



Occupational Health Clinics
for Ontario Workers Inc.

Centres de santé des
travailleurs (ses) de l'Ontario Inc.

Collaborating on Solutions for Cleaner School Air



DATE: Friday August 25, 1:00 – 3:00 pm

Back to School safety: the importance of good indoor air quality in our schools for the health of students and teachers.

Let's Collaborate on Solutions for Cleaner School Air!

Cases rising + Classes return = Risk to all!

Awareness, Engineering & Advocacy are needed now to Clean the Air – for everyone's health.

Why prevention is so important



Hosted by:

Kevin Hedges, Ph.D, CIH, COH, Occupational Hygienist, OHCOW Eastern Region/Ottawa Clinic in collaboration with, Amanda Hu (member of the Canadian Covid-19 School Safety Group)

Land Acknowledgement



Canada

I would like to begin by acknowledging that from Ottawa, Canada.

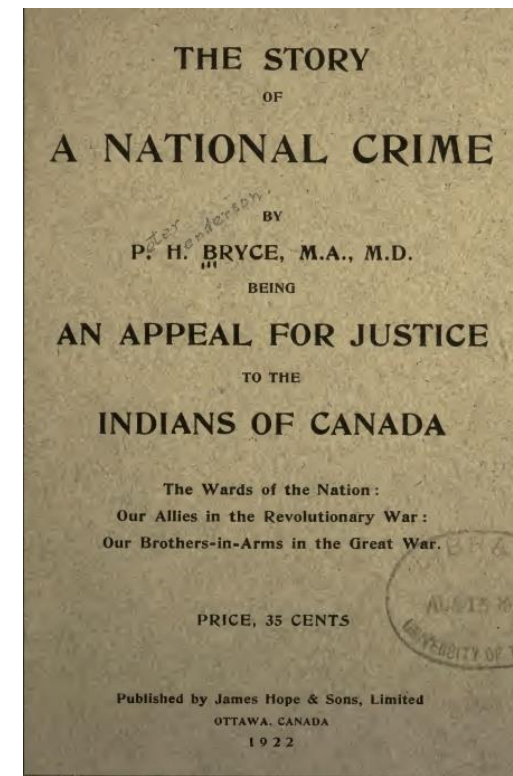
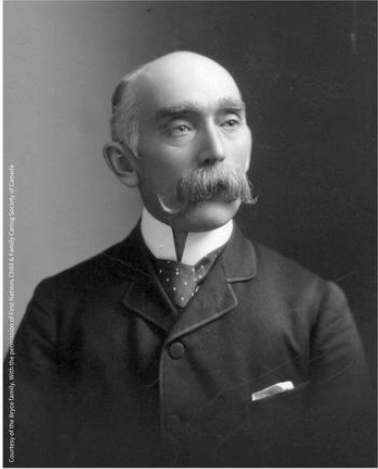
To all First Nations, Inuit and Métis peoples - in recognition of valuable past and present contributions to this land.

Ottawa is on the unceded, Territory of the Anishinaabe Algonquin Nation.





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[Dr. Peter Bryce \(1853–1932\):whistleblower on residential schools](#)

Bryce was responsible for the health of Indigenous children in the schools. Bryce's report named poor ventilation and poor standards of care from school officials as the primary cause of deaths. **His report was never published!**

His 1907 report and The Story of A National Crime (1922) found that roughly one-quarter of all Aboriginal children attending residential schools died of tuberculosis.

<https://caid.ca/AppJusIndCan1922.pdf>



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Schools and Transmission

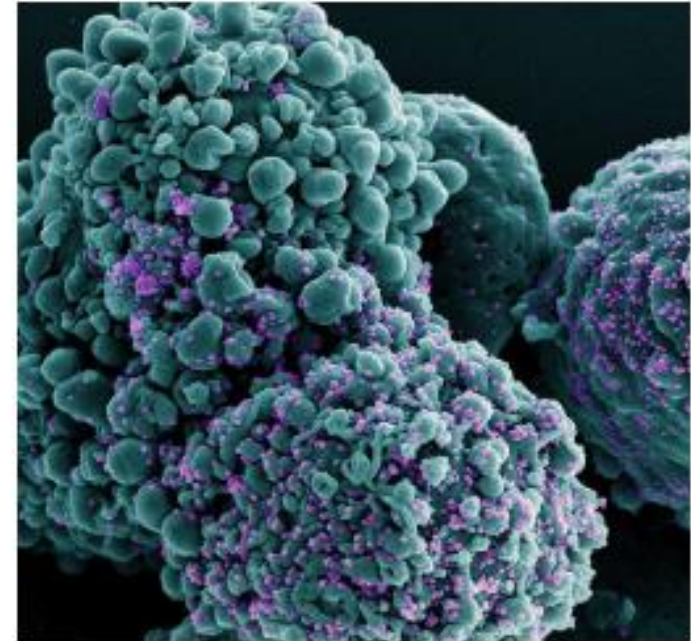
As well as being Centre's of learning for our youth, schools are workplaces for thousands of teachers and staff. What happens in schools affects millions of children and their families, and can drive illness and infection rates in society at large. This [June CIDRAP article](#) (from [the underlying JAMA Study publication involving Smart Thermometer Surveillance](#)) highlights that 70.4% of all household transmissions began with a child and rates clearly dropped during school breaks.



Official COVID-19 case counts are rising only in the Western Pacific region globally—mainly due to transmission in South Korea, Australia, New Zealand, and Singapore—according to the [latest update](#) today from the World Health Organization (WHO).

The numbers come with the usual WHO caveat: "Currently, reported cases do not accurately represent infection rates due to the reduction in testing and reporting globally." The agency underscored that reality by noting that only 46% of 234 countries have reported *any* COVID cases. The WHO said that proportion has been declining since mid-2022.

Globally, more than 1 million new confirmed COVID-19 cases and more than 3,100 deaths were reported in the past 28 days (through July 30). In total, the world has seen 768 million confirmed cases and more than 6.9 million COVID-19 deaths.



NIAID



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Respiratory syncytial virus cases close to 10 times higher in some states, as testing rates increase

By Sara Garcia and Imogen Hayne
Posted Thu 6 Jul 2023 at 1:30am



Respiratory syncytial virus can be particularly dangerous in young children. (Piccola: Andrea Picquadio)

South Australia reported 3,926 cases of RSV in the first half of the year, compared with 539 cases over the same period of time last year (By Sara Garcia and Imogen Hayne
Posted Thu 6 Jul 2023 at 1:30am ABC News).

Number of RSV cases in each state and territory

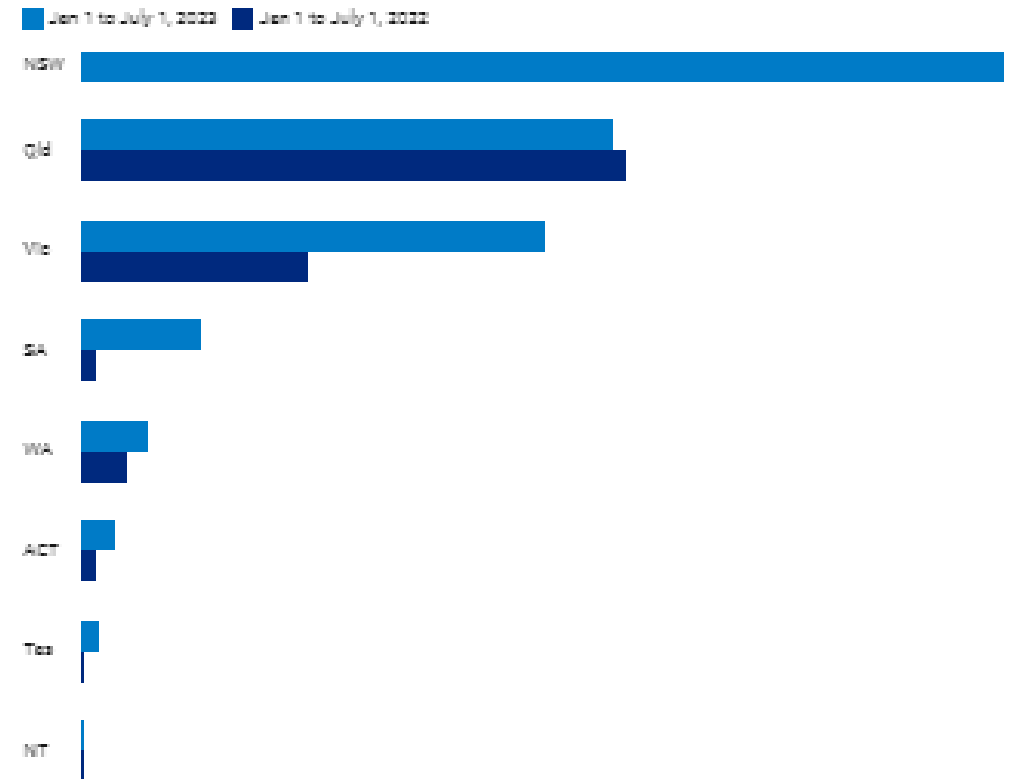


Chart: ABC News - Source: National Notifiable Diseases Surveillance System - Get the data

A study Published By [European Respiratory Society](https://www.european-respiratory-society.org/) online September 12, 2014, confirms Airborne transmission of respiratory syncytial virus (RSV) infection

<https://www.abc.net.au/news/2023-07-06/why-rsv-cases-are-skyrocketing-across-the-country/102554020>



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OHCOW checklist



<https://www.ohcow.on.ca/posts/pandemic-ventilation-checklist/>

Ventilation Checklist: A Pandemic-based Guide to Maintaining Your Building
Ventilation System

COVID-19, GUIDES / HANDBOOKS TRANSMISSION / EXPOSURE CONTROL, VENTILATION

The following **Ventilation Checklist** can be used as a guide to assess and improve ventilation in rooms and buildings. It is recommended for Joint Health and Safety Committee members, Health and Safety Representatives, Managers, Supervisors and Workers since everyone has an interest in clean air as a part of a healthy workplace.

Pertinent questions are suggested that can be used to assess the suitability of ventilation in the workspace/building that is to be occupied. It follows the traditional health and safety R.A.C.E. framework:
Recognize • Assess • Control • Evaluate



VIEW PDF

IMPORTANT NOTE

This OHCOW Ventilation Checklist v. 2.0, is being released as a BETA version. As such, we welcome your feedback and can adjust this guidance after it has been applied to assess and improve ventilation in your workplace.

Please provide your feedback about modifications / improvements to Kevin Hedges (khedges@ohcow.on.ca) so that improvements can be made, and that the guidance provided is both iterative and practical with continuous improvement.

OHCOW calculator

In addition to the above, OHCOW has a Ventilation Calculation Tool which provides **6 steps** to assess and manage the ventilation.

These include:

Step 1: Type of Ventilation and Room Setting

Step 2: Room Ventilation Rate and Proportion of Outdoor Air

Step 3: Determining Filters Used and Proper Fit

Step 4: Portable Air Filters and CADR Numbers and Noise Levels

Step 5: Supplementary Fan(s) and Typical Noise Patterns

Step 6: Results for Posting Outside Door

Question	Information																											
Are the air changes per hour (ACH) for each room determined and adequate?	<p style="text-align: center;">Ventilation assessment criteria</p> <table border="1"> <thead> <tr> <th>criteria</th> <th>air exchange rate (in ach)</th> <th>equivalent CO₂ concentration</th> </tr> </thead> <tbody> <tr> <td>pre-pandemic ASHRAE 62.1</td> <td>2.0-2.6 (15 cfm OA/person)</td> <td>1100 ppm</td> </tr> <tr> <td>pandemic ASHRAE 62.1 & ACGIH (Jun 2021)</td> <td>>6-12 ACH "OA and/or sufficiently filtered recirculated air"</td> <td>700 ppm or less</td> </tr> <tr> <td>Harvard (Allen et al., Nov 2020)</td> <td>3-4 (min); 4-6 (preferred)</td> <td>4-5 ach = 800 ppm</td> </tr> <tr> <td>AIHA (Sept 2020)</td> <td>6-12 (threshold 4.5)</td> <td>4.5 ach = 800 ppm 6 ach = 700 ppm</td> </tr> <tr> <td>ACGIH (Jun 2021)</td> <td>same as ASHRAE</td> <td>700 ppm or less</td> </tr> <tr> <td>REHVA (Apr 2021)</td> <td>5</td> <td>800 ppm</td> </tr> <tr> <td>CDC (latest update: Jun 2021)</td> <td>-</td> <td>800 ppm</td> </tr> <tr> <td>WHO (Roadmap, Mar 2021)</td> <td>2.6-3.7 (21 cfm OA/person)</td> <td>900 ppm</td> </tr> </tbody> </table>	criteria	air exchange rate (in ach)	equivalent CO ₂ concentration	pre-pandemic ASHRAE 62.1	2.0-2.6 (15 cfm OA/person)	1100 ppm	pandemic ASHRAE 62.1 & ACGIH (Jun 2021)	>6-12 ACH "OA and/or sufficiently filtered recirculated air"	700 ppm or less	Harvard (Allen et al., Nov 2020)	3-4 (min); 4-6 (preferred)	4-5 ach = 800 ppm	AIHA (Sept 2020)	6-12 (threshold 4.5)	4.5 ach = 800 ppm 6 ach = 700 ppm	ACGIH (Jun 2021)	same as ASHRAE	700 ppm or less	REHVA (Apr 2021)	5	800 ppm	CDC (latest update: Jun 2021)	-	800 ppm	WHO (Roadmap, Mar 2021)	2.6-3.7 (21 cfm OA/person)	900 ppm
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<p>Refer to OHCOW ventilation calculator</p> <p>Ventilation Calculation Tool An Excel-based tool to assist you in determining the adequacy of the ventilation in your workspace*</p> <p>*Tool can be used to evaluate classrooms, single offices and small meeting rooms. The levels in this tool are based on classroom occupancies.</p>	<table border="1"> <tbody> <tr> <td>target: >6 to 12 ach</td> <td>no problem: <600 ppm CO₂</td> </tr> <tr> <td>good: 5-6 ach</td> <td>possible problem: 600-800 ppm CO₂</td> </tr> <tr> <td>fair: 4-5 ach</td> <td>probable problem: 800-1000 ppm CO₂</td> </tr> <tr> <td>bare minimum: 3-4 ach</td> <td>more outdoor air needed: 1000+ ppm CO₂</td> </tr> <tr> <td>poor: <3 ach</td> <td></td> </tr> </tbody> </table>	target: >6 to 12 ach	no problem: <600 ppm CO₂	good: 5-6 ach	possible problem: 600-800 ppm CO₂	fair: 4-5 ach	probable problem: 800-1000 ppm CO₂	bare minimum: 3-4 ach	more outdoor air needed: 1000+ ppm CO₂	poor: <3 ach																		
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ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) have a new standard – what next?

https://www.techstreet.com/ashrae/standards/ashrae-241-2023?product_id=2567398

The image shows the cover of the ASHRAE Standard 241-2023. At the top, there is a blue and green gradient banner with the word 'STANDARD' in white. To the right is the ASHRAE logo, which consists of a white hexagon with the word 'ASHRAE' inside. Below the banner, the text 'ASHRAE Standard 241-2023' is centered. The main title 'Control of Infectious Aerosols' is prominently displayed in large, bold, black font. Below the title, there is a paragraph of smaller text stating that the standard is under continuous maintenance. Further down, there is another paragraph providing information on how to purchase the standard and where to find reprint permissions. At the bottom, there is a small cloud icon followed by the text 'This standard includes links to online supporting files.'

What now?



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HOME > EXPERTS ENCOURAGE US STATES TO CREATE LEGISLATION AIMED AT IMPROVING INDOOR AIR QUALITY IN PUBLIC SPACES USING NEW MODEL STATE ACT AS FRAMEWORK



Experts encourage US states to create legislation aimed at improving indoor air quality in public spaces using new model state act as framework

Published **August 21, 2023**

CENTER NEWS

<https://centerforhealthsecurity.org/2023/experts-encourage-us-states-to-create-legislation-aimed-at-improving-indoor-air-quality-in-public-spaces-using-new-model-state-act-as-framework>



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AGENDA

1. Introduction – Collaboration for A Clean Air Future – Amanda Hu (member of the Canadian Covid-19 School Safety Group)

2. Control of infectious aerosols for primary and secondary schools. Brad Prezant, Affil. AIRAH, MSPH, MBA, CIH, COH, CAQP, WELL AP Principal Consultant at Prezant Environmental. Former VP, International Society of Indoor Air Climate and Quality (ISIAQ).

3. The basics of what we all need to know to stay safe into the fall –ASHRAE 241 Part 6, Joey Fox P. Eng. @O_S_P_E IAQ Advisory Group Chair. <http://itsairborne.com>

3. Still Wandering in the Woods – Staff impacts and opportunities, Paul Sylvestre, National Health & Safety Rep, Ontario Region, Canadian Union of Public Employees (CUPE)

4. How can we make it happen? – 2023 School Safety Advocacy Efforts and Ideas Amanda Hu and other members of the Canadian Covid-19 School Safety Group

1. Discussion – All



Brad Prezant (Australia)

MSPH, MBA, COH, CIH, CAQP, WELL AP/Assessor/Advisory Board
Certified Occupational Hygienist. Former VP, International Society of Indoor Air Climate and Quality (ISIAQ).

Brad Prezant is a public health and occupational health scientist, with epidemiology and public health perspective. He has assessed indoor air quality and ventilation in airports, hospitals, public buildings, and schools since 1979, including the residence of Amazon's chief executive, Jeff Bezos. He is one of 50 persons worldwide with the designation, Certified Industrial Hygienist (CIH), sub-specialty Indoor Air Quality. In 2020 & 2021, Mr. Prezant assessed ventilation and airborne transmission of COVID-19 in various public buildings and schools, designed the first easy-to-use risk calculator for calculating the risk of COVID-19 infection, and supervised a team of engineers & contractors to re-design hotel quarantine ventilation on behalf of Coronavirus Quarantine Victoria.

<https://prezantenvironmental.au/>

Joey Fox (Ontario, Canada)

is a professional engineer (Peng.) with over ten years in the Heating, Ventilation, and Air Conditioning (HVAC) industry specializing in schools. He is currently the chair of the indoor air quality advisory committee for the Ontario Society of Professional Engineers.

<https://itsairborne.com/>





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Amanda Hu is an advocate, maker, parent and community member in Moh'kins'tsis (Calgary, AB) fighting for better air in indoor spaces. Her background is reflective of her breadth of interests, and includes work in governance, contemporary art, medical advocacy and non-profit administration. She holds a BFA (with Distinction) in Visual Studies and BA (with Distinction) in Psychology from University of Calgary and is a National Air Filtration Association (NAFA) Certified Technician Level I.

Paul Sylvestre is on staff with the Canadian Union of Public Employees (CUPE) in their Health and Safety Branch, providing knowledge and support to CUPE members in Health Care, Social Services, Municipal, School Boards and Post-Secondary. Before working for CUPE, Paul worked for 25 years as an education worker with the Conseil Scolaire Catholique Providence and was an active member of CUPE Local 4299. Paul is a Board member of the Worker's Health and Safety Centre, and represents CUPE on the Provincial Working Group on Health and Safety for the education sector, and previously on Ontario's Section 21 Health Care committee. He works out of CUPE's regional office in Markham, Ontario but still calls Windsor home. His passion lies in consensus building among stakeholders towards better health and safety conditions for everyone in the workplace.