

COVID-19 PANDEMIC – RAEB'S EVIDENCE UPDATE

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

• May 31, 2021 •

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

- **JAMA: Assessment of the frequency and variety of persistent symptoms among patients with COVID-19**
[May 26, 2021](#). This systematic review found that COVID-19 symptoms commonly persisted beyond the acute phase of infection (e.g., shortness of breath or dyspnea, fatigue or exhaustion, sleep disorders or insomnia), with implications for health-associated functioning and quality of life; however, methodological improvements are needed to reliably quantify these risks. [Read.](#)
- **Lancet: Post-COVID Syndrome in non-hospitalized patients with COVID-19**
[May 18, 2021](#). This study observed participants for antibody levels and long-term symptoms of SARS-CoV-2 infection at four and seven months after symptom onset. Four months after infection, 8.6% of observed participants experienced shortness of breath, 12.4% experienced anosmia, 11.1% experienced ageusia, and 9.7% experienced fatigue. At least one of these symptoms was present in 27.8% of observed participants four months after symptom onset, and in 34.8% seven months after symptom onset. The study also found that a lower baseline level of SARS-CoV-2 IgG, anosmia, and diarrhea during the acute period of infection were associated with higher risk to develop long-term symptoms. [Read.](#)

DISEASE MANAGEMENT

- **Cochrane Library: Evidence relevant to critical care and COVID-19**
[May 27, 2021](#). This updated special collection includes reviews summarizing evidence on the management of people hospitalized with severe acute respiratory infections, including: fluid and vasopressor therapy; respiratory support and mechanical ventilation; weaning mechanical ventilation; managing hypoxaemia; pharmacological treatment; managing delirium; nutrition in intensive care; and diagnosis. [Read.](#)

RESEARCH EVIDENCE/JURISDICTIONAL EXPERIENCE cont'd

DISEASE MANAGEMENT

- **Nature: Influenza vaccination and risk of COVID-19 infection and severe illness in older adults in the US**
[May 26, 2021](#). This study analyzed health claims data from July 1, 2019 to June 30, 2020 for adults aged 65 years old or older who received influenza vaccination (between September 1 and December 31, 2019), and found that the influenza vaccine may marginally protect people from COVID-19 infection. Older adults who had received an influenza vaccination were associated with a 24% reduction in the odds of getting a COVID-19 infection and a 28% reduction in the odds of developing a severe COVID-19 illness, compared to older adults who had not received influenza vaccination. [Read](#).
- **CMAJ: Impact of the pandemic on emergency department (ED) visits on abdominal and gynecologic conditions**
[May 25, 2021](#). This study examined the COVID-19 pandemic's impact on visits to Ontario-based EDs during the first wave (March 11-June 30, 2020). The study reported that after an initial reduction in ED visits, presentations for cholecystitis and ectopic pregnancy quickly returned to expected levels. Presentations for appendicitis and miscarriage showed sustained reductions. Emergency care and outcomes for patients were similar before and during the pandemic. [Read](#).
- **Vaccine: Changes in childhood vaccination during the COVID-19 pandemic in Japan**
[May 21, 2021](#). This study evaluated the pandemic's impact on the status of childhood vaccinations (e.g., hepatitis B virus, measles, rubella) by comparing the number of vaccine doses administered between January and September 2020 with those given between 2016-19. A decrease in vaccine doses administered was most apparent in March and April 2020 as the pandemic was declared. As child age increased, the decrease became more apparent. The COVID-19 pandemic significantly affected routine childhood immunization in Japan. [Read](#).
- **CDC: Interim recommendations for use of Pfizer-BioNTech COVID-19 vaccine in adolescents aged 12-15 years**
[May 21, 2021](#). On May 10, 2021, the US Food and Drug Administration expanded Emergency Use Authorization for the Pfizer-BioNTech COVID-19 vaccine to include adolescents aged 12-15 years. On May 12, 2021, after a systematic review of all available data, the Advisory Committee on Immunization Practices determined that use of the vaccine among adolescents is a reasonable and efficient allocation of resources since they represent a growing proportion of new COVID-19 cases reported to CDC and have been shown to contribute to household transmission. The level of certainty of the evidence was rated as high for the prevention of symptomatic COVID-19, very low for serious adverse effects, and high for reactogenicity. [Read](#).
- **Medical Journal of Australia: Effectiveness of COVID-19 vaccines: Findings from real world studies**
[May 20, 2021](#). This preprint study reported that community-based studies in six countries (Israel, England, Scotland, Sweden, UK, and US) show consistent strong benefits from early rollouts of COVID-19 vaccines. The studies were consistent in finding greater than 80% reductions in rates of infection and hospitalization, and these appeared unaffected by age. Two studies documented substantial reductions in mortality. Follow-up times were short, data on viral variants were confined to the B.1.1.7 (UK) strain, viral transmission was not assessed directly, and serious vaccine harms were not evaluated. [Read](#).

RESEARCH EVIDENCE/JURISDICTIONAL EXPERIENCE cont'd

PUBLIC HEALTH MEASURES

- **Nature: Impacts of social distancing policies on mobility and COVID-19 case growth in the US**
[May 25, 2021](#). Using anonymized, aggregate mobility data, this study found that state-level emergency declarations led to a 9.9% reduction in time away from places of residence. Social distancing policies resulted in a further 24.5% reduction in the same, while subsequent shelter-in-place policies resulted in an additional 29.0% reduction. The study also found that reductions in mobility were associated with reductions in case growth two to four weeks later. [Read](#).
- **OECD: The long-term environmental implications of COVID-19**
[May 21, 2021](#). This report reviews how the COVID-19 pandemic and response measures have significant short- and long-term effects on macroeconomic activity and the structure of the economy. The short-term reductions in environmental pressures are significant: energy-related emissions declined by 7%, agriculture-related environmental pressures declined by approximately 2%, and the reduction in the use of non-metallic minerals, including construction materials, reached double digits. As the economy gradually recovers, emissions are projected to increase again, with growth rates going back to the pre-COVID baseline projection levels. But there is a long-term, potentially permanent, downward impact on the levels of environmental pressures of 1-3%, with stronger effects for pressures related to capital-intensive economic activities. [Read](#).
- **OECD: COVID-19 impact on alcohol consumption and policy responses to prevent harmful alcohol consumption**
[May 19, 2021](#). This report noted that people have significantly changed drinking habits during the COVID-19 pandemic, shifting places of consumption from bars and restaurants to home. Some of the problems associated with harmful alcohol consumption were intensified by the crisis, even though the long-term impacts of COVID-19 on alcohol consumption are uncertain. For example, there has been an increase in domestic violence, for which harmful alcohol consumption is a risk factor. Harmful alcohol consumption damages health, causes diseases and injuries, weakens response to COVID-19, and leads to significant economic and societal costs. Comprehensive policy packages built on a PPPP approach (Pricing policies, Policing to counter drink-driving, Primarily care-based counselling for heavy drinkers, and regulating alcohol Promotion activities) improve health and support a stronger economic and social recovery in the aftermath of the pandemic. [Read](#).

HEALTH EQUITY AND VULNERABLE POPULATIONS

- **Clinical Infectious Diseases: Risk factors for illness severity among pregnant women with confirmed SARS-CoV-2 infection in the US**
[May 22, 2021](#). This study indicated that among 7,950 pregnant women, moderate-to-severe or critical COVID-19 illness was associated with age 25 years and older, health care occupation, pre-pregnancy obesity, chronic lung disease, chronic hypertension, and pregestational diabetes mellitus. [Read](#).

RESEARCH EVIDENCE/JURISDICTIONAL EXPERIENCE cont'd

TRANSMISSION

- **BMJ: Global infectious disease risks associated with occupational exposure among non-health care workers**
[May 25, 2021](#). This systematic review provided an updated overview of the published evidence (from 2009-20) on the exposure to respiratory tract pathogens, including SARS-CoV-2, among non-health care workers. Findings from the 270 selected studies identified six high-risk occupational groups: armed forces; livestock farm labourers; livestock/dairy producers; abattoir workers; animal carers; and forestry workers, in which 111 pathogen exposures were found. Many of these respiratory tract pathogens were readily transmitted where employees congregate, thereby, highlighting the importance of establishing effective preventive measures in these workplace settings. [Read](#).

CASE TESTING AND SCREENING

- **PLOS One: Launching a saliva-based SARS-CoV-2 surveillance test program on a university campus in the US**
[May 26, 2021](#). This study described the voluntary saliva testing program instituted at the University of California, Berkeley during the early period of the SARS-CoV-2 pandemic (March 2020). Results of both the testing protocol and the study participants' experience demonstrated that the program succeeded in providing routine, robust testing capable of contributing to outbreak prevention within a campus community while offering strategies for encouraging participation and a sense of civic responsibility. [Read](#).

FRONTLINE WORKERS

- **International LTC Policy Network: Strategies to support uptake of COVID-19 vaccinations among staff working in residential care settings**
[May 25, 2021](#). This summary of international evidence on measures to increase vaccination uptake among staff found that Italy and New South Wales are among few governments that have mandated COVID-19 vaccinations among people working in health and social care settings, including residential care. Other strategies include the use of targeted communications, increasing the convenience of being vaccinated, and providing sufficient time for staff to discuss concerns with peers, managers, and trusted professionals. [Read](#).
- **BMC Psychiatry: Experiences of National Health Service (NHS) mental health care workers during the pandemic in England**
[May 12, 2021](#). This interview-based study suggests that, during the first wave of the pandemic, NHS mental health workers (N=35) faced multiple adversities highly consequential for their wellbeing. Participants reported the quality of their working life was impaired by increasing levels of daily challenge associated with trying to provide care in difficult and constrained circumstances, the problems of forging new ways of working remotely, and constraints on ability to access informal support. Many reported features of moral injury linked to their perceived failures in providing the quality or level of care that they felt service users needed. Some reported feeling poorly supported by organizations. [Read](#).

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DATA ANALYTICS, MODELLING AND MEASUREMENT

- **Nature:** Estimating the impact of control measures to prevent outbreaks of COVID-19 associated with air travel into a COVID-19-free country, New Zealand

[May 24, 2021](#). This modelling study suggests that the risk of an outbreak in a previously COVID-19-free country is extremely dependent on the source country of the incoming travellers. In the situation of Australia experiencing a large outbreak, the risk could potentially be reduced to tolerable levels with a package of multi-layered interventions (particularly with repeated testing and mask use) and no quarantine. Nevertheless, quarantine is likely to remain important where the source country has high disease burdens (e.g., Japan, US).

[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.
- The [Ontario COVID-19 Science Advisory Table](#) is a group of scientific experts and health system leaders who evaluate and report on emerging evidence relevant to the COVID-19 pandemic, to inform Ontario's response to the pandemic.
- COVID-19 Evidence Network to support decision-making (COVID-END) in Canada:
 - COVID-END is a time-limited network that brings together more than 50 of the world's leading evidence-synthesis, technology-assessment, and guideline development groups to support decision-making. In addition to Living Evidence Profiles, COVID-END produces Canadian and global spotlights and horizon scans on emerging issues, as well as hosting an inventory of best COVID-19 evidence syntheses from around the world. 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 COVID-19 Evidence Spotlights from COVID-END provide updated information on COVID-19 responses with three types of products from COVID-END in Canada: 1) Canadian spotlights; 2) global spotlights; and 3) horizon scans. COVID-19 responses can include the full spectrum of public health measures, clinical management, health system arrangements, and economic and social responses. During the second half of April, contributing evidence-synthesis teams in [Canada](#) shared 12 completed evidence syntheses, and [globally](#), there are a number of emergent issues related to COVID-19 for which evidence syntheses are or will be needed ([see here](#)). To receive an email containing hyperlinks to these products twice a month, [subscribe here](#).

* 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*