IDEAS

The Masks Were Working All Along

Now we have definitive proof that masks really are effective.

By Derek Thompson

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The most urgent question in the world for the past 20 months has been: What's the best way to stop the spread of the coronavirus? But it's a frustrating question to answer definitively, since even the most logical solutions have been shrouded in what I've called the fog of pandemic.

For example, covering your nose and mouth seems like a sensible way to block virus particles that come out of the mouth and go into the nose. But designing a perfect masking study is hard when state-by-state behavior differs from official masking policies, and when everybody's wearing a different material over their face. Limiting indoor dining seems like it would help contain a virus that spreads via indoor talking, but we don't have enough high-quality data to know for sure whether it makes a huge difference. Targeted shutdowns seem likely to prevent social mixing in the short term, but designing an experiment that proves their long-term effectiveness is devilishly difficult.

By contrast, the trials that proved the effectiveness of the COVID-19 vaccines used the gold standard of scientific research, by randomly assigning people to treatment and control groups and then carefully measuring the effect of the medical intervention. If only we had something almost like this for, say, masking: a careful, randomized, real-world experiment on the effect of masks.

Well, now we have it. This week, a group of scientists from Yale, Stanford, UC Berkeley, and other institutions published the final results of a randomized study of community-wide masking behavior in Bangladesh. The study—now in preprint form—encompassed roughly 350,000 people in 600 villages. The researchers randomly selected certain villages for an intervention that included giving out free masks, paying villagers to remind people to cover their face, and having village leaders and religious figures such as imams emphasize the importance of masks. The researchers also paid villagers to count properly worn masks in public places, including markets and mosques. To gather data on coronavirus transmission, the team asked about symptoms and conducted blood tests to determine who came down with

COVID-19 over the course of the study.

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Their conclusion? Masks work, period. Surgical masks are particularly effective at preventing coronavirus transmission. And community-wide mask wearing is excellent at protecting older people, who are at much higher risk of severe illness from COVID-19.

To some, this conclusion might sound like the work of liberal conspiracists to permanently swaddle our faces in tyrannical cloth. To others, it might sound like very old news. After all, you might think, if people were masking successfully during the 1918 flu pandemic, why do we need a 2021 study to prove the benefits of the practice? But the Bangladesh study is still perhaps the most important research done during the pandemic outside of the vaccine clinical trials, because it gives us randomized-trial data to bolster the flimsier assumptions and conclusions of observational research. We finally have a sense of not just *whether* masks work but *how much* universal masking could reduce transmission. The answer is: quite a lot.

The randomly assigned pro-masking policy reduced the number of confirmed, symptomatic COVID-19 cases in the intervention group by nearly 10 percent, relative to the control group. That might not sound like a huge effect. But the intervention increased masking from 14 percent to only 43 percent; 100 percent masking would have likely had a much larger effect.

Even more impressively, the villages that implemented pro-masking policies saw a 34 percent decline in COVID-19 among seniors, for whom the disease is most deadly. This could be because older villagers are more likely to properly wear masks, or because they are more likely to have symptomatic infections if they come into contact with the coronavirus.

The study also found clear evidence that surgical masks are better at reducing the spread of symptomatic COVID-19 than cloth masks. In focus groups, Bangladeshi participants said they preferred cloth masks because they seemed to be more durable. But the researchers found that, on the one hand, surgical masks were more efficient, even after being washed 10 times with soap and water. "On the other hand, we found only mixed evidence about cloth masks," Jason Abaluck, a co-author of the study and a professor at Yale, told me. People wearing cloth masks had fewer symptoms, such as coughs, than the control group, which suggests some effect. But cloth-mask wearers didn't have significantly fewer coronavirus antibodies as determined by blood tests. "We cannot reject that [cloth masks] have zero or only a small impact on symptomatic SARS-CoV-2 infections," Abaluck wrote along with Mushfiq Mobarak of Yale, Laura Kwong of UC Berkeley, Stephen Luby and Ashley Styczynski of Stanford, and other researchers.

Creating a social norm is hard work. The pro-masking intervention in this study was aggressive, extensive, and expensive. In all, the researchers distributed more than 1 million masks. Free distribution of masks was important. But of all the interventions, mask promotion—that is, paying individuals to remind people on the street to cover their face—seemed to have the biggest effect. "Reminders from people in the village almost acted as booster shots for masking," Abaluck told me. The research team is currently working on scaling up its intervention in countries including Pakistan, India, and Nepal.

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Subtler efforts to change behavior failed to do much in the Bangladeshi study. Texting

reminders made little difference. Talking about altruism and protecting the community made little difference. Offering cash rewards made little difference. Asking people to post pro-mask signs or to verbally commit to wearing masks in the future made little difference. The behavioral nudges failed to nudge behavior.

People with strong opinions about masks should be cautious about how they incorporate this study into their advocacy. On the debate over masking in primary schools, this study doesn't have much to directly offer, since the surveillance staff recorded mask-wearing behavior only among people who looked older than 18. On the debate about masking in specific places such as movie theaters and crowded arenas, this study also doesn't directly apply. "Our study can't distinguish between outdoor and indoor transmission," Abaluck said. "Given other research, it's likely that masks are most effective in indoor, unventilated spaces. But our study doesn't tell us explicitly whether, say, parks or restaurants or schools are likely places for transmission."

So where does this leave us? In the past year and a half, masking in the United States has gone from being a point of confusion to a partisan flash point. Republicans who have discovered a special enemy in the specter of masking often point back to the morass of conflicting information from the beginning of the pandemic. Yes, Anthony Fauci infamously advised against masking. Yes, the World Health Organization refused to endorse it for months.

But that was a different time. Wisely navigating a pandemic requires that we marry a healthy skepticism with a willingness to change our minds when presented with high-quality evidence. Based on the results of this study and other observational research, we should go forward with a more confident thesis about face coverings: Community-wide usage of surgical masks clearly reduces the spread of the coronavirus, especially in the unventilated indoor environments where it seems to spread most efficiently.