

COVID-19 PANDEMIC – RAEB'S EVIDENCE UPDATE

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

• April 6, 2020 •

FEATURED

- 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

Anne Hayes, RAEB Director
Andrea Proctor, Evidence Synthesis

Emre Yurga, Economic Analysis and Evaluation
Erika Runions-MacNeil, Research Planning and Management

RAEB'S RAPID RESPONSES FOR ONTARIO'S HEALTH SECTOR

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

• Approaches to Containing COVID-19

Taiwan, Singapore, and South Korea are using the following strategies to contain COVID-19: 1) early testing of suspected COVID-19 cases and their contacts; 2) active surveillance mechanisms, including contact tracing and border control; and 3) targeted isolation practices (e.g., isolating individuals who tested positive, at-risk individuals who are likely to have been exposed, and individuals returning from travel). In Taiwan, hospital infection control protocols for members of the public and health care workers are used to reduce community spread, and school closure in Singapore is considered a suitable response where COVID-19 has not spread to the community. Innovative responses from South Korea include: 1) the world's first drive-through testing; 2) rigorous epidemiological investigations using information and communication technologies; and 3) pan-governmental cooperation at national, provincial, and city levels.

• Birthing Policies during COVID-19

No information was identified on jurisdictional policies for the movement of healthy birth deliveries from hospitals to other settings during the COVID-19 pandemic. In many jurisdictions, there has been a surge in the number of pregnant women considering home birth options provided by public or private midwife providers to avoid being in hospitals that may be treating COVID-19 patients, and many hospitals have limited the number of visitors allowed in labour and delivery rooms to one or two people. Professional bodies from the United States, Australia, and New Zealand maintain that the safest place to give birth is in a hospital or accredited freestanding birth centre, where there is access to highly trained staff, infection control and screening measures, and emergency facilities, if required. Health authorities in Nova Scotia (Canada) and the United Kingdom have instituted policies that ban home births in order to protect midwives and ease pressure on resources.

* 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

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.

- **SARS-CoV-2 in Wastewater May Be a Potential Surveillance Indicator**
[April 1, 2020](#). In the Netherlands, analysis of sewage wastewater has shown to be a sensitive surveillance system and early warning tool for the presence of COVID-19. [Read](#).
- **People May Shed the Highest Level of COVID-19 Soon After Symptoms Appear**
[April 1, 2020](#). A study from Germany reported that peak concentrations of the virus in individuals with mild symptoms and no underlying conditions were reached before day 5 after onset, and were more than 1,000 times higher than with SARS. [Read](#).
- **Likelihood of Survival of COVID-19**
[March 30, 2020](#). Current estimates of case fatality ratios (i.e., proportion of all individuals diagnosed with a disease who will die from that disease) for COVID-19 vary depending on the jurisdiction, datasets, and time periods examined. [Read](#).
- **Clinical Trials of Drugs Used to Treat Other Diseases Not Effective Against COVID-19**
[March 27, 2020](#). Medications used to treat HIV and influenza were not clinically beneficial to patients with COVID-19; however, the World Health Organization is conducting a large-scale trial with these medications in combination with anti-malarial drugs to assess their effectiveness for treating COVID-19. [Read](#).
- **Spread of COVID-19 in Long-Term Care Facilities in King County, Washington**
[March 27, 2020](#). Proactive steps are needed to prevent the introduction of COVID-19 in long-term care facilities, including identifying and excluding potentially infected staff and visitors, actively monitoring for potentially infected patients, and implementing appropriate infection prevention and control measures. [Read](#).
- **Management of Critically Ill Adults with COVID-19**
[March 26, 2020](#). Thirty-six experts from 12 countries wrote guidelines on the management of COVID-19 in critically ill adults based on limited direct evidence with patient cases and indirect evidence derived from previous pandemics such as Middle East respiratory syndrome (MERS), severe acute respiratory syndrome (SARS), and other coronavirus infections. [Read](#).
- **Neonatal Early-Onset Infection with SARS-CoV-2 in Neonates Born to Mothers with COVID-19**
[March 26, 2020](#). Due to the strict infection control and prevention procedures implemented in hospitals during infant delivery in Wuhan, China, it is likely that the sources of SARS-CoV-2 in three of 33 neonates' upper respiratory tracts or anuses were maternal in origin. [Read](#).

COVID-19 PANDEMIC – RAEB'S EVIDENCE UPDATE

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

• April 6, 2020 •

RESEARCH EVIDENCE cont'd

- **Interventions to Mitigate Early Spread of COVID-19 in Singapore**
[March 23, 2020](#). Implementing the combined intervention of quarantining infected individuals and their family members, workplace distancing, and school closure once community transmission has been detected could substantially reduce the number of COVID-19 infections. [Read](#).
- **COVID-19 Epidemic has a Natural Origin**
[March 17, 2020](#). An analysis of public genome sequence data from SARS-CoV-2 and related viruses found that the virus is a product of natural evolution and there is no evidence that it was made in a laboratory or otherwise engineered. [Read](#).
- **The Psychological Impact of Quarantine and How to Reduce It**
[March 14, 2020](#). A review of the psychological impact of quarantine from previous disease outbreaks (e.g., SARS, H1N1, influenza) recommends that officials quarantine individuals for no longer than required, provide clear rationale for quarantine and information about protocols, ensure sufficient supplies are provided, and emphasize the altruistic choice of self-isolating. [Read](#).

JURISDICTIONAL EXPERIENCE







- **Virtually Perfect? Telemedicine for COVID-19.**
[March 11, 2020](#). Telemedicine's payment and regulatory structures, licensing, credentialing, and implementation take time to work through, but US health systems that have already invested in it are well-positioned to ensure that patients with COVID-19 receive the care they need. [Read](#).

COVID-19 PANDEMIC – RAEB'S EVIDENCE UPDATE

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

• April 6, 2020 •

TRUSTED RESOURCES

-  The Canadian Agency for Drugs and Technologies in Health posts [evidence](#) on prevention, infection control, screening and testing, treatment, and mental health related to COVID-19. If you cannot find the information you are looking for, you can submit a request.
-  The WHO Regional Office for Europe, the European Commission, and the European Observatory on Health Systems and Policies jointly launched the [COVID-19 Health System Response Monitor](#) to provide up-to-date information on how 18 countries are responding to the crisis (e.g., prevention, physical resource and workforce capacity, financing, governance). Country responses can also be compared.
-  The Cochrane Library is providing access to systematic reviews that are relevant to the [WHO interim guidance](#) on [critical care](#) and [infection control and prevention measures](#), with four more being planned (home care for at-risk populations; quitting smoking during the pandemic; post-traumatic stress disorder for those in recovery; and working from home).
-  The Oxford Centre for Evidence-based Medicine [responds to questions](#) based on systematic reviews, single studies, and/or available data, and has a [list of questions](#) that they are actively addressing.
-  Evidence Aid includes [summaries of systematic reviews](#) that may be relevant to COVID-19 in four broad areas (infection prevention and control; clinical characterization and management; health systems and services; and public health interventions).
-  EPPI Centre created a [living evidence map](#) of COVID-19 studies that cover more than 10 areas of focus.
- Public Health Ontario is actively monitoring and assessing relevant information related to [COVID-19](#) and posts evidence briefs, guidances, and best practices based on published literature, scientific list-serves, and media reports.
- EBSCO created a [COVID-19 Information Portal](#), comprised of news feeds and resources from trusted bodies of authority (e.g., World Health Organization, US Centers for Disease Control and Prevention), to support the immediate need for legitimate information. They also provide [clinical information](#) about COVID-19, as well as [free online resources](#) on distance learning, remote work, and stress management.
- World Health Organization is actively collating [information](#) on situation updates, technical guidance for countries, advice for health workers and the public, research and development, and scam alerts.