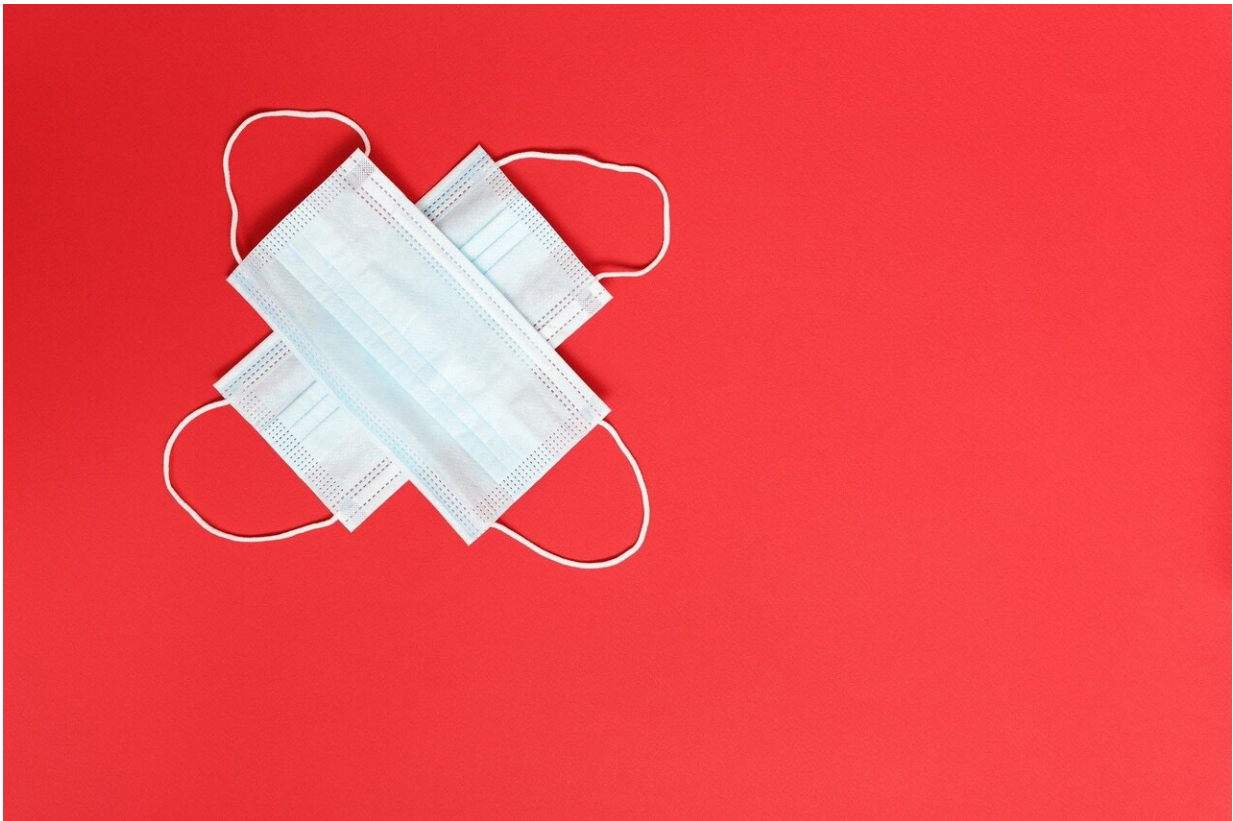


New data on increasing cloth mask effectiveness

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Recent FDA chief Dr. Scott Gottlieb argued that he'd "rather try to get everyone in masks" and "try to get them in high-quality masks because we know it's going to slow down the transmission."

Against this backdrop, a new study published in *Risk Analysis*, "Reinventing cloth [masks](#) in the face of pandemics," by Stephen Salter, P.Eng., describes how effective fiber mask programs (EFMPs) can help communities find a balance between the economy and curbing community spread.

A separate study by Stadnytskyi, et al. estimates that one minute of loud speaking generates at least 1,000 virion-containing droplets that remain airborne for more than eight minutes. If everyone uses effective masks, the benefit is compounded because each person's mask reduces the number of particles they transmit, and also the number of particles they inhale.

The new study in *Risk Analysis* suggests that the effectiveness of cloth masks can be improved by using a non-woven material such as cotton batting. Increasing the surface area of fibers exposed to moving air improves filtering efficiency because the smaller particles are absorbed onto the fibers. In May and June of 2020, 17 handmade cotton batting masks underwent 35 tests using commercial quantitative fit testing equipment to determine their filtering effectiveness. The results showed average filtering effectiveness of 76 to 90 percent against aerosol particles.

If an effective fiber mask (EFM) costs \$6 and can be used 30 times for four hours each, the cost per hour of use would be \$0.05. Another study, by Abaluck et al., estimated the value of cloth masks during the COVID-19 pandemic, and concluded, "...the benefits of each additional cloth mask worn by the public are conservatively in the \$3,000-\$6,000 range due to their impact in slowing the spread of the virus." This cost-benefit ratio suggests governments should consider subsidizing the cost of EFMs for the public.

Governments can take a [leadership role](#) by rapidly implementing EFMPs

to help reduce transmission of COVID-19, according to Salter. To implement an EFMP, a government would set [performance standards](#) for cloth masks, invite manufacturers to submit their mask designs for testing, allow manufacturers to label their approved designs, ask or require the public to wear only approved cloth masks, educate the public to use face masks correctly, and encourage manufacturers to continuously improve their designs.

"I am confident Effective Fiber Masks can play an important role in reducing the risk of transmission of COVID-19," states Salter. "Every country can rapidly implement an Effective Fiber Mask Program, and I hope leaders will act quickly to reduce suffering in this way."

More information: Stephen Salter, Reinventing Cloth Masks in the Face of Pandemics, *Risk Analysis* (2020). [DOI: 10.1111/risa.13602](https://doi.org/10.1111/risa.13602)

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