

Face masks should be distributed to those most vulnerable to COVID-19

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Credit: Kate Trifo/Unsplash

The use of face masks among the general public could help to reduce the total number of infections and deaths from COVID-19, according to modeling study published in *Nature Communications*. The study finds

that even cloth face coverings with limited protective effect, when deployed universally, can help to reduce the total number of infections and deaths.

Colin Worby and Hsiao-Han Chang used mathematical modeling to examine the impact of face mask use and distribution among the [general population](#) during a coronavirus outbreak. The authors simulated outbreaks in which supply and effectiveness of disposable medical-grade [masks](#) varied and calculated the resulting total numbers of infections and deaths. Across the models used, they found the total number of deaths and infections decreased as mask availability and effectiveness increased.

The authors considered four distribution strategies for scenarios with a limited supply of disposable medical grade masks in the general population: random distribution, prioritized distribution to the elderly, distribution to the elderly and detected cases, and distribution to detected cases. In all of their models, it was assumed that [healthcare workers](#) and key personnel would have adequate protection. Here, the authors found that prioritizing the elderly and retaining a supply of surgical masks for identified infectious cases led to a larger reduction in total infections and deaths than random distribution.

When modeling the adoption of universal face coverings (reusable cloth face coverings), the authors found that the reduction in total deaths was comparable to that achieved with targeted distribution of disposable medical-grade masks, even when supplies of surgical masks were limited to 10% of the population. They found that universal cloth face coverings could lead to a 3–5% reduction in deaths, and additional targeted distribution of medical masks to the elderly and symptomatic may double this effect.

The authors conclude that face mask use is an important component of

public health measures to limit the ongoing spread of SARS-CoV-2. However, further studies are required to obtain improved estimates for mask effectiveness among the public during the COVID-19 pandemic.

More information: Colin J. Worby et al. Face mask use in the general population and optimal resource allocation during the COVID-19 pandemic, *Nature Communications* (2020). [DOI: 10.1038/s41467-020-17922-x](https://doi.org/10.1038/s41467-020-17922-x)

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