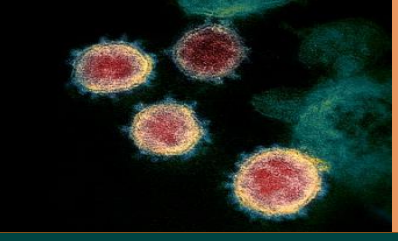
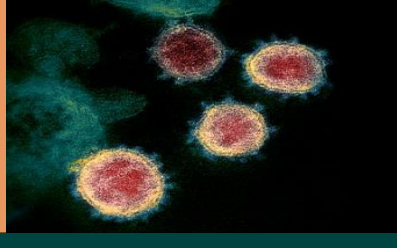


COVID-19 PANDEMIC – RAEB'S EVIDENCE UPDATE

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

• July 27, 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

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 these rapid responses.

- COVID-19 Surveillance Plans

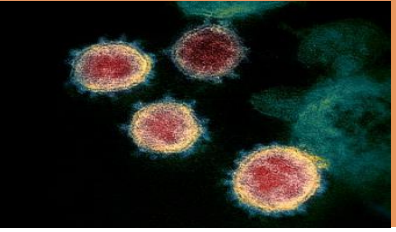
  Disease surveillance includes the ongoing and systematic collection, analysis, and interpretation of data on the occurrence of disease in the population. Many jurisdictions have published COVID-19 surveillance plans to monitor and assess cases to mitigate the current spread and limit future outbreaks, including Alberta, British Columbia, United States, England, Australia, New Zealand, and Taiwan.

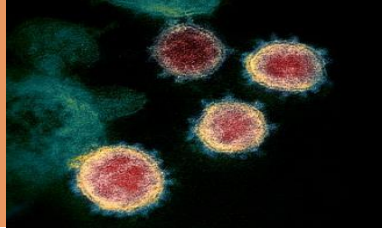
  - Limitations: No evidence was identified on the effectiveness of COVID-19 surveillance plans, likely because there are not enough data to evaluate their impact.
  - Surveillance Method: Most jurisdictions implement syndromic surveillance-based approaches, but sentinel, risk-based, and repeated random surveillance approaches may also be effective. Many plans have been adapted from past surveillance plans for severe acute respiratory syndrome and/or the Middle East respiratory syndrome. Lessons learned (e.g., data sharing, laboratory capacity for rapid diagnostic testing) from these disease outbreaks may have been incorporated into plans focusing on COVID-19.
  - Data Sources: Effective surveillance relies on multiple forms of data from various sources, such as: laboratory-based virologic surveillance; hospitalization surveillance; mortality and excess death data; syndromic surveillance; sentinel surveillance; point-prevalence surveys; serosurveillance; pooled screening; environmental surveillance (e.g., wastewater monitoring); social media and internet surveillance; workplace surveillance; Global Positioning System (GPS) tracking; and data mining.
  - Effectiveness: Research suggests that East Asian countries may be the most successful examples for managing COVID-19. Among other factors, a major contributor to such achievements is possibly their rapid recognition of the COVID-19 threat and quick responses with community-centred surveillance strategies (e.g., taskforces, laboratory programs, screening programs for travellers, case definition updates, diagnostic tests).
  - Challenges: Challenges may include: limited testing (especially early on); incomplete or inconsistent data collection and reporting; non-specific case definition; lack of timeliness and regularity of reporting; lack of integrated reporting infrastructure (e.g., electronic health records); defining the role of serosurveillance; and ongoing surveillance of other diseases.

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.

- **Mortality among residents with COVID-19 in long-term care (LTC) facilities in Ontario, Canada**
  July 22, 2020. A study of 269 people who died of COVID-19 in 627 LTC facilities suggested LTC residents had a risk of death that was 13 times greater than that of community-living adults older than 69 years; risk of death was associated with crowding, use of communal space, low staffing ratios, and high care needs. *Read*.
- **Seroprevalence of antibodies to SARS-CoV-2 in the US**
  July 21, 2020. A study of serologic testing reported the number of COVID-19 infections across 10 US sites was much greater than the number of reported cases. This results from asymptomatic and mild infections not being addressed by health care, and symptomatic persons either failing to seek care or living in regions where SARS-CoV-2 viral testing was not performed. *Read*.
- **Sleepless in lockdown: Differences in sleep loss during the COVID-19 pandemic in the UK**
  July 21, 2020. A study exploring the social determinants of self-reported sleep loss among the UK general population shows that COVID-19 has widened the disparity of sleep deprivation across different groups. Analyses showed that being female, the presence of young children in the household, perceived financial difficulties, and being a COVID-19-related essential worker were all predictive of sleep loss. *Read*.
- **COVID-19 and changes in the supply, price, and use of illicit drugs and alcohol**
  July 21, 2020. Based on 185 responses from addiction medical professionals across 77 countries during April-May 2020, a study reported a decrease in drug supply (69.0%), and an increase in price (95.3%). With respect to changes in use patterns, an increase in alcohol (71.7%), cannabis (63.0%), prescription opioids (70.9%), and sedative/hypnotics (84.6%) use was reported while the use of amphetamines (59.7%), cocaine (67.5%), and opiates (58.2%) was reported to decrease. *Read*.
- **Dexamethasone in hospitalized patients with COVID-19 can reduce mortality**
  July 17, 2020. Preliminary results of a trial that compared treatments among patients hospitalized with COVID-19 suggested that the use of dexamethasone resulted in lower 28-day mortality among those who were receiving either invasive mechanical ventilation (29.3% vs. 41.4%) or oxygen alone (23.2% vs. 26.2%), but not among those receiving no respiratory support. *Read*.
- **Contact tracing data analyzed in South Korea**
  July 16, 2020. South Korea adopted a rigorous contact-tracing program using traditional epidemiology and new methods to track contacts by linking large databases (e.g., global positioning system, credit card transactions, and closed-circuit television). Researchers from the Korea Centers for Disease Control and Prevention analyzed contact tracing data for 5,706 index patients and found that 11.8% of household contacts and 1.9% of non-household contacts had COVID-19. The highest COVID-19 rates for household contacts was found in contacts of school-aged children. *Read*.





RESEARCH EVIDENCE cont'd

- Factors associated with death in critically ill patients with COVID-19 in the US
  July 15, 2020. A multi-centre study of 2,215 adults with COVID-19 admitted to intensive care units reported that patient mortality was associated with several patient-level factors (i.e., older age, male sex, higher body mass index, coronary artery disease, active cancer) and hospital-level factors (i.e., limited high-quality evidence on clinical practice, variation in hospital resources, variation in the availability of certain medications [e.g., remdesivir]), and found that treatment and outcomes varied considerably among hospitals. *Read*.

JURISDICTIONAL EXPERIENCE

- Spain's COVID-19 rate triples in three weeks after lockdown easing
  July 20, 2020. Spain's health ministry data shows that 201 new COVID-19 clusters appeared after restrictions on movement were lifted, with novel infections jumping from 8/100,000 to 27/100,000 people. In response to this increase, some regions have mandated face masks and imposed mandatory confinement. *Read*.
- Ontario Medical Association (OMA) warns against opening bars
  July 17, 2020. As some areas of the province move towards Stage 3 of reopening, the OMA released a statement calling on government to rethink opening indoor bars, stating that recent COVID-19 outbreaks have been tied to indoor bars in Montreal, Spain, England, and the US. *Read*.
- UK modeling report predicts a second wave of COVID-19 for winter 2020/21 that could be worse than the first wave
  July 14, 2020. According to a report by the Academy of Medical Sciences in the UK, in a "reasonable" worst-case scenario, researchers predict a range of 24,500 to 251,000 virus-related deaths in hospitals alone between September 2020 and June 2021, peaking in January and February. The experts are concerned that the UK's health system will be under extreme pressure, not just from a resurgence of COVID-19, but also from seasonal flu and a backlog of regular, non-COVID-19 care. *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*