

# Large Study Confirms Masks Work to Limit COVID-19 Spread

By [Brenda Goodman, MA](#)

Sept. 7, 2021 -- A large, real-world test of [face masks](#) in Bangladesh shows that masks reduce community spread of COVID-19. It also shows that surgical masks are more effective than cloth face coverings.

The [study demonstrates](#) the power of careful investigation and offers a host of lessons about mask wearing that will be important worldwide. One key finding of the study, for example, is that wearing a mask doesn't lead people to abandon [social distancing](#), something public health officials had feared might happen if masks gave people a false sense of security.

"What we really were able to achieve is to demonstrate that masks are effective against COVID-19, even under a rigorous and systematic evaluation that was done in the throes of the [pandemic](#)," said Ashley Styczynski, MD, who was an infectious disease fellow at Stanford University when she collaborated on the study with other colleagues at Stanford, Yale, and Innovations for Poverty Action (IPA), a large research and policy nonprofit organization that currently works in 22 countries.

"And so, I think people who have been holding out on wearing masks because [they] felt like there wasn't enough evidence for it, we're hoping this will really help bridge that gap for them," she said.

It included more than 600 unions — or local governmental districts in Bangladesh — and roughly 340,000 people.

Half of the districts were given cloth or surgical face masks along with continual reminders to wear them properly; the other half were tracked with no intervention. Blood tests of people who developed symptoms during the

study verified their infections.

Compared to villages that didn't mask, those where masks of any type were worn had about 9% fewer symptomatic cases of COVID-19. The finding was statistically significant and was unlikely to have occurred by chance alone.

"Somebody could read this study and say, 'OK, you reduced COVID-19 by 9%. Big deal.' And what I would respond to that would be that if anything, we think that that is a substantial underestimate," Styczynski said.

One reason they think they underestimated the effectiveness of masks is that they only tested people who were having symptoms, so people who had only very mild or asymptomatic infections were missed.

Another reason is that among people who had symptoms, only one third agreed to undergo a blood test. The effect may have been bigger had participation been universal.

Local transmission may have played a role, too. Rates of COVID-19 in Bangladesh were relatively low during the study. Most infections were caused by the B.1.1.7, or Alpha, variant.

Since then, Delta has taken over. Delta is thought to be more transmissible, and some studies have suggested that people infected with Delta shed more viral particles. Masks may be more effective when more virus is circulating.

The investigators also found important differences by age and by the type of mask. Villages where surgical masks were worn had 11% fewer COVID-19 cases than villages in where masks were not worn. In villages where cloth masks were worn, on the other hand, infections were reduced by only 5%.

The cloth masks were substantial. Each had three layers — two layers of fabric with an outer layer of polypropylene. On testing, the cloth masks filtered only about 37% of virus particles, compared to 95% for the three-layer surgical masks, which were also made of polypropylene.

Masks were most effective for older individuals. People 50 to 60 years who wore surgical masks were 23% less likely to test positive for COVID compared to their peers who didn't wear masks. For people older than 60, the reduction in risk was greater — 35%.