

COVID-19 PANDEMIC – RAEB'S EVIDENCE UPDATE

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

• July 13, 2020 •

FEATURED

- RAEB'S literature reviews 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 LITERATURE REVIEWS FOR ONTARIO'S HEALTH SECTOR

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

• Virtual Care Models for Primary Care

Many countries have some form of real-time or asynchronous telemedicine services (e.g., telephone, video consultations, store and forward) for both provider-patient interactions and consultations between primary and specialist care providers. Health care provision primarily relates to family medicine issues (e.g., prescriptions, symptoms) and referring patients to specialists and laboratory/imaging services. Integration of telemedicine with in-person care largely occurs through referrals and electronic health record systems that connect all care provided by different providers through all modalities. Recently, there has been an accelerated introduction of telemedicine during the unanticipated outbreak of COVID-19 to screen for COVID-19 symptoms and prescribe testing, as well as to continue providing primary care while maintaining social distancing.

- Types of Patients: Most jurisdictional programs either serve any type of patient, or specifically target difficult-to-reach patients (e.g., people living in rural/remote areas, Indigenous populations).
- Financing: Most jurisdictions have a public-private mix in the delivery of publicly funded virtual care through alternate (e.g., capitation, block payments) or fee-for-service payment plans.
- Reported Outcomes: The actual uptake and integration of telemedicine into mainstream practice has been slow and fragmented. Benefits range from improved timeliness of care, fewer unnecessary visits to health care facilities, more equitable access to rural, remote, and Indigenous communities, and improved communication between patients, families, and providers. Commonly reported barriers include lack of funding and clear reimbursement mechanisms, lack of leadership, providers' resistance to change, and privacy concerns.
 - There is limited high quality evidence on the effectiveness of telemedicine programs, but research suggests that they are at least as effective as conventional face-to-face care, particularly for specific health concerns (e.g., heart failure, chronic diseases, diabetes).
 - Cost analyses of telemedicine programs vary and are limited, but they are increasingly demonstrated to be cost-effective compared to traditional care.
 - Patients tend to report high levels of satisfaction with telemedicine services, however technical, usability, and privacy challenges can have negative impacts.

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.

- **Persistent symptoms in patients after acute COVID-19**
[July 9, 2020](#). A study identified that patients in Italy who recovered from COVID-19 reported persistence of at least one symptom, particularly fatigue and dyspnea. [Read](#).
- **Air recirculation and COVID-19 infection rates on the Diamond Princess cruise ship**
[July 9, 2020](#). A study noted that 80% of Diamond Princess cruise ship passengers infected with COVID-19 occurred in cabins without a previously confirmed case, suggesting that airborne transmission of COVID-19 through the ship's ventilation system could explain the virus spread into cabins during the quarantine period. [Read](#).
- **COVID-19 cases and deaths in federal and state prisons**
[July 8, 2020](#). A US study suggested that COVID-19 case rates have been substantially higher and escalating much more rapidly in prisons than in the US population (i.e., 5.5 times higher than the US population, case rate of 587 per 100,000). [Read](#).
- **Association of a COVID-19 public health campaign promoted by news and social media with self-reported personal hygiene and physical distancing in the Netherlands**
[July 8, 2020](#). A survey study of hygiene awareness and behaviour suggested that news platforms and social media were associated with self-reported improvement in personal hygiene with the aim to prevent person-to-person transmission of COVID-19. [Read](#).
- **Ranking the effectiveness of worldwide COVID-19 government interventions**
[July 8, 2020](#). An Austrian study (preprint) that evaluated 4,579 non-pharmaceutical interventions (NPIs) used to mitigate the spread of SARS-CoV-2 in 76 territories suggested there are NPIs less intrusive and costly than lockdowns that are also highly effective, such as risk communication strategies and non-binding governmental guidelines that strengthen the healthcare system. [Read](#).
- **How COVID-19 spread silently through the US**
[July 7, 2020](#). A modelling study (preprint) defined a "cryptic phase" of COVID-19 transmission, where the virus spread across the US mostly undetected from late January to early March. Results of the study indicated that the sources of COVID-19 in the US changed through time; early importations were from international sources, but many states were seeded from domestic sources rather than international. [Read](#).
- **Prevalence of SARS-CoV-2 in Spain**
[July 6, 2020](#). A Spanish serological survey that included an antibody test, a history of COVID-19 symptoms, and risk factors was answered by over 61,000 people from April 27 to May 11, 2020. While the majority of the Spanish population was found to be seronegative (even in hotspot areas), around one-third of seropositive respondents were asymptomatic. [Read](#).

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RESEARCH EVIDENCE cont'd

- **Silent transmission responsible for over 50% of COVID-19 incidence in US**
[July 6, 2020](#). A modelling study found that people with COVID-19 who were pre-symptomatic or asymptomatic accounted for over 50% of transmission in the US, and that silent transmission can sustain outbreaks even if all symptomatic cases are isolated. [Read](#).
- **Multisystem inflammatory syndrome in children in New York state**
[June 29, 2020](#). A study of 191 potential cases of multisystem inflammatory syndrome in children (MIS-C) under the age of 21 in New York State found that the emergence of MIS-C coincided with widespread SARS-CoV-2 transmission, which presented dermatologic, mucocutaneous, and gastrointestinal manifestations associated with cardiac dysfunction. [Read](#).

JURISDICTIONAL EXPERIENCE

- **The role of daycares and schools in COVID-19 transmission**
[July 9, 2020](#). The National Collaborating Centre for Methods and Tools (McMaster University) published a rapid review to identify, appraise, and summarize emerging research evidence to support evidence-informed decision making on when and how to re-open and operate schools and daycares. [Read](#).
- **Transmission of SARS-CoV-2: implications for infection prevention precautions**
[July 9, 2020](#). A scientific brief from the World Health Organization (WHO) provides an overview of the modes of transmission of SARS-CoV-2, what is known about when infected people transmit the virus, and the implications for infection prevention and control precautions within and outside health facilities. [Read](#).
- **WHO's draft landscape of COVID-19 candidate vaccines**
[July 7, 2020](#). As of July 7, 2020, the WHO had identified 21 candidate vaccines currently in clinical evaluation and 139 candidate vaccines in pre-clinical evaluation. [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*