Statement about our Publication

A guideline to limit indoor airborne transmission of COVID-19 [PNAS 118 (17), e2018995118 (2021)]

Martin Z. Bazant and John W. M. Bush

April 25, 2021

We would like to clarify the scientific findings of our study, which have been mischaracterized by some on social media and in the news.

In our study, we derive a new safety guideline, Eq. [5], for limiting the airborne spread of COVID-19 indoors. Our study builds on well-established models of indoor airborne disease transmission. Quoting from the <u>PNAS publication (page 2)</u>:

These models are all based on the premise that the space of interest is well mixed; thus, the pathogen is distributed uniformly throughout. In such wellmixed spaces, one is no safer from airborne pathogens at 60 ft than 6 ft.

The latter statement follows directly from the standard assumption of the well-mixed room, since everyone inside such a room will effectively be breathing the same air.

The value of social distancing in limiting COVID-19 transmission by respiratory jets is made clear in the last section of our paper, "Beyond the well-mixed room". There, building on an earlier study published in PNAS, we propose a modified guideline, Eq. [7], through consideration of respiratory jets, as may lead to significantly elevated risk, especially when face masks are not worn.

Above all, our study indicates that the Six-Foot Rule is insufficient to limit indoor airborne transmission of COVID-19: one must also limit the time spent in an indoor space. Our study demonstrates how this time limit depends on the relevant factors, including room occupancy, ventilation and filtration and face-mask use. The guideline may be applied to different indoor spaces using our <u>online app</u>, and also expressed as a limit on the exhaled carbon dioxide concentration. Our study highlights that face masks can be an extremely effective indoor safety measure.

See also the original press release from MIT and Washington Post article.