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TO: Members of the State Board of Education
FROM: Karen B. Salmon, Ph.D.
DATE: December 8, 2020
SUBJECT: Strategies for Improving Air Quality in School Facilities

The following information regarding strategies for improving air quality in school facilities will be included in the upcoming iteration of the “COVID-19 Guidance for Schools” issued jointly by the Maryland Department of Health (MDH) and the Maryland State Department of Education (MSDE).

What are some recommended strategies for improving air quality in school facilities upon reopening?

When addressing the issue of air quality within school facilities, it is important to note that air quality improvement actions should be done while also following all COVID-19 mitigation strategies in accordance with the guidance contained in this document (e.g., use of cloth face coverings, physical distancing, cleaning and disinfecting and hand hygiene).

Strategies to improve air quality in school facilities include but may not be limited to:

- Minimizing time in enclosed spaces, and maximizing time outdoors as much as possible (when appropriate)
- Avoiding the use of poorly ventilated spaces as much as possible
- Cleaning and properly installing air filters so that air goes through the filters, rather than around them, with as high a MERV rated filter as can be accommodated by the HVAC system
- Implementing a strict preventive maintenance program focused on air handling units and exhaust fans to ensure they are working properly
- Disabling demand-controlled ventilation systems
- Maximizing outside air by using the highest outside air setting possible for the equipment
- Opening windows and doors as much as safely possible
 - A couple of inches can significantly increase the number of air changes in the room.
- Using CO2 levels as a good proxy of ventilation. In occupied areas, the IAC [Educational Sufficiency Standards](#) set the CO2 maximum for occupied spaces at 1,200 PPM, although levels should mostly be below 1,000 PPM, and levels in the 600-800 PPM range are preferred indicating very good ventilation. If available, inexpensive portable CO2 meters can be used to evaluate areas where there is a question of ventilation adequacy.
- Utilizing portable HEPA air filtration units, which can be effective in small spaces such as offices, health suites/nursing suites, and isolation rooms (particularly if they are poorly ventilated), though they are usually not effective for larger areas.

Additional Resources

COVID-19: Resources for Reopening Healthy Schools

<https://citiesandschools.berkeley.edu/index.php/covid-school-facilities>

ASHRAE Reopening Guide for Schools and Universities

<https://www.ashrae.org/file%20library/technical%20resources/covid-19/ashrae-reopening-schools-and-universities-c19-guidance.pdf>