

## Fact Sheet

### Mitigation of Indoor Airborne Infection Transmission

The COVID-19 pandemic highlighted the need to reduce the transmission of airborne viruses, other infectious agents, and allergens through the management of indoor air quality.

Management of indoor air quality is a highly specialized field that requires active collaboration among multiple specialists including occupational physicians, engineers, industrial hygienists, architects, interior designers, and others.

The procedure to establishing effective airborne transmission management involves:

1. Assemble the technical team.
2. Evaluate the premises - This includes understanding the physical layout of the building, a technical evaluation of heating, ventilation and air conditioning (HVAC) equipment and capacity as well as air flow evaluation.
3. Design the solution - This may involve changes to the physical layout and parameters of the building interior (e.g., removal of barriers to air flow), changes to configuration and use of windows and doors, changes to the HVAC system and installation of High Efficiency Particulate Air (HEPA) filters to remove even submicron particles from the air.
4. Evaluate and adjust - The new system using appropriate equipment.
5. Undertake ongoing annual monitoring, equilibration, and optimization and maintenance of the air handling system.

#### The importance of clean air

Airborne viruses, such as SARS-CoV-2 and influenza viruses, cause significant preventable morbidity and mortality among the elderly each year. Respiratory pathogens (e.g., RSV and Legionnaires) and allergens (pollen and dust) also cause a range of illnesses responsible for a large number of work days lost. Therefore, ongoing indoor air quality management is an important way to mitigate illnesses in the workplace and help control local outbreaks.

#### Consequences of not using proper indoor air quality management

Failure to properly provide clean indoor air quality is a high-risk factor and directly linked with increased preventable illness and mortality. To be effective, healthy air quality management must include the appropriate professional teams, a full technical evaluation of the premises, the use of the correct equipment, ongoing monitoring and optimal operation of the entire air handling system.

#### Additional information:

1. <https://engineerscanada.ca/public-policy/issue-statements/air-quality-and-building-management-reducing-the-airborne-transmission-of-the-covid-19-virus>
2. <https://www.ashrae.org/file%20library/technical%20resources/covid-19/ashrae-building-readiness.pdf>
3. <https://www.whitehouse.gov/ostp/news-updates/2022/03/23/lets-clear-the-air-on-covid/>
4. <https://www.youtube.com/watch?v=QBSQumZ4PsY>
5. <https://www.nytimes.com/2022/03/28/us/politics/the-white-house-emphasizes-the-importance-of-indoor-air-quality-as-the-pandemic-moves-into-a-new-phase.html>
6. <https://www.aia.org/pages/6409381-roi-healthier-more-productive-occupants>

For more information see <https://www.novometrixinc.com/>