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

Placebo Vaccine

Got Symptoms: 1 in 20

Got Symptoms: 19 in 20

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.

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.

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