

# COVID-19 PANDEMIC – RAEB'S EVIDENCE UPDATE

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

• December 7, 2020 •

## FEATURED

- RAEB's rapid responses for Ontario's health sector
- Research evidence and 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

## CONTACT RAEB

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## RAEB'S RAPID RESPONSES FOR ONTARIO'S HEALTH SECTOR

Please contact [Evidence Synthesis Unit](#) for the full read of this rapid response

- **Decanting COVID-19-Positive Long-Term Care (LTC) Residents**
  - Six jurisdictions were identified to have established decanting measures for LTC homes (i.e., Ontario, British Columbia, Alberta, United States, Spain, and South Korea). For example, to reduce the possibility of a COVID-19 spread in a LTC home or assisted living setting, the Province of British Columbia developed COVID-19-specific sites to decant test-positive residents if necessary; implementation of this measure has not been required as of November 2020. As of August 2020, New South Wales (Australia) has not permitted decanting of residents into hospitals. The Government of Canada, the Royal Society of Canada, American Geriatrics Society, and Taiwan recommend transferring LTC residents to a hospital or other setting if isolation is not feasible in the event of a COVID-19 outbreak.

## RESEARCH EVIDENCE/JURISDICTIONAL EXPERIENCE

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

### HEALTH EQUITY AND VULNERABLE POPULATIONS

- ***JAMA*: Assessment of racial/ethnic disparities in hospitalization and mortality in patients with COVID-19 in New York City**  
[Dec 4, 2020](#). This study including 9,722 patients found that Black and Hispanic patients were more likely than White patients to test positive for COVID-19. Among patients hospitalized with COVID-19 infection, Black patients were less likely than White patients to have severe illness and to die or be discharged to hospice. [Read](#).

\* 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*

## RESEARCH EVIDENCE/JURISDICTIONAL EXPERIENCE cont'd

### TRANSMISSION

- ***Nature*: Effective control of SARS-CoV-2 transmission in Wanzhou, China**  
[Nov 30, 2020](#). This study analyzed epidemiological data of 183 confirmed COVID-19 cases and their close contacts from five generations of SARS-CoV-2 transmissions during the outbreak in Wanzhou. Higher infection risk was associated with contact within five days after the infectors had been infected, frequent contact, and around eight hours of contact duration. The spread of COVID-19 was effectively controlled by breaking the transmission chain through social distancing, extensive contact tracing, mass testing, and strict quarantine of close contacts. [Read](#).
- ***Nature*: Recurrent SARS-CoV-2 positivity after COVID-19**  
[Nov 26, 2020](#). This systematic review and meta-analysis including 14 studies of 2,568 individuals found that the incidence of recurrent SARS-CoV-2 positivity was 14.8%. Patients with younger age and a longer initial illness were more likely to experience recurrent SARS-CoV-2 positivity, while patients with diabetes, severe disease, and a low lymphocyte count were less likely. Further studies are needed to understand the possibility of infectious individuals with prolonged or recurrent RNA positivity. [Read](#).
- ***Science*: Transmission heterogeneities, kinetics, and controllability of SARS-CoV-2**  
[Nov 24, 2020](#). This study of patient and contact tracing data in Hunan, China found that 80% of SARS-CoV-2 secondary infections can be traced back to 15% of primary infections, indicating substantial transmission heterogeneities. Transmission risk is related to duration of exposure and closeness of social interactions, with the lockdown period increasing transmission risk in family and households, and isolation and quarantine reducing risks across all types of contacts. [Read](#).

### DISEASE MANAGEMENT

- ***British Medical Journal*: Infection fatality risk for SARS-CoV-2 in Spain**  
[Nov 27, 2020](#). A nationwide study in Spain estimated that during the first wave of the pandemic (April 27 to June 22, 2020) there was a higher risk of infection fatality among men than women, which increased sharply after age 50. Overall infection fatality risk estimates were about 10 times larger than those for seasonal influenza. [Read](#).
- ***The Journal of Allergy and Clinical Immunology*: COVID-19 susceptibility in bronchial asthma**  
[Nov 24, 2020](#). This study evaluated the association between the diagnosis of pediatric and adult asthma and the likelihood of having a positive test result for COVID-19 and reported that a pre-existing diagnosis of asthma had a statistically significant negative association with the likelihood of COVID-19 infection. The study suggests that it is still unknown whether having asthma contributes to the definite protection of patients from COVID-19 [Read](#).

## RESEARCH EVIDENCE/JURISDICTIONAL EXPERIENCE cont'd

### DISEASE MANAGEMENT cont'd

- *medRxiv*: Interventions for treatment of COVID-19: Second edition of a living systematic review with meta-analyses and trial sequential analyses (The LIVING Project)  
Nov 24, 2020. This living systematic review (preprint) of randomized clinical trials assessing the effects of all treatment interventions for participants in all age groups with COVID-19 concluded that no evidence-based treatment for COVID-19 currently exists. Very low certainty evidence indicates that: corticosteroids might reduce the risk of death, serious adverse events, and mechanical ventilation; remdesivir might reduce the risk of serious adverse events; intravenous immunoglobulin might reduce the risk of death and serious adverse events; tocilizumab might reduce the risk of serious adverse events and mechanical ventilation; and bromhexidine might reduce the risk of non-serious adverse events. [Read](#).
- *Annals of Internal Medicine*: Vaccines for emerging and reemerged viral infectious diseases  
Nov 24, 2020. This study estimated timelines and probabilities of success for recent vaccine candidates for 23 emerging or reemerged viral infectious diseases. In total, 606 clinical trials forming 220 distinct development trajectories were identified. The probability of vaccines progressing from phase two to licensure within 10 years was 10.0%, with most approvals representing H1N1 or H5N1 vaccines. The average timeline from phase two to approval was 4.4 years. The probabilities of advancing from phase one to two, phase two to three, and phase three to licensure within the total available follow-up time were 38.2%, 38.3%, and 61.1%, respectively. If a SARS-CoV-2 vaccine is licensed within 18 months of the start of the pandemic, it will mark an unprecedented achievement for non-influenza viral vaccine development. [Read](#).

### DATA ANALYTICS, MODELLING AND MEASUREMENT

- *Nature*: Response2covid19, a dataset of governments' responses to COVID-19 all around the world  
Nov 25, 2020. This article introduces 'Response2covid19', a living dataset of governments' responses to COVID-19. The dataset codes the various policy interventions (e.g., lockdown, school closures, interest rates cuts, wage support) with their dates at the country-level for more than 200 countries from January 1 to October 1, 2020 and is updated every month. The production of detailed data on the measures taken by governments can help generate robust evidence to support public health and economic decision-making. [Read](#).

### INFECTION PREVENTION AND CONTROL

- *International Long-Term Care Policy Network*: The impact of COVID-19 on LTC in the Netherlands  
Nov 25, 2020. During the second wave of the pandemic in the Netherlands, the number of COVID-19 cases has plateaued and the LTC sector has been severely impacted. New practices in the second wave include: 1) better accessibility of protocols, personal protective equipment, and testing; and 2) a more flexible regional approach to nursing home visiting policies (replacing the national ban in the first wave). Staff shortages, working pressure, and staff wellbeing are still of great concern. [Read](#).

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## TRUSTED RESOURCES

- The Evidence Synthesis Network (ESN) is a collaborative COVID-19 response initiative by Ontario's research and knowledge production community. The [ESN website](#) is a portal where research evidence requests can be made and includes previously completed ESN briefing notes.
- 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](#).
- The [Ontario COVID-19 Science Advisory Table](#) is a group of scientific experts and health system leaders who evaluate and report on emerging evidence relevant to the COVID-19 pandemic, to inform Ontario's response to the pandemic.