

COVID-19 PANDEMIC

RAEB'S Evidence Update

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

November 15, 2021

Featured

[Research Evidence and Jurisdictional Experience
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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.

Health Equity and Vulnerable Populations

Journal of the American Medical Association (JAMA): Disparities in COVID-19 outcomes by race, ethnicity, and socioeconomic status

Nov 11, 2021. In this systematic review and meta-analysis of 4.3 million patients from 68 studies, African American, Hispanic, and Asian American individuals had a higher risk of COVID-19 positivity and ICU admission but lower mortality rates than White individuals. Socioeconomic disparity and clinical care quality were associated with COVID-19 mortality and incidence in racial and ethnic minority groups. These findings are important for informing public health decisions, particularly for those living in socioeconomically deprived communities. [Article](#).

International Journal of Applied Family Science: School-age adopted children's early responses to remote schooling during COVID-19

Nov 6, 2021. This US-based study revealed that although a minority of children were doing well with remote schooling, the majority were struggling due to lack of motivation and an inability to work independently. Parents voiced challenges with teacher communication and inconsistencies across classes and their demands of their new role as proctor/teacher. Dissatisfaction was associated with how children's school services had been implemented and

noted difficulties with the online format of various services (e.g., therapy was less engaging). Most children were described as struggling in part due to social isolation and loss of routine, which manifested in a variety of ways, including anxiety, schoolwork avoidance, and boundary testing. The study notes that the transition to remote schooling during COVID-19 may be especially challenging for adoptive families and other families whose children have higher levels of need. [Article](#).

JAMA: Disparities in use of video telemedicine among patients with limited English proficiency (LEP) during the COVID-19 pandemic

Nov 4, 2021. This study found that patients with LEP chose video telemedicine less often (one-third of patients) than patients without LEP. However, among patients with video visit experience, there was no significant difference in video visit use by LEP. Results suggest that once patients with LEP have video visit use experience, they are as likely as those without LEP to reuse it. Additional research is needed to identify barriers to initial video telemedicine use among patients with LEP. [Article](#).

BMJ Global Health: Ethnic minority status as social determinant for COVID-19 infection, hospitalization, severity, ICU admission, and deaths in the early phase of the pandemic

Nov 2021. This meta-analysis of 58 studies from seven countries on four continents during the first wave until the summer of 2020 found that the risk of SARS-CoV-2 diagnosis was higher in most ethnic minorities, but once hospitalized, no clear inequalities exist in COVID-19 outcomes. The findings highlight the necessity to tackle disparities in social determinants of health, preventative opportunities, and delay in health care use. Ethnic minorities should specifically be considered in policies mitigating negative impacts of the pandemic. [Article](#).

Disease Management

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

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

Nature: Stem cell-based therapy for COVID-19 and acute respiratory distress syndrome (ARDS)

Nov 8, 2021. This systematic review including 21 clinical studies found that 75% of studies used mesenchymal stem cells (MSCs) to treat COVID-19 and ARDS, and indicate a positive impact of stem cell therapy on crucial immunological and inflammatory processes that lead to lung injury in COVID-19 and ARDS patients. Additionally, there were no reported deaths causally linked to cell therapy. MSCs treatment could also be considered a potential candidate for adjuvant therapy in moderate-to-severe COVID-19 cases and compassionate use. [Article](#).

Understanding the Disease

JAMA: Association of sleep-related hypoxia with risk of COVID-19 hospitalizations and mortality in a large integrated health system

Nov 10, 2021. In this study of 5,402 patients in a large integrated health system, sleep-disordered breathing and sleep-related hypoxia were not associated with an increased likelihood of contracting SARS-CoV-2. After accounting for confounding factors including cardiopulmonary disease, cancer, and smoking exposure, sleep-related hypoxia indices were associated with more severe COVID-19 clinical outcomes, including hospitalization and mortality, in time-to-event analyses. These results suggest that baseline sleep-related hypoxia may portend worse clinical prognosis in COVID-19. [Article](#).

Public Health Measures

JAMA: Antibody titers before and after a third dose of the SARS-CoV-2 BNT162b2 (Pfizer) vaccine in adults aged ≥60 years

Nov 5, 2021. This study with 97 participants found that their median level of antibody titers increased significantly after a third dose of the Pfizer vaccine, from 440 arbitrary units (AU)/mL to 25,468 AU/mL. While 97% were seropositive (i.e., had antibodies to COVID-19) prior to the third dose, this increased to 100% of participants following the third dose. [Article](#).

BMC Pregnancy and Childbirth: Acceptance of seasonal influenza vaccination and associated factors among pregnant women in the context of COVID-19 pandemic in China

Nov 3, 2021. This study that evaluated the acceptance of the influenza vaccination among 2,568 pregnant women during the COVID-19 pandemic reported a total acceptance rate of 76.5%. Only 8.3% of the participants had a history of seasonal influenza vaccination. There were several factors associated with the acceptance of influenza vaccine (e.g., high knowledge of influenza infection and vaccination, perceived benefit). Among the 23.5% of participants who

had vaccine hesitancy, 48.0% were worried about side effects and 35.6% lacked confidence of vaccine safety. Findings highlight the need for tailored strategies and publicity for influenza vaccination in the context of COVID-19 pandemic. [Article](#).

Frontline Workers

Journal of Pediatrics: The effect of COVID-19 on the workload of neonatologists

Nov 6, 2021. This US study reported that the professional and domestic workloads of female neonatologists were disproportionately affected by the COVID-19 pandemic. For example, a higher proportion of women than men: held no leadership position (61.4% vs. 46.3%); had dependents at home (68.8% vs. 56.3%); and reported a decrease in time spent on scholarly work (35.0% vs. 29.0%), and career development (44.2% vs. 34.9%). Results suggest that targeted interventions are needed to support post-pandemic career recovery and advance physician contributions to the field. [Article](#).

Health System Impacts

JAMA: National retail sales of alcohol and cannabis during the COVID-19 pandemic in Canada

Nov 4, 2021. This study found that there was an increase in the intra-pandemic mean monthly national retail sales of 5.5% for alcohol and 25% for cannabis. The study notes that the public health and clinical significance of these changes cannot be directly inferred from these findings (e.g., personal-level expenditures or consumption behaviour), and that they do not account for illegal sales or alcohol hold through ferment-on-premises operations. [Article](#).

Transmission

The New England Journal of Medicine (NEJM): Neutralization of the SARS-CoV-2 Mu variant by convalescent and vaccine serum

Nov 3, 2021. Emerging research suggests that the Mu variant of SARS-CoV-2 was 10.6 times as resistant to neutralization by serum samples obtained from 13 persons who had recovered from COVID-19 as the B.1 lineage virus (parental virus), and 9.1 times as resistant to neutralization by serum samples from persons who had received the BNT162b2 mRNA (Pfizer) COVID-19 vaccine. Results suggest that further characterization and monitoring of this variant of interest is warranted. [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 second half of October, there were seven newly added evidence syntheses. The syntheses focus on public-health measures (n=5) and clinical management (n=2). Please visit [Canadian Spotlight 10.1](#) 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

Contact RAEB

[Anne Hayes](#), RAEB Director

[Andrea Proctor](#), Evidence Synthesis

[Emre Yurga](#), Economic Analysis and Evaluation

[Hadi Karsoho](#), Research Planning and Management