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Benchmarking Relative Risk

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Considerations for Implementing the Differential CO₂ Benchmark System

In a classroom or any other area within a school, the process of estimating the level of inhaling another's bronchial fluid will equate with risk. Schools need to identify and respond with standardized risk assessment. Using CO₂ as a proxy will provide responsible guidance.

1 Accurately and repeatedly assess the outside CO₂ burden. In testing outdoor CO₂ burdens of 48 school buildings, we found a range of 481 to 389 PPM for school facilities located generally in the same area. Variations are based on location, weather, and other conditions near the facility. An accurate baseline is necessary for determining a school's indoor air relative risks.

2 Indoor air testing should be conducted within a five-minute period following normal room occupancy and activity. Consistency in the use of equipment and protocols in the locations where samples are drawn is important for comparison purposes. Several readings in each area should be taken. Variations in readings within an activity area will signal room circulation problems.

3 A composite of room readings should contribute to guiding operations. How the accumulated data is utilized within the rooms or buildings will evolve and contribute to guidelines for safeguards within a room, facility, and district.

The focus of protecting school facility occupants must shift from trying to “kill viruses” with disinfectant to supporting the occupant's immune systems by reducing the inhalation of another's bronchial fluid.

That process starts with understanding the nature of immune systems and responding to relative risk relating to both cleaning and disinfecting often touched areas and especially shared breathing zones.

See *The Immune System and Schools Addressing Future Pandemics* paper for more information.



We constantly exhale small invisible packets of bronchial fluid. Some packets may contain a virus and if the bronchial fluid gets through a nearby person's immune system, the virus could make them ill.