A DATA-DRIVEN APPROACH

5 Questions
Assessing in-air pathogen transmission indoors

1. SPACE
What size is the space?
Once infectious droplets and particles are exhaled, they move outward. Thus, the risk for infection increases with proximity and decreases with distance—corresponding with square footage of an indoor space.¹

2. OCCUPANCY
How many people are in the space?
Once you know the size of an indoor space, consider the number of potentially infectious people within. The more people in a space, the greater the risk of airborne pathogen transmission.

3. BEHAVIOR
How are the people behaving in the space?
Are people in the space exercising? Singing? Laughing? Wearing masks? Behavior will affect in-air pathogen transmission—both increasing the likelihood of in-air pathogens being inhaled and exhaled.²

4. TIME
How long are individuals occupying the space?
Another crucial consideration is the duration people spend within a space. The more time people spend in a space, the more potential exposure they have to in-air pathogens. And the less time they spend in a space, the less their potential exposure.

5. AIR EXCHANGES
How often is the air in the space “exchanged?”
The final factor to consider while assessing the risk of in-air pathogen transmission is air exchanges. How frequently is the air in a space rotated (or changed) with new air? While the standards for adequate ventilation are stringent, in-air pathogen risk will correlate directly to the frequency of new air changes.³,⁴

³https://www.medrxiv.org/content/10.1101/2021.03.17.21253800v1.full-text
⁴https://www.nature.com/articles/d41586-021-00810-9#ref-CR3