

## EDITORIAL

## Infectious Disease

# Comments on Collins et al “N95 respirator and surgical mask effectiveness against respiratory viral illnesses in the healthcare setting: A systematic review and meta-analysis”

Collins et al have offered corrections to their article “N95 respirator and surgical mask effectiveness against respiratory viral illnesses in the healthcare setting: A systematic review and meta-analysis.”<sup>1</sup> The original manuscript reported that N95 respirator use was more effective in preventing respiratory viral infections compared with surgical masks across a range of viral conditions. In the erratum, the authors update that the superiority of N95 over surgical masks seems limited to the subset of non-influenza respiratory viral infections.<sup>2</sup>

An astute reader highlighted technical inconsistencies in the originally published work. On learning of these concerns, we asked the authors to re-examine their analysis. Our methodology editors worked closely with the authors, identifying computational errors made in the original meta-analysis. The authors have provided updated results incorporating not only key analytic corrections but also the use of a more specialized software package for meta-analysis. Despite changes in the overall conclusions, we encourage readers to keep sights on important overarching perspectives; appropriate mask use is important in limiting the transmission of viral infections, and in select settings, N95 respirators may offer important complementary protection.

Science is a fluid process. Experimental results are neither “right” nor “wrong,” nor permanently engraved in stone. Inherent in the scientific process should be the willingness to re-evaluate a finding and update inferences. It is not uncommon for scientists to formulate new perspectives based on evolving knowledge or new analytic tools. For example, although clinical trials normally adhere to rigorous a priori-defined analysis plans, Bayesian statistical techniques have shed new light on many previously published results.<sup>3-6</sup> We imagine that as scientific journals evolve in the digital age, dynamic supplements may become the norm, offering a forum for authors to provide successive updates of data, analyses or inferences in response to real-time questions from the scientific community.

We applaud the Collins team for their responsiveness and transparency. We believe that these efforts exemplify the evolving process and spirit of scientific discovery.

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Email: [Henry.wang@osumc.edu](mailto:Henry.wang@osumc.edu)See erratum by Collins et al: <https://doi.org/10.1002/emp2.12894>

## KEYWORDS

COVID-19, infectious diseases, influenza, masks

## REFERENCES

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