

LETTER TO THE EDITOR

**Evidence, values, and masks for control of
COVID-19: 2 years later**

Public health could have given better mask wearing guidance by acknowledging uncertainty regarding effectiveness, highlighting value and preference tradeoffs, and pointing out how tradeoffs differ across risk groups. In the absence of clear statements regarding each of these issues as part of public health guidance, for whom and when the benefits of mask wearing outweigh its burdens have remained contentious [1].

In 2021, using well-known rules of social rationality (e.g., imitate the majority heuristic) [2], we proposed that when the tradeoff between benefits and harms of a given intervention is uncertain, comparing the effects to some commonly accepted benchmarks may aid decision-making [3]. Specifically, we suggested that given that millions of people routinely use statins for primary prevention of heart disease, although effects are very small (NNT [number of patients that need to be treated to benefit one patient] = 500), it is reasonable to suggest NNT of 500 as a reference point below which most people would accept intervention for a low-frequency event. We then calculated

that using NNT (number of people who would need to wear the mask to prevent one COVID-19 infection) = 500 as a reference point, people living in October 2020 in 96% counties (3,103) in the continental United States could have readily accepted wearing masks.

We have now updated this analysis and determined that the $NNT \leq 500$ threshold is met in less than 1% (30/3,104 = 0.32%) counties (Fig 1). This occurred despite the fact that in October 2020, more than 80% of people were regular mask-wearers and now (September 2022) that is true of only 8% [4]. Because there is no such a thing as the “right or wrong” risk attitude - depending on their perception of the burden of mask-wearing, some people would consider an NNT of 500 either too high or too low a threshold—the decision whether to wear a mask remains an individual one that should, however, be informed by local risk estimates that are now readily available on many websites (e.g., <https://www.cdc.gov/coronavirus/2019-ncov/your-health/covid-by-county.html>; <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html#:~:text=Medium%20or%20High,mask%20when%20indoors%20with%20them>).

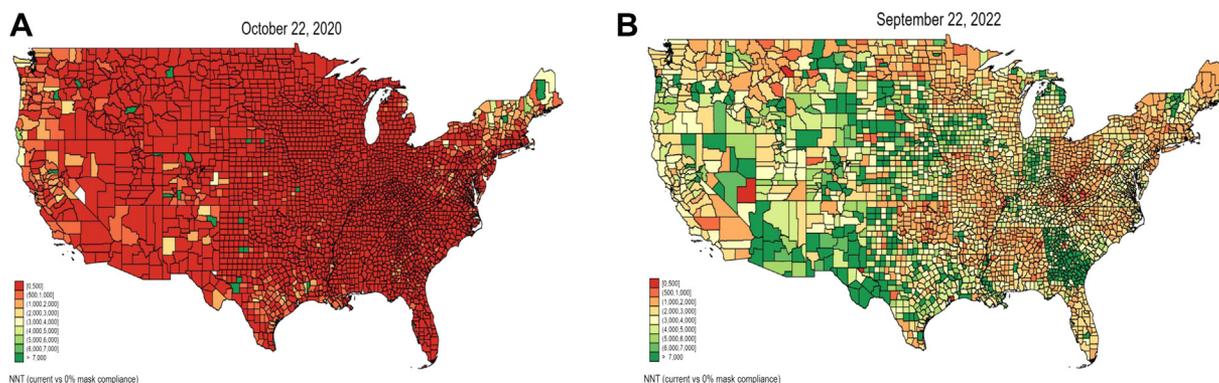


Fig. 1. Comparison of NNT threshold (number of people who would need to wear the mask to prevent one COVID-19 infection, on average) ≤ 500 across the continental United States counties as determined in October 2020 (a, left) and September, 2022 (b, right). On October 22, 2020, NNT ≤ 500 threshold was met in 86%* (2,663/3,102) counties in the continental United States, whereas in the analysis performed on September 22, 2022, NNT ≤ 500 threshold was met in less than 1% (10/3,104 = 0.32%) counties in the continental United States. *originally we calculated that this threshold was met for 96% counties in October 2020. The discrepancy probably occurred due to updated mask-compliance data and frequent update and change in the format in the NYT COVID-19 database. “Current” mask usage refers to 80% in October 2020 and 8% in September 2022. Details for calculations are provided in reference #3.

Conflicts of interest: We declare no conflicts of interest in relation to the content of this article.

What is new?**Key findings**

- In 2021, based on well-known rules of social rationality, we proposed using number of people that need to be receive an health intervention in order to benefit one person (NNT) = 500 as the threshold for acceptability for wearing masks (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7705328/>).
- Using NNT = 500 as the threshold, we calculated that people living in October 2020 in 96% counties (3,103) in the continental United States could have readily accepted wearing masks (the actual compliance was about 80% in October 2020).

What this adds to what was known?

- We have now updated the analysis to show that NNT \leq 500 threshold is met in less than 1% (30/3,104 = 0.32%) counties (although the current compliance with mask wearing is only 8%).

What is the implication and what should change now?

- We conclude that the findings indicate that risk from COVID-19 has substantially decreased, mostly due to vaccine and natural immunity.
- The COVID-19 “mask war” can be considered to be finally over.

Nevertheless, the findings indicate that risk from COVID-19 has substantially decreased, mostly due to vaccine (In the United States, the first vaccine for prevention of COVID-19 was approved on December 11, 2020.) and natural immunity. The COVID-19 “mask war” [5] can finally be over.

Acknowledgments

This work was possible through the intramural support for the academic activities of the authors’ parent organizations.

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<https://doi.org/10.1016/j.jclinepi.2022.10.008>