

# COVID-19 PANDEMIC

## RAEB'S Evidence Update

Highlights of health research synthesized by the Research, Analysis and Evaluation Branch

September 21, 2020

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### Research Evidence and 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.

#### Public Health Measures

##### ***Cochrane Database of Systematic Reviews: Travel-related control measures to contain the COVID-19 pandemic***

**Sept 16, 2020.** This rapid review found that travel-related control measures may help limit the spread of disease across national borders. Cross-border travel restrictions are probably more effective than entry and exit screening. Screening is likely to be more effective if combined with other measures, such as quarantine and observation. Very little information was found on travel-related quarantine as a stand-alone measure and no information was identified on costs or negative effects. [Article](#).

#### Case Testing and Screening

##### ***Cochrane Database of Systematic Reviews: Universal screening for SARS-CoV-2 infection***

**Sept 15, 2020.** This rapid review assessed the effectiveness of universal screening for SARS-CoV-2 infection compared with no screening, and the accuracy of universal screening in people who have not presented to clinical care for symptoms of COVID-19. The review found that one-time screening in apparently healthy people is likely to miss people who are infected, and it is

uncertain whether combined screenings, repeated symptom assessment, or rapid laboratory tests are useful. As more people become infected, screening will identify more cases; however, because screening can miss people who are infected, public health measures such as face coverings, physical distancing, and quarantine for those who are apparently healthy, continue to be very important. [Article](#).

***World Health Organization (WHO): Interim guidance for diagnostic testing of SARS-CoV-2***

**Sept 11, 2020.** This report provides interim guidance to laboratories and other stakeholders involved in diagnostics for SARS-CoV-2. It covers the main considerations for specimen collection, nucleic acid amplification testing (NAAT), antigen, antibody detection, and quality assurance. It will be updated as new information becomes available. [Article](#).

## Disease Management

***British Medical Journal (BMA): Living systematic review and network meta-analysis on drug treatments for COVID-19***

**Sept 14, 2020.** This systematic review compared the effects of treatment for COVID-19 among 35 randomized clinical trials in which people with suspected, probable, or confirmed COVID-19 were randomized to drug treatment or to standard care or placebo. An analysis suggests that glucocorticoids probably reduce mortality and mechanical ventilation in patients with COVID-19 compared with standard care, whereas hydroxychloroquine may not reduce either. The effectiveness of most interventions is uncertain because most of the randomized controlled trials so far have been small and have important limitations. [Article](#).

***Canadian Medical Association Journal (CMAJ): A framework for critical care resource allocation for the COVID-19 pandemic in Saskatchewan***

**Sept 14, 2020.** In March 2020, health authorities throughout Canada developed frameworks for resource allocation to address potentially overwhelming demand for critical care resources because of COVID-19. This study describes the process of developing the Saskatchewan Critical Care Resource Allocation Framework that is used for adult patients, and elaborates on the ethical principles that uphold the framework (i.e., transparency, consistency, accountability, proportionality, and responsiveness). This framework was designed to include: considerations that will not unfairly disadvantage older adults, people who are disabled, and those with chronic health conditions; a goal of maximizing survival to hospital discharge rather than life-years saved; and a triage team at arms-length from the most responsible physician directly involved in the care of the patient who is critically ill. [Article](#).

***Nature: Voice assistants to support health care delivery during a health crisis and pandemic***

**Sept 4, 2020.** As telehealth is playing a significant role in preventing the spread of COVID-19 and continuing to respond to health care needs, this commentary reviews four aspects of voice assistant (e.g., Google Assistant, Apple Siri, Amazon Alexa) adoption for remote health care delivery: 1) the current state of voice assistants; 2) the readiness of the health system; 3) the readiness of the technology providers; and 4) the impact of voice assistants in post-COVID health delivery. [Article](#).

***Journal of Pain and Symptom Management: COVID-19 and the critical need for whole-person palliation***

**Sept 2020.** This study suggests that the pandemic has amplified the need to integrate spiritual care as an essential component of whole-person palliative care, and help improve quality of life and the experience of patients and families facing spiritual emergencies amid the complex life-and-death scenarios inherent to the pandemic. The study recommends routine spiritual screening for all patients using assessment tools such as: 1) the [FICA Spiritual History](#) tool, which helps health care professionals address spiritual issues with patients; and, 2) the BELIEF model that can be used in pediatric care. [Article](#).

## Data Analytics, Modelling & Measurement

***medRxiv: The reliability of predictions on COVID-19 dynamics***

**Sept 11, 2020.** This review (preprint) summarized trends in the modelling techniques (e.g., compartmental and statistical models) used to assess transmission of COVID-19, predicted its future course, and determined the impact of control measures from January 1 to June 30, 2020. Only six of the 148 selected studies (4.05%) predicted the number of deaths. The findings suggest that while predictions made by the different models are useful to understand the pandemic course and guide policy-making, there should be cautions in their usage. [Article](#).

***Nature: Substantial underestimation of SARS-CoV-2 infection in the US***

**Sept 9, 2020.** This modelling study estimated 6,454,951 cumulative infections compared to 721,245 confirmed cases (1.9% vs. 0.2% of the population) in the US as of April 18, 2020. Accounting for uncertainty, the number of infections between February 28 and April 18 was three to 20 times higher than the number of confirmed cases. This modelling approach can readily be applied in future studies in other locations or at a finer spatial scale to correct for incomplete testing (i.e., focuses on individuals with moderate-to-severe symptoms due to limited test availability) and imperfect diagnostic accuracy, and can provide a more realistic assessment of COVID-19 burden. [Article](#).

### ***Disaster Medicine and Public Health Preparedness: COVID-19 models for hospital surge capacity planning***

**Sept 2020.** This review highlights six models that project both caseload and hospital capacity requirements over time. Half of the models did not include age-stratified parameters, and only one included the option to represent a second wave. Hospital patient flow was simplified in all models; however, some considered more complex patient pathways. One model included fatality ratios with Length of Stay (LOS) adjustments for survivors versus those who die, and accommodated different LOS for critical care patients with or without a ventilator. [Article](#).

## Health Equity & Vulnerable Populations

### ***medRxiv: Impact of COVID-19 on the lives and mental health of Australian adolescents***

**Sept 9, 2020.** An online survey of 760 Australian adolescents aged 12-18 years administered during and after the peak COVID-19 outbreak (June-July 2020) found that respondents reported high levels of uncertainty about the future, and their scores on validated measures indicated higher levels of sleep disturbance, psychological distress and health anxiety, and lower levels of wellbeing, relative to normative samples. Adolescents are already vulnerable to the onset of mental illness and these findings underscore the need to find rapid and accessible ways to support adolescent mental health during times of crisis. [Article](#).

## Frontline Workers

### ***Cochrane Database of Systematic Reviews: Antimicrobial mouthwashes and nasal sprays to protect health care workers and patients with or without COVID-19***

**Sept 16, 2020.** Three reviews found no evidence relating to the benefits and risks of: 1) health care workers' or patients' use of antimicrobial mouthwashes or nasal sprays to protect health care workers who undertake aerosol-generating procedures on patients without a known or suspected COVID-19 infection ([Article](#)); 2) health care workers' use of antimicrobial mouthwashes or nasal sprays to protect themselves when they treat people with COVID-19 ([Article](#)); and 3) patients with COVID-19 using antimicrobial mouthwashes or nasal sprays ([Article](#)).

### ***New England Journal of Medicine (NEJM): Family Engagement Navigators facilitate family-centred care in the intensive care unit (ICU)***

**Sept 15, 2020.** This commentary described how a medical centre in North Carolina developed and iteratively adapted a Family Engagement Navigator program, where medical students are being trained to promote family-centred care for ICU patients who were not allowed visitors due to the COVID-19 pandemic. The program was designed so that each navigator would

provide three primary needs: 1) facilitate communication between the patient’s care team and the family member; 2) promote humanization of the patient; and 3) provide emotional support to the family. The program has supported 70 ICU patients over 12 weeks from May to July 2020. [Article](#).

## Supply Chain

### **WHO: Framework for the allocation and prioritization of COVID-19 vaccination**

**Sept 11, 2020.** This framework offers guidance globally on the allocation of COVID-19 vaccines between countries, and offers guidance nationally on the prioritization of groups for vaccination within countries while supply is limited. The framework needs to be complemented with information about specific characteristics of available vaccine(s), the benefit-risk assessment for different population groups, the amount and pace of vaccine supply, and the current state of the epidemiology, clinical management, and economic and social impact of the pandemic; hence, the final vaccination strategy will be defined by the characteristics of vaccine products as they become available. This framework has been endorsed by the [Strategic Advisory Group of Experts on Immunization \(SAGE\)](#). [Article](#).

## 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](#).

## 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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