

COVID-19 PANDEMIC

RAEB'S Evidence Update

Highlights of health research synthesized by the Research, Analysis and Evaluation Branch

November 22, 2021

Featured

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Research Evidence and 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.

Transmission

Journal of the American Medical Association (JAMA): Seroprevalence of unidentified SARS-CoV-2 infection in Hong Kong during three pandemic waves

Nov 15, 2021. In this study of 4,198 participants of the general public, six were identified as positive for anti-SARS-CoV-2 IgG after three major waves of COVID-19. The adjusted prevalence of unidentified infection was 0.15%, with fewer than 1.9 unidentified infections for every recorded case. The findings suggest that stringent isolation and quarantine policies even without complete city lockdown are successful in minimizing SARS-CoV transmission. [Article](#).

Disease Management

JAMA: Mortality risk among patients with COVID-19 prescribed selective serotonin reuptake inhibitor (SSRI) antidepressants

Nov 15, 2021. In this study analyzing electronic health records of 83,584 patients diagnosed with COVID-19, including 3,401 patients who were prescribed SSRIs, a reduced relative risk of mortality was found to be associated with the use of SSRIs—specifically fluoxetine—compared with patients who were not prescribed SSRIs. These findings suggest that SSRI use may reduce mortality among patients with COVID-19, although they may be subject to unaccounted

confounding variables; further investigation via large, randomized clinical trials is needed.

[Article](#).

JAMA: Association between androgen deprivation therapy and mortality among patients with prostate cancer and COVID-19

Nov 12, 2021. In this study of 1,106 patients, no statistically significant difference was found in the rates of all cause 30-day mortality following COVID-19 infection among men with prostate cancer receiving androgen deprivation therapy (15%) vs. those not receiving androgen deprivation therapy (14%). The findings of this cohort study do not support an association between androgen deprivation therapy and 30-day mortality among patients with COVID-19 infection. [Article](#).

Understanding the Disease

British Medical Journal (BMJ): Development and validation of multivariable prediction models for adverse COVID-19 outcomes in patients with inflammatory bowel disease (IBD)

Nov 12, 2021. This article describes how researchers developed an individualized prognostic risk prediction tool for predicting the probability of adverse COVID-19 outcomes (i.e., hospitalization, ICU admission, and death) in patients with IBD. The tool was established based on data from 2,709 participants with IBD from 59 countries who contracted COVID-19. [Article](#).

Nature: Death in children and young people (CYP) in England after SARS-CoV-2 infection during the first pandemic year

Nov 11, 2021. This review analyzed all CYP deaths in the UK with a positive SARS-CoV-2 test (March 2020 to February 2021) to distinguish between CYP who died as a result of SARS-CoV-2 infection and those who died of another cause but were coincidentally infected with the virus. The review found 99.995% of CYP with a positive SARS-CoV-2 test survived, emphasizing the importance of underlying comorbidities as the main risk factor for death, as 76% had chronic conditions, 64% had multiple comorbidities, and 60% had life-limiting conditions. The risk of serious outcomes from SARS-CoV-2 for individuals under 18 years of age remains extremely low. [Article](#).

Infection, Prevention, and Control in Specific Settings

International Long-Term Care Policy Network (Intl LTC Policy Network): Evidence linking hospital discharges to COVID-19 outbreaks in long-term care (LTC) facilities

Nov 15, 2021. This article identified four UK-based studies that investigated patterns of introducing COVID-19 into LTC facilities, including through hospital discharges and associated

outbreaks. Hospital discharges were also mentioned in some outbreak reports on the experience of individual LTC facilities in the UK and other countries. However, all studies are subject to substantial uncertainty due to data limitations. [Article](#).

JAMA: Vaccination status and the detection of SARS-CoV-2 infection in health care personnel (HCP) under surveillance in LTC residential facilities

Nov 10, 2021. This study found that frequent, mandatory surveillance testing of HCP in a LTC setting was effective in detecting SARS-CoV-2 infection in HCP. The yield of positive test results was much higher in asymptomatic HCP who were unvaccinated (3.6%) than those who were vaccinated (0.3%), consistent with an evolving literature that suggests full vaccination status reduces asymptomatic SARS-CoV-2 infection in HCP. [Article](#).

Health Equity and Vulnerable Populations

JAMA: COVID-19 risk factors and mortality outcomes among Medicare patients receiving long-term dialysis

Nov 17, 2021. This study of 498,169 patients receiving regular maintenance dialysis found Black race, male sex, nursing home status, and having comorbidities, such as diabetes and cardiac diseases, were associated with higher risk of COVID-19 and higher post-COVID-19 mortality. [Article](#).

JAMA: Association of SARS-CoV-2 infection with psychological distress, psychotropic prescribing, fatigue, and sleep problems among UK primary care patients

Nov 16, 2021. In this study of the health care records of 11,923,105 patients, including 226,521 patients with SARS-CoV-2 infection, while infection was associated with increased risk of sleep problems and fatigue, associations with subsequent psychiatric morbidity were mixed. These findings suggest that psychiatric morbidity associated with SARS-CoV-2 infection may be overstated in analyses of health care records that do not sufficiently control for confounding. [Article](#).

Frontline Workers

Nature: Perceptions, experiences, and opportunities for occupational safety and health professionals (OSHP) arising out of the COVID-19 pandemic

Nov 16, 2021. This study recommended an expanded role for the OSHP including business continuity, resilience, and wellbeing, in addition to assessing and controlling risks emerging during the pandemic. There is also a need to adequately disseminate trustworthy information.

Results stressed that the pandemic carried three health-related co-morbidities: stress, post-traumatic stress disorder, and burnout. [Article](#).

Journal of Clinical Psychology: Past month suicidal ideation and COVID-19 stress in US-based essential workers

Nov 8, 2021. This study that examined the impact of COVID-19 stress on essential workers (n=3,500) determined that workers reported higher past month suicidal ideation and COVID-19 stress than non-essential workers. Workers who identified as Black, Indigenous, and People of Colour reported higher past month ideation and higher fears about economic consequences compared to White essential workers. Results suggest that accessibility of support should be a priority for essential workers, as they are at high risk for both the physical and emotional burden of COVID-19. [Article](#).

Data Analytics, Modelling and Measurement

Lancet: Neutralizing antibody titres as predictors of protection against SARS-CoV-2 variants and the impact of boosting

Nov 17, 2021. This meta-analysis found in-vitro neutralization titres remain a correlate of protection from SARS-CoV-2 variants and modelling of the effects of waning immunity predicts a loss of protection to the variants after vaccination. However, booster vaccination with current vaccines should enable higher neutralization to SARS-CoV-2 variants than is achieved with primary vaccination, which is predicted to provide robust protection from severe infection outcomes with the current SARS-CoV-2 variants of concern, at least in the medium-term. [Article](#).

Public Health Measures

New England Journal of Medicine (NEJM): Evaluation of the Pfizer vaccine in children aged five to 11 years

Nov 9, 2021. Following a phase one study that selected a dose level of 10µg for further study, the phase two and three trials were initiated in which two 10µg doses of the Pfizer vaccine were given 21 days apart to children five to 11 years of age. No serious adverse events were observed. High levels of neutralizing antibodies were induced, and vaccine efficacy seven days or more after the dose was 90.7%. [Article](#).

Health System Impacts

World Health Organization: Health systems resilience during COVID-19: Lessons for building back better

Nov 11, 2021. This study gathers the evidence of how countries have managed (or not managed) to re-engineer what they do, who does what and how, and draws out the implications for future resilience. It builds on the core health system functions of governance, financing, resource generation, and service delivery and organizes its findings around a set of 20 strategies that policymakers can use to strengthen the resilience of their health systems.

[Article](#).

BMC Med Education: The perceived impact of the COVID-19 pandemic on medical student education and training

Nov 9, 2021. This online survey of medical students from 45 countries suggested that the COVID-19 pandemic negatively impacted their undergraduate training. Being 21 years or younger, female, and those reporting a decline in conventional lectures and ward-based teaching were more likely to report an overall negative impact on their training. Results suggest that the use of novel virtual methods of teaching to supplement traditional teaching methods warrants further research. [Article](#).

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 hosts 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. To receive an email containing hyperlinks to these products twice a month, [subscribe here](#).

- In the first half of November, contributing Canadian evidence synthesis teams shared 10 newly completed products. One of these syntheses provide insights across all domains of the COVID-END taxonomy (public health measures, clinical management, health system arrangements, and economic and social response), and one synthesis provides insight across two domains (public health measures and health system arrangements). The remaining focus on public health measures (n=6) and clinical management (n=2). Please visit [Canadian Spotlight 11.1](#) to view the evidence, or browse past [Canadian evidence spotlights](#). A complete list of the products is available [here](#).

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 scan
- Economic analysis
- Evaluation planning
- Research fund management
- Knowledge translation services

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