

## Five great things community spaces can do right now (or any time) to improve indoor air quality and reduce airborne transmission of COVID-19

*Improving indoor air quality can help reduce transmission of COVID-19 and other airborne illnesses. Knowledge Translation specialist Amy Katz asked indoor air quality experts Dr. Jeffrey Siegel and Dr. Amy (Tianyuan) Li what community spaces can do right away to improve indoor air quality and help reduce airborne transmission of COVID-19. Here is what they said in March, 2023. To book an appointment to talk to Dr. Siegel and Dr. Li about indoor air quality measures in your facility, please email Pearl Buhariwala at: [pearl.buhariwala@unityhealth.to](mailto:pearl.buhariwala@unityhealth.to)*

**1. Ask an HVAC expert to inspect and assess your system.** If your building has a centralized, forced-air HVAC system, make an appointment with an HVAC expert for a check-up. Sometimes, there are small adjustments you can make to improve indoor air quality right away. Do some research in advance (see resources below), and ask lots of questions, for example:

- Is there any part of your HVAC system that requires immediate adjustment, repair or replacement? Even a small improvement can make a big difference.
- Is your HVAC filter well-sealed? If not, air can escape around it, and will be released into the room without the benefit of filtration.
- Can you upgrade your HVAC filter? It's best to choose filters that are MERV-13 or higher, as they remove more of the small particles that carry viruses out of the air. But not all HVAC systems will be able to handle very high-efficiency filters. Ask the HVAC expert to help identify the filter with the highest efficiency rating that's compatible with your system.
- How much air is your HVAC system bringing in from the outside? Can it be set to bring in more outdoor air?\* Fresh air makes a real difference when it comes to reducing transmission of COVID-19 and other airborne illnesses. Bringing in more outdoor air through your HVAC system

may use more energy. So look into options like heat or energy exchange systems, which allow you to bring in lots of fresh air without using as much energy.

- For more questions you can ask about optimizing HVAC systems to reduce transmission of COVID-19, see page 13 of [this checklist on COVID-19, indoor air quality and community spaces](#).

**2. Stock up on HVAC filters.** Once the HVAC expert helps identify the filter with the highest efficiency rating that's compatible with your system, stock up. Please note, when changing HVAC filters, wear a well-fitted respirator-grade mask, goggles and gloves, and dispose of the filter in a well-sealed bag.

**3. Work with an HVAC expert to ensure you have excellent bathroom fans that exhaust to the outside.** One of the best things you can do in bathrooms is clear the air between uses. An HVAC expert can help you make sure bathroom fans exhaust to the outside, are well-maintained, and are working properly. For more on bathrooms, see page 18 of [this checklist](#).

**4. Use high-quality portable air filters.** These are a great idea in almost every room, with the exception of bathrooms and shower areas. Make sure not to create tripping hazards, and follow manufacturer instructions. Avoid fancy, un-proven technologies like ionization, plasma, photocatalytic oxidation and hydroxyl radical. You don't need them, and some can release harmful by-products into the air. Focus on quality of the filter, and "clean air delivery rate" (CADR), which will help you decide what size portable air filter to use in a specific room. Higher CADR means better removal performance. You can even make effective, lower-cost portable air filters yourself. For more on choosing, making, placing and maintaining portable air filters, see page 16 of [this checklist](#). When changing filters on portable air filters, wear a well-fitted respirator-grade mask, goggles and gloves, and dispose of the filter in a well-sealed bag.

**5. Stock up on respirator-grade masks.** One of the best ways to protect people from an airborne illness is through the use of respirator-grade masks. As mentioned earlier, they should also be used when changing HVAC and portable air filters. Use this opportunity to make respirator-grade masks (ideally N95, but also KN95 and KF94) available to everyone who uses your facility. For more on masks see this [great backgrounder](#) from the Ontario Society of Professional Engineers.

\* While bringing in more outdoor air will improve ventilation and help reduce transmission of airborne illnesses, it may also introduce new pollutants into the space. For example, when facilities are near busy roads, traffic pollution may enter the space. The same may be true for facilities near polluting industries. Filtration can help filter out some (but not all) of the pollutants that may be in outdoor air. For example, high efficiency HVAC filters will help filter out many pollutants. So will portable air filters.

For more information on using indoor air quality measures like ventilation and filtration to improve indoor air quality, and reduce transmission of COVID-19, please see:

- [Core recommendations for safer indoor air](#) (Ontario Society for Professional Engineers, 2022).
- [Reducing transmission of COVID-19 through improvements to indoor air quality: a checklist for community spaces](#) (Li, Katz & Siegel, 2022).

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