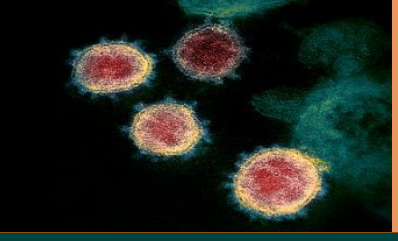
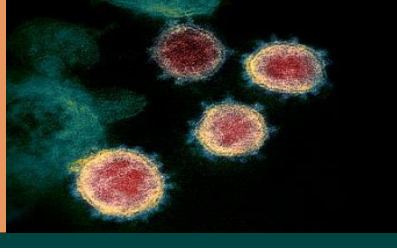


COVID-19 PANDEMIC – RAEB'S EVIDENCE UPDATE

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

• May 11, 2020 •



FEATURED

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

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.

- **Learning from Norway's national COVID-19 strategy**
  May 6, 2020. Strong governmental involvement, universal health coverage, well-planned regional health care integration, a persistent national strategy, and early and aggressive testing seem to be decisive factors contributing to Norway's success in dealing with COVID-19. *Read*.
- **A model for emergency blood drives during the COVID-19 pandemic**
  May 6, 2020. A case study described how a US-based academic medical centre partnered with a major blood provider to create a safe and sustainable blood drive model during the pandemic. *Read*.
- **Estimating the level of hospital capacity needed to respond to COVID-19 outbreaks in US cities**
  May 6, 2020. A study described and compared the intensive care unit and inpatient bed needs for COVID-19 patients in Wuhan and Guangzhou (China) to estimate the peak number of beds needed in US cities. *Read*.
- **Lessons learned from the Province of Bergamo, Italy**
  May 5, 2020. Two key lessons from the epicentre of the pandemic in Italy include: an urgent and decisive regionwide lockdown should have been implemented to contain the epidemic; and all health care workers in hospitals, nursing homes, and the community should have been tested for COVID-19, and those testing positive should have been isolated, even if they were asymptomatic. *Read*.
- **Genomic data suggests start date of the pandemic and recurrent mutations in SARS-CoV-2**
  May 5, 2020. Based on analyses of the genomic data of SARS-CoV-2, a study suggested the pandemic began sometime between October 6 and December 11, 2019. The study also identified 198 recurring mutations to the virus, which may indicate ongoing adaptation to its novel human host. Monitoring patterns of genetic diversity in SARS-CoV-2 has potential to inform targets for drug and vaccine development. *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*

RESEARCH EVIDENCE cont'd

- A primer for optimizing staffing models to care for hospitalized patients during COVID-19
  May 4, 2020. New York City's Mount Sinai Hospital created a staffing model with six overarching principles to address clinical, logistical, and personal needs of patients and staff: 1) create an organizational structure; 2) define the need; 3) identify and optimize the pool of health care providers; 4) create surge teams; 5) prepare and deliver orientation materials; and 6) optimize working conditions for staff. *Read*.
- A model for identifying patients with increased risk of COVID-19 complications
  May 4, 2020. Cityblock Health, a health provider based in Brooklyn, New York, built an open-source, rules-based model using claims and electronic health record data to help health care organizations identify and strategically assist COVID-19 patients at highest risk of hospitalization, ICU use, and death. *Read*.
- Contact tracing assessment of COVID-19 transmission dynamics in Taiwan and risk at different exposure periods before and after symptom onset
  May 1, 2020. A study found that finding and isolating symptomatic patients alone may not suffice to contain the epidemic, and more generalized measures may be required, such as social distancing. *Read*.

JURISDICTIONAL EXPERIENCE

- Artificial-intelligence tool tracks positive and negative citations for COVID-19 literature
  May 1, 2020. Developed by a US-based start-up company, this tool, Scite.ai, can automatically tell readers whether research findings are supported or contradicted by subsequent studies. *Read*.

TRUSTED RESOURCES

Newly identified evidence sources on COVID-19 are profiled below. An up-to-date and comprehensive list of sources, organized by type of research evidence, is available on McMaster Health Forum's COVID-END website.

- The World Health Organization's Global Outbreak Alert and Response Network (GORAN) COVID-19 Knowledge Hub curates multidisciplinary information on COVID-19 from United Nation agencies, international and national non-governmental organizations, and academic institutions for a variety of audiences (e.g., policy makers, responders, researchers, general public). The platform offers resources in capacity building and training, research, and risk communication and community engagement.
- The National Institute for Health and Care Excellence (NICE) in the UK is developing a series of rapid guidelines on caring for patients with suspected and confirmed COVID-19 infection, as well as patients without COVID-19 infection, in a number of clinical areas (e.g., acute kidney injury in hospital).