

COVID-19 PANDEMIC – RAEB'S EVIDENCE UPDATE

Highlights of health research evidence synthesized by the
Research, Analysis and Evaluation Branch (RAEB)

• June 1, 2020 •

FEATURED

- RAEB'S rapid responses for Ontario's health sector
- Evidence products produced with our partners
- Research evidence
- Jurisdictional experience
- Trusted resources

ABOUT RAEB

Through research funding, brokering, translating, and sharing, we promote an enhanced evidence use capacity that supports all aspects of health policy, programming, and investment decision making.

Services include:

- Literature reviews
- Jurisdictional scans
- Economic analysis
- Evaluation planning
- Research fund management
- Knowledge translation services

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RAEB'S RAPID RESPONSES FOR ONTARIO'S HEALTH SECTOR

Please contact [Evidence Synthesis Unit](#) for the full read of these rapid responses.

• Re-opening Containment Strategies in Response to COVID-19

To date, the response to the COVID-19 pandemic has been similar across countries in terms of the type of policies implemented to contain and mitigate the transmission of the virus (e.g., school closures, social distancing, “lockdowns”), but they differ on two main dimensions: 1) timing of implementation; and 2) strength of implementation. Of all the interventions that have been used to restrict movement in the United Kingdom, Europe, Hong Kong, and Wuhan (China), lockdown measures contributed the most to reducing the reproduction number, and school closures the least. The World Health Organization (WHO) recommends that six conditions guide how transitioning measures are implemented, including: 1) using evidence to demonstrate that COVID-19 transmission is controlled; 2) ensuring sufficient health system capacities are in place to identify, isolate, test, and treat all cases; and 3) minimizing outbreak risks in high vulnerability settings. The WHO also recommends that countries establish a set of indicators (disaggregated by age, gender, and socioeconomic status) to allow for regional/country-level real-time monitoring and understanding of the pandemic.

• Recruitment and Retention Strategies for Long-Term Care (LTC) Staff

Recruitment and retention strategies are used to attract and maintain staff, such as registered nurses, in the LTC and health care sectors. Recruitment strategies can include practices (e.g., interviewing to screen for LTC-specific skills and attitudes) and benefits (e.g., paid vacation days, health insurance). Retention strategies include education and training (e.g., training programs, nurse residency programs), compensation (e.g., salary and benefits), career empowerment (e.g., peer interviewing during hiring competitions to facilitate feelings of acceptance when new staff members onboard), and multimodal strategies (e.g., initiatives that include education and training, compensation, and flexible working opportunities).

EVIDENCE PRODUCTS PRODUCED IN COLLABORATION WITH OUR PARTNERS

The COVID-19 Evidence Synthesis Network is comprised of groups specializing in evidence synthesis and knowledge translation. The group has committed to provide their expertise to provide high-quality, relevant, and timely synthesized research evidence about COVID-19 to inform decision makers as the pandemic continues. Please contact [Evidence Synthesis Unit](#) for the full read of these evidence products.

- **Transmission, Risk Factors, and Mitigation of COVID-19 when Re-opening Playground Equipment**

(Produced in collaboration with [McMaster Health Forum](#)).

Five high-quality guidelines do not recommend using playgrounds, including water playgrounds, located within local, state, or national parks because they are often crowded and could easily exceed recommended guidance for gatherings, and it can be challenging to keep surfaces clean. Youth/summer camps should close shared spaces, such as playgrounds with shared equipment, or otherwise stagger use and clean and disinfect between use. Across Canada, British Columbia, Alberta, Manitoba, Yukon, and Nunavut have re-opened playgrounds; they recommend continuing to follow guidance from key public health officials (e.g., hand hygiene, physical distancing, cleaning equipment). Of Canada's 10 largest municipalities, only Edmonton and Winnipeg have re-opened playgrounds. In Ontario, outdoor playgrounds, fitness equipment, public swimming pools, splash pads, and similar outdoor water facilities will remain closed until later stages of the province's reopening plan. In Australia and New Zealand, playgrounds have re-opened along with some amenities (e.g., public bathrooms), but outdoor pools/splash pads remain closed. Gatherings are permitted of up to 10 or less people (including parents), and physical distancing measures are enforced. In New Zealand, signage has been installed in some playground areas requesting users to wash/sanitize their hands before and after playing. In China, public and paid-entry parks (which may include playground equipment) have re-opened, and key regulations are enforced (e.g., disinfecting, mask wearing).

- **Association between Singing in a Choir and the Risk of Acquiring COVID-19**

(Through the SPOR Evidence Alliance, produced in collaboration with [Newfoundland and Labrador Centre for Applied Health Research](#)).

No direct or high-quality evidence is available on the association between singing in choirs and risk of acquiring COVID-19. However, evidence suggests that the virus is spread through both droplet transmission and airborne transmission via aerosols. Some research suggests that aerosol transmission occurs through both normal speech and singing, in addition to the more commonly understood routes of sneezing and coughing. Singing may involve a greater risk than that of normal speech, and singing loudly may involve a greater risk than singing softly. Personal (e.g., loudness, phonetics) and environmental (e.g., ventilation, temperature) factors may also influence aerosol transmission. Super-spreading cases of COVID-19 have been observed with choir singing groups in the US and Germany. At this time, guidance from a range of authorities in the US, Germany, Canada, and Alberta recommends against gathering in groups in general or against in-person choir singing in particular. Until effective testing and treatment protocols are available, avoiding COVID-19 transmission while singing in groups may be impractical due to, for example: lack of evidence on the exact safe distance to maintain between singers and others; inability of masks to prevent transmission when singing; and low sensitivity of rapid tests for large group testing.

RESEARCH EVIDENCE

The research evidence profiled below was selected from highly esteemed academic journals, based on date of publication and potential applicability or interest to the Ontario health sector.

- **Small droplet aerosols in poorly ventilated spaces and SARS-CoV-2 transmission**
[May 27, 2020](#). Poorly ventilated and populated spaces, like public transport and nursing homes, have been reported as sites of viral transmission despite implementing preventive physical distancing practices. A new study shows that improved ventilation of spaces substantially reduces the airborne time of respiratory droplets from COVID-19. [Read](#).
- **Increased cardiovascular mortality in African American patients with COVID-19**
[May 27, 2020](#). Researchers summarized post-mortem data and suggested that the integrated pulmonary and cardiac pathology reports on African Americans with severe COVID-19 strongly supports that the virus leads to cardiopulmonary pathology in populations with increased cardiac risk factors, and this could explain the increased mortality. [Read](#).
- **Hospitalization and mortality among African American patients with COVID-19**
[May 27, 2020](#). A retrospective study in Ochsner Health, an integrated-delivery health system in Louisiana (US), demonstrated that between March 1 and April 11, 2020, 76.9% of the 1,382 patients who were hospitalized with COVID-19, and 70.6% of the 326 who died, were African American. African American patients comprise only 31% of the Ochsner Health population. [Read](#).
- **The emergence of SARS-CoV-2 in Europe and the US**
[May 23, 2020](#). A study (pre-print) that analyzed genomic epidemiology data reveals that sustained SARS-CoV-2 transmission networks became established in Europe and the US several weeks later than previously estimated. There was a period of several weeks in January and February 2020 when intensive testing and contact tracing could have prevented the virus from becoming established in the US and Europe. [Read](#).
- **Remdesivir for the treatment of COVID-19**
[May 22, 2020](#). A double-blind, randomized controlled trial suggests that intravenous remdesivir was superior to the placebo in shortening the time to recover for hospitalized adults with COVID-19 who had evidence of lower respiratory tract infections. [Read](#).
- **Tracking the COVID-19 pandemic in Australia using genomics**
[May 16, 2020](#). Scientists believe that using genomics to rapidly identify SARS-CoV-2 transmission chains will become critically important as social restrictions ease globally. A study reported that applied genomic sequencing of 75% of cases in the state of Victoria, Australia (i.e., 1,333 cases between January 25 and April 14) identified 76 distinct genomic clusters (e.g., associated with social venues, health care facilities, and cruise ships) that enabled scientists to correlate a significant reduction in the reproduction number to the implementation of travel restrictions and population-level physical distancing. [Read](#).

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JURISDICTIONAL EXPERIENCE

- **CDC's interim guidelines for COVID-19 antibody testing in clinical and public health settings**
[May 23, 2020](#). These guidelines outline recommendations on the use of serologic tests to determine protective immunity and infectiousness among persons recently infected with SARS-CoV-2. They will be updated as new information becomes available. [Read](#).
- **Australasian College for Emergency Medicine's COVID-19 toolkit for rural emergency care facilities**
[May 22, 2020](#). Developed by an expert team of practicing emergency physicians, this toolkit provides consensus-based guidance on how to apply pandemic principles in small, rural emergency care facilities. [Read](#).
- **WHO's decision-making framework on implementation of mass vaccination campaigns in the context of COVID-19**
[May 20, 2020](#). This framework describes the principles to consider when deliberating the implementation of mass vaccination campaigns for prevention of vaccine-preventable diseases and high impact diseases (VPD/HID), and when assessing risks and benefits of conducting outbreak-response vaccination campaigns to respond to VPD/HID outbreaks. [Read](#).

TRUSTED RESOURCES

An up-to-date and comprehensive list of sources, organized by type of research evidence, is available on McMaster Health Forum's COVID-19 Evidence Network to support Decision-making (COVID-END) [website](#).

* Figures in the header: Transmission electron microscope image shows SARS-CoV-2, the virus that causes COVID-19, isolated from a patient in the United States. Virus particles are emerging from the surface of cells cultured in the lab. The spikes on the outer edge of the virus particles give coronaviruses their name, crown-like. *National Institutes of Health's National Institute of Allergy and Infectious Diseases – Rocky Mountain Laboratories*