

COVID-19 PANDEMIC – RAEB'S EVIDENCE UPDATE

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

• June 22, 2020 •

FEATURED

- RAEB'S rapid responses for Ontario's health sector
- 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.

• Rapid Response on Face Mask Compliance Strategies during the COVID-19 Pandemic

Low compliance with the use of medical and cloth masks has been attributed to discomfort, breathing difficulties, and interference with communication and patient relationships. The World Health Organization (WHO) advises decision makers to apply a risk-based approach when encouraging community use of masks (e.g., risk of exposure to COVID-19 virus, vulnerability of the population). Health authorities around the world are employing the following strategies to support face mask compliance: 1) free supply of face masks; 2) mandated policies; 3) recommendations from health authorities; 4) financial sanctions; and 5) increasing face mask comfort. Features of successful health campaigns for encouraging healthy behaviours are also discussed.

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.

- **Genome-wide association study of severe COVID-19 with respiratory failure** [June 17, 2020](#). A study conducted a genome-wide association analysis of 1,980 patients with COVID-19 and severe disease (defined as respiratory failure) at seven hospitals in the Italian and Spanish epicenters of the SARS-CoV-2 pandemic in Europe, and identified the genetic factors that may drive genetic susceptibility to COVID-19 with respiratory failure. [Read](#).
- **WHO welcomes preliminary results of dexamethasone use in treating critically ill COVID-19 patients** [June 16, 2020](#). The WHO welcomes the initial clinical trial results from the [RECOVERY](#) trial in the UK that shows dexamethasone, a corticosteroid, as the first treatment to reduce mortality in COVID-19 patients on ventilators by about one-third, and for those requiring only support from oxygen by about one-fifth. The benefit was only seen in patients seriously ill with COVID-19, and not in patients with milder disease. [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 Diseases – Rocky Mountain Laboratories*

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RESEARCH EVIDENCE cont'd

- **Effects of sterilization on the filtration efficiency of N95, KN95, and surgical face masks**
[June 15, 2020](#). A study found that the sterilization of N95, KN95, and surgical face masks with hydrogen peroxide had fewer negative effects on filtration efficiencies than chlorine dioxide. The study recommends measuring a respirator's filtration efficiency by aerosol size instead of only measuring the overall filtration efficiency. [Read](#).
- **Global, regional, and national estimates of the population at increased risk of severe COVID-19**
[June 15, 2020](#). An analysis estimated that 1.7 billion people worldwide have an elevated risk of 'severe' illness, due to having at least one underlying condition, and nearly 349 million people — some of whom do not have underlying conditions — would require hospitalization if infected. These findings can be used to assess how many high-risk people may need a vaccine once it is developed. [Read](#).
- **Pediatric COVID-19: A systematic review of the literature**
[June 13, 2020](#). This review found that most children infected with COVID-19 appear to have a milder course and have better outcomes overall compared to adults. Additional care may be needed for children with comorbidities and younger children. [Read](#).
- **Maternal transmission of SARS-CoV-2: A systematic review and critical analysis**
[June 12, 2020](#). The results from this review suggested that neonatal COVID-19 infection is uncommon, almost never symptomatic, and the rate of infection is no greater than when a baby is born vaginally, breastfed, or in contact with the mother. [Read](#).
- **Prevalence of gastrointestinal symptoms and fecal viral shedding in COVID-19 patients**
[June 11, 2020](#). A systematic review and meta-analysis found that patients with SARS-CoV-2 infection can present gastrointestinal symptoms with possible fecal-oral route of transmission due to the presence of viral RNA in stool. [Read](#).
- **Seroprevalence of anti-SARS-CoV-2 IgG antibodies in Geneva, Switzerland: A population-based study**
[June 11, 2020](#). This study found that most of the population of Geneva remained uninfected during this wave of the pandemic, despite the high prevalence of COVID-19 in the region (5000 reported clinical cases over <2.5 months in the population of half a million people). Moreover, a significantly lower seroprevalence was observed for children (i.e., five to nine years) and adults (i.e., older than 65 years) compared with those aged ten to 64 years. [Read](#).
- **Bars, karaoke, and gyms can aid 'superspread'**
[June 10, 2020](#). Analysis of 3,184 cases of COVID-19 in Japan identified 61 case-clusters in hospitals, nursing homes and other care facilities, restaurants and bars, workplaces, and music events. The results suggested that half of the superspreading individuals were under the age of 40, and 41% were pre-symptomatic or asymptomatic when they transmitted the virus. Many of the COVID-19 clusters were associated with heavy breathing in close proximity, such as singing at karaoke parties, cheering at clubs, having conversations in bars, and exercising in gyms. [Read](#).

RESEARCH EVIDENCE cont'd

- **Guidelines and recommendations for urology standard of care during the COVID-19 pandemic: A systematic review**

[June 5, 2020](#). There are multiple national and international guidelines and recommendations for urologists to prioritize the provision of care during the COVID-19 pandemic. This systematic review identified minimal differences among the guidelines. [Read](#).

JURISDICTIONAL EXPERIENCE

- **Trial seeks to resolve conflicting guidance about respiratory support for severely ill COVID-19 patients**
[June 15, 2020](#). The UK National Institute for Health Research announced a trial to resolve conflicting guidance about respiratory support for severely ill COVID-19 patients. The RECOVERY-RS trial (i.e., which is a part of the coordinated [RECOVERY](#) [i.e. evaluation of drugs such as [dexamethasone](#)] and [PRINCIPLE](#) [i.e., study of patients in primary care] trials) aims to compare three existing non-invasive treatments to determine which provides the best outcome for patients: 1) Continuous Positive Airway Pressure (CPAP); 2) High Nasal Flow Oxygen (HFNO); or 3) oxygen therapy only. [Read](#).
- **Public attitudes, behaviours, and beliefs related to COVID-19 and public health guidance**
[June 12, 2020](#) A survey conducted among 4,042 adults aged ≥18 years in New York City, Los Angeles, and broadly across the US, identified widespread support of stay-at-home orders and non-essential business closures and a high degree of adherence to COVID-19 mitigation guidelines (e.g., non-essential business closures, public health guidelines). Most respondents reported that they would feel unsafe if restrictions were lifted at the time of the survey. [Read](#).
- **“Living” evidence-based clinical COVID-19 guidelines updated weekly with the latest research**
[June 11, 2020](#). The National COVID-19 Clinical Evidence Taskforce in Australia updated their guidance with definitions regarding disease severity in children, evidence for remdesivir, and tracheostomy flowcharts. [Read](#).
- **Immunity passports based on COVID-19 antibody testing**
[June 10, 2020](#). In their position statement, the Emergency Care Research Institute (ECRI) examines the idea of immunity passports and identifies implications for use as a safe and effective intervention to prevent COVID-19 transmission. [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](#).