



# The Post-COVID-19 School

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## ***The Future of Safe and Effective Schools***

*The learning curve for the well-managed, post-pandemic school represents the difference between success and failure. The single certainty is that there will continue to be new generations of diseases confronting the operational school.*

*The following are the post-COVID realities confronting school leadership:*

- *There will continue to be what is termed a “swarm” of new disease variants, both bacterial and viral, with unique characteristics and risks. Schools must accept and become knowledgeable and flexible in responding to this new reality.*
- *The default to the closure of facilities is risky and costly to society with sometimes irreparable collateral damage. It may sometimes be necessary, but it should be a last resort.*
- *Traditional responses in school facility maintenance must be reevaluated with a focus on reducing shared bronchial fluids in addition to general hygiene. Rethinking engineering controls regarding air exchange and area circulation in particular is important.*

## **What Went Wrong with American Schools Response to COVID-19 – Often a Lot**

*Making mistakes in a crisis is excusable—  
not learning from them is a sin.*

COVID-19 is typically caused by inhaling someone’s exhaled bronchial fluid in an environment that allows a substantial number of the SARS-CoV-2 viruses to blend with, and become established in, someone else’s lungs. Contamination through touching and hand-to-mouth ingestion is possible, but rare. It’s not what is touched, it’s what is inhaled that schools need to control.

The source of contamination is not from outside but people in a confined and typically unhealthy environment. Controlling the atmosphere and occupant density reduces exposures and risks.

In April 2020, Iceland re-opened all of its schools introducing stronger atmospheric controls and general hygiene guidelines regarding distancing and breathing zones. The *New England Journal of Medicine* reported in June 2021 that Iceland’s public health had not detected a single instance of a student passing on infection.

The risk of inhaling the breath of a nearby person in a confined area was not the initial focus of public health advice to schools from the United States Federal Government and World Health Organization. Repeatedly washing hands and obsessively disinfecting surface areas, along with defaulting to outright school closure was often the unfortunate focus of advice to school facility management.

Within the United States and among nations where there was a reluctance to close schools, there was possibly potential risk, but obviously reduced collateral damage associated with school closure. If opened schools implemented policies to limit school occupant exposures, risk was diminished.

There were situations where the schools reopened and, without preventative controls, contributed to the spread of COVID-19 among students, families and communities. In May 2020, schools in Israel reopened and a high

school in Jerusalem with limited air exchange and unrestricted group interactions of students creating what has been termed, “The largest (COVID) outbreak in a single school in Israel, possibly the world.” Conversely in Sweden, all schools essentially remained open. In terms of death rates, the United States experienced over four times the rate of COVID–19 related deaths as Sweden.\* Typically schools



in Scandinavia have higher quality air exchange and greater sensitivity to space and distancing than American schools. Yet the disparity in COVID–19 death rates do not support automatically defaulting to school closure to promote safety.

The point is not that schools should simply have remained open, but that schools should institutionalize better designed and better managed facilities in terms of atmosphere/air exchange and room or area circulation. This, along with better practices involving distancing, potential masking, and selective isolation may allow schools to remain open in relative safety.

Schools in America were badly advised. The Johns Hopkins School of Public Health reported that nearly 75% of American teachers invested substantial professional time repetitively wiping down classroom surfaces. The CDC has estimated that \$13 billion was spent on wiping and re-wiping surfaces in American schools. When schools did eventually focus on ventilation, many implemented systems that were not responsive to better circulation within the areas and sometimes installed more aggressive filtering systems likely to create greater risk.

The depth of the tragedy regarding decisions to default to school closure is yet to be fully understood. There is no question regarding the degrading effects of closing schools. Harvard University researchers followed 224 randomly selected children, ages 7 to 15, not attending shuttered schools. Nearly 2/3 of the students eventually developed clinically significant symptoms of anxiety and or depression. A recent analysis by McKenzie, Inc. estimates that COVID–related learning impact from kindergarten to 12th grade will significantly reduce lifetime earnings and quality of life. Psychologists and pediatricians do not question the debilitating effect of COVID which was enhanced through school closures.

It is a certainty that there will be additional viral as well as bacterial threats to gatherings of people in a more crowded world. The characteristics of those threats may be highly variable, but better management of schools to prevent contaminations must be instituted.

It starts with understanding the nature of infection and immunity and then measuring and controlling exposure and risk.

***It is difficult to understand why schools are closed in the United States...closing would need to be compensated by an extremely good outcome in terms of disease control, and that is not the case.***

**—Dr. Olaf Helve, Director  
Finnish Institute for Health**

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\*The Swedish government instituted hygiene controls in schools but refrained from closing schools. In 2022 The International Journal of Educational Research reported that there had been, “No learning loss in Sweden (among school students) during the pandemic.” Also, in 1922 The Department of Medical Epidemiology and Biostatistics at Karolinska Institute reported that, Sweden’s Covid-19 death rate during the pandemic was, “ ... among the lowest in Europe.”