an important goal of the U.S. vaccination program," [those guidelines](#), still up on the CDC site, read.