

# What does vaccine effectiveness mean



The current COVID-19 vaccines are very effective in preventing or reducing the severity of COVID-19. In clinical trials, the **Pfizer-BioNTech** COVID-19 vaccine was shown to be **95% effective** and the **Moderna** COVID-19 vaccine was shown to be **94% effective against the virus**.

## Clinical Trials

During clinical trials, **thousands of volunteers** are divided into two groups. Half of the volunteers receive the **COVID-19 vaccine** and half do not (they receive a placebo.)

### Volunteers



### COVID-19 Vaccine



Got Symptoms: 1 in 20



### Placebo Vaccine



Got Symptoms: 19 in 20



After the vaccines are given, the **volunteers are observed over time** to see if they develop COVID-19 symptoms. Researchers then compare the number of ill volunteers in the two groups.

In this chart, **95% fewer volunteers** who received the COVID-19 vaccine got COVID-19 symptoms compared to volunteers who did not get the vaccine. Therefore, the vaccine would be 95% effective.

## How effective are other routine vaccines?

Many vaccines, including the COVID-19 vaccines, reduce the severity of illness even if you do get sick. It's important to remember that **no vaccine is 100% effective**. Influenza vaccine changes every year, but ranges from 19–60% effective. The measles vaccine is 97% effective.

## What are we still learning?

After a vaccine is authorized for use, its safety and effectiveness **continue to be monitored**. Scientists and health officials are still learning how long COVID-19 vaccine protection lasts as well as if vaccinated people can still get COVID-19, and pass it on to others, but have no symptoms.



For more information about how vaccines are created, tested and distributed, visit [vdh.virginia.gov/covid-19-vaccine](https://vdh.virginia.gov/covid-19-vaccine) or call 877-ASK-VDH3.



**VDH** VIRGINIA  
DEPARTMENT  
OF HEALTH