

COVID-19 PANDEMIC – RAEB'S EVIDENCE UPDATE

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

• August 31, 2020 •

FEATURED

- 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

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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.

UNDERSTANDING THE DISEASE

- ***Journal of American Medical Association (JAMA): Ocular manifestations and clinical characteristics of children with laboratory-confirmed COVID-19 in Wuhan, China*** [August 26, 2020](#). A study of children hospitalized with COVID-19 reported ocular manifestations, including conjunctival discharge, eye rubbing, and conjunctival congestion. Children with systemic symptoms or cough were more likely to develop ocular symptoms, which were mild, and recovered or improved with minimal eye drops or self-healing. [Read](#).
- ***JAMA: Internet searches for acute anxiety during the early stages of the COVID-19 pandemic in the US*** [August 24, 2020](#). An analysis of internet searches identified a spike in acute anxiety early during the pandemic, but have since returned to typical levels. This spike is suggested to be attributed to Americans becoming more resilient to the societal fallout from COVID-19 or having received the benefit from searching the internet. [Read](#).

TRANSMISSION

- ***British Medical Journal (BMJ): Two metres or one: What is the evidence for physical distancing during COVID-19?*** [August 25, 2020](#). An analysis suggests that the current rule of one or two metres for physical distancing between individuals to reduce the spread of COVID-19 is based on outdated science and an over-simplistic explanation of the physics of respiratory droplets. The analysis identified that respiratory emissions of SARS-CoV-2 contain droplets of all sizes that can travel more than two metres through activities such as coughing and shouting and recommends that rules on distancing should reflect the multiple factors that affect risk, including ventilation, occupancy, and exposure time. [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*

RESEARCH EVIDENCE/JURISDICTIONAL EXPERIENCE cont'd

TRANSMISSION

- **World Health Organization (WHO): Advice on the use of masks for children in the community in the context of COVID-19**
[August 21, 2020](#). The WHO, Infection Prevention and Control (IPC) Guidance Development Group (GDG), and experts from UNICEF and the International Paediatric Association (IPA) report that children aged up to five years should not wear masks for source control which is recommended based on childhood developmental milestones, compliance challenges, and autonomy required to use a mask properly. [Read](#).
- **medRxiv. Wrong person, place, and time: Viral load and contact network structure predict SARS-CoV-2 transmission and super-spreading events**
[August 7, 2020](#). A modelling study (preprint) suggests that higher predisposition of SARS-CoV-2 during super-spreading events is a result of the aerosolization of the virus. The results from the study support policies that limit crowd size in indoor spaces and provide viral load benchmarks for infection control and therapeutic interventions intended to prevent secondary transmission. [Read](#).

PUBLIC HEALTH MEASURES

- **JAMA: Modeling contact tracing strategies for COVID-19 in the context of relaxed physical distancing measures**
[August 21, 2020](#). A modelling study reports that contact tracing must be implemented alongside prompt and extensive community case detection, where a high proportion of contacts must be reached. The study notes that contact tracing could support partial relaxation of physical distancing measures but not a full return to levels of contact before the lockdown. The benefits of contact tracing depend substantially on adherence to isolation and quarantine among individuals who are traced, which could be enhanced through policy measures such as voluntary out-of-home accommodations, income replacement, and social supports. [Read](#).

CASE TESTING AND SCREENING

- **JAMA: Effect of remdesivir vs standard care on clinical status at 11 days in patients with moderate COVID-19**
[August 21, 2020](#). A randomized controlled trial of hospitalized patients with confirmed SARS-CoV-2 and moderate COVID-19 pneumonia at 105 hospitals in the United States, Europe, and Asia reported that patients with moderate COVID-19 randomized to a five-day course of remdesivir had a statistically significantly better clinical status compared with those randomized to standard care at 11 days after initiation of treatment. [Read](#).

RESEARCH EVIDENCE/JURISDICTIONAL EXPERIENCE cont'd

CASE TESTING AND SCREENING

- **JAMA: Epidemiology of COVID-19 among incarcerated individuals and staff in Massachusetts jails and prisons**
[August 21, 2020](#). A study in 16 Massachusetts Department of Corrections facilities reported that the rate of COVID-19 among incarcerated individuals was nearly three times that of the Massachusetts general population, and five times the US rate. Systems with smaller reductions in incarcerated populations and higher testing rates demonstrated higher rates of confirmed cases. [Read](#).
- **The Lancet: Comparison of molecular testing strategies for COVID-19 control**
[August 18, 2020](#). A modeling study in the United Kingdom (UK) noted that molecular testing can play an important role in transmission prevention, especially among health care workers and other high-risk groups. At current levels of population immunity, however, the study identified that no single strategy will reduce the reproduction number below one. [Read](#).
- **Health Data Research UK: False positive tests**
[August 2020](#). Researchers at Health Data Research UK developed a [tool](#) to help policy makers, the scientific community, health professionals, journalists, and the public understand the problem of incorrect test results, especially false positives. The tool demonstrates how this problem may be addressed by doing confirmatory tests in people who are at very low risk of being infected and whose first test returns a positive result. [Read](#).

DISEASE MANAGEMENT

- **PLoS One: A systematic review of trial registry entries for randomized clinical trials investigating COVID-19 medical prevention and treatment**
[August 20, 2020](#). This review identified 1,303 trial registry entries from 71 countries investigating 381 different single interventions. The five most frequent investigational categories were: immune modulating drugs (20% of trials); unconventional medicine (13%); antimalarial drugs (9%); antiviral drugs (8%); and respiratory adjuncts (6%). The five most frequently tested uni-modal interventions were: chloroquine/hydroxychloroquine (113 trials with 199,841 participants); convalescent plasma (64 trials with 11,840 participants); stem cells (51 trials with 3,370 participants); tocilizumab (19 trials with 4,139 participants); and favipiravir (19 trials with 3,210 participants). Of all these trials, 55% will assess mortality as an outcome facilitating future meta-analyses. [Read](#).

INFECTION, PREVENTION, AND CONTROL IN SPECIFIC SETTINGS

- **Asia Pacific Journal of Public Health: Establishing COVID-19 quarantine observation wards in hospitals within 24 hours**
[August 14, 2020](#). A study in Taiwan describes how general wards can be easily transformed into makeshift negative-pressure rooms within 24 hours through the installation of air exhaust fans on the windows to change the pressure direction within the wards. This can help reduce nosocomial transmission when the number of negative-pressure airborne infection isolation rooms is limited. [Read](#).

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INFECTION, PREVENTION, AND CONTROL IN SPECIFIC SETTINGS

- ***The Royal Australian College of General Practitioners (RACGP): Managing patients who present with respiratory symptoms and checklist of infection prevention and control (IPC) measures***
[August 2020](#). Guidance was developed to support physicians providing care to patients with respiratory symptoms, and provides advice on: preparing for consultations with patients who present with respiratory symptoms, screening patients in-person and via phone or video; isolating patients; and environmental cleaning after assessment and/or testing of a patient with respiratory symptoms. The RACGP also offers a [checklist](#) of infection prevention and control measures to consider and implement to maintain a healthy work environment. [Read](#).

VULNERABLE POPULATIONS

- ***Canadian Medical Association (CMA): Addressing the indirect effects of COVID-19 on the health of children and young people***
[August 10, 2020](#). This analysis suggests that children and young people will likely experience a high burden of indirect physical, social, and mental health effects related to reduced non-urgent care and general pandemic control measures. The CMA recommends strategies for children, young people, and families during the COVID-19 pandemic, including developing responsive and adaptive health care systems (e.g., prioritize essential in-person and virtual care services for children and young people), communicating clearly with children and families regarding uncertainties about ongoing care, and making data-informed decisions about social re-introduction policies and resumption of normal health care services. [Read](#).
- ***The Lancet: COVID-19 has “devastating” effect on women and girls***
[August 1, 2020](#). This report suggests that as the COVID-19 pandemic accelerates, experts are warning about the impact that disrupted health services and a surge in gender-based violence will have on women’s and girls’ sexual and reproductive health and their access to care. As the pandemic continues, experts are encouraging countries to look at ways of mitigating the effects of access to sexual and reproductive health services (e.g., move sexual and reproductive health services and care out of hospitals and into the community). [Read](#).

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](#).