

COVID-19 PANDEMIC

RAEB'S Evidence Update

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

October 4, 2021

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RAEB's Rapid Responses for Ontario's Health Sector

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

Virtual Care Training for Physicians

There is limited information on standardized virtual care curriculums and programs for physicians. Identified research studies (i.e., Canada [British Columbia]; United States [US; Georgia, Virginia, Illinois Delaware, Florida]; international) assessed the effectiveness or intended outcomes of institutional-level (e.g., hospital training) virtual care training for physicians during the COVID-19 pandemic.

- **Training Objective:** Objectives of virtual care training include supporting the expansion of health care provider skillsets and abilities; assessing in-patient versus virtual care; and responding to the expanded need for virtual patient care as a result of the COVID-19 pandemic.
- **Training Format:** Most virtual care training for physicians is delivered through an online/remote format (i.e., teleconferencing, online modules, simulation, virtual handbooks, and remote medical school training).
- **Training Content:** Identified virtual care training programs provide different topics in the curriculum: virtual care definition (e.g., virtual care technologies and their advantages and disadvantages), legislation and regulations regarding licensure, billing, coding, and allowable practice.
- **Training by Medical Field:** Virtual care training programs were largely identified in the pediatrics medical field. Other medical fields piloting or implementing virtual care training

included surgery, cardiology, neurology, orthopedics, transplantation, women's health, primary care, oncology, and internal medicine, among others.

- **Funding for Training Programs:** Limited information was identified on how virtual care training is funded. One study (Nov 20, 2020) indicated that a total of CAD \$17.68 million was charged during a two-month period for telehealth care –collection rates were akin to in-person visits.
- **Reported/Intended Outcomes:** Overall, virtual care training and delivery was positively reported by physicians and patients with a high level of satisfaction. Some identified virtual care training programs that have yet to be evaluated provided information on the intended use and/or outcomes of its curriculum. For example, a study in the US suggests that telemedicine curricula in pre-med undergraduate degree programs have the potential to improve surgical patient care, eliminate long-distance travel and costs, and increase surgical collaboration and education among academic medical centres.

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.

Understanding the Disease

Canadian Medical Association Journal (CMAJ): Characteristics of children admitted to hospital with acute SARS-CoV-2 infection in Canada in 2020

September 27, 2021. This study found that among 264 hospital admissions involving children with SARS-CoV-2 infection from April to December 2020, 150 (56.8%) admissions were related to COVID-19 and 100 (37.9%) were incidental infections (admissions for other reasons and found to be positive for SARS-CoV-2 on screening). Infants (less than one year; 37.3%) and adolescents (13-17 years; 29.6%) represented most cases. Among hospital admissions related to COVID-19, 52 (34.7%) had critical disease, and 59 (39.3%) had at least one underlying comorbidity. Children with obesity, chronic neurologic conditions, or chronic lung disease other than asthma were more likely to have severe or critical COVID-19. [Article](#).

Case Testing and Screening

Nature: A new qualitative RT-PCR assay detecting SARS-CoV-2

September 23, 2021. This study reported on the development of a new qualitative reverse transcriptase real-time polymerase chain reaction (qRT-PCR) probe that detects COVID-19 target genes. The kit is designed to be open, either for the nucleic acid extraction step or for the RT-PCR assay, and to be carried out on several instruments. Therefore, it is free from the

industrial production logics of closed systems, and has the potential to be available for distribution in large quantities to any microbiological laboratory. The kit is currently distributed worldwide (called MOLgen-COVID-19; Adaltis). [Article](#).

Journal of the American Medical Association (JAMA): Program assessment for SARS-CoV-2 screening and environmental monitoring in urban public schools

September 22, 2021. This study of weekly school-based saliva PCR testing at three urban public schools in the US was associated with increased case detection among staff and students compared with symptom-based strategies, exceeding county-level case rates. SARS-CoV-2 was detected in school wastewater samples each week as well as air and surface samples from choir classrooms. This study suggests that routine SARS-CoV-2 testing may identify infected staff and students who are not identified through conventional case detection and may provide insight into disease burdens of under-tested communities. [Article](#).

Disease Management

MERCK: Merck and Ridgeback’s investigational oral antiviral molnupiravir in phase three study

October 1, 2021. This interim analysis of the phase three MOVE-OUT trial found that molnupiravir reduced the risk of hospitalization or death by approximately 50% compared to placebo for patients with mild or moderate COVID-19. Merck plans to seek Emergency Use Authorization in the US as soon as possible and to submit applications to regulatory agencies worldwide. If authorized, molnupiravir could be the first oral antiviral medicine for COVID-19. [Article](#).

Public Health Measures

JAMA: Trajectory of COVID-19 vaccine hesitancy over time and association of initial vaccine hesitancy with subsequent vaccination in the US

September 24, 2021. This study found that vaccine hesitancy decreased between late 2020 and early 2021, with nearly one-third (32%) of persons who were initially hesitant being vaccinated at follow-up, and more than one-third (37%) transitioning from vaccine hesitant into vaccine willing. Further studies are needed to explore the reasons why vaccine hesitancy is changing over time by group. [Article](#).

Journal of Clinical Virology: Comparing the diagnostic accuracy of rapid antigen detection tests (RADTs) to RT-PCR tests to detect SARS-CoV-2 infection

September 16, 2021. This systematic review of 24 studies comprising 14,188 patients found that the overall sensitivity of RADTs was inferior to that of the RT-PCR assay. The RADTs were more sensitive for samples of cycle threshold (Ct)-value ≤ 25 and might be suitable for individuals in the community within five days of symptom onset. [Article](#).

Infection, Prevention and Control in Specific Settings

Centres for Disease Control and Prevention: Pediatric COVID-19 cases in US counties with and without school mask requirements

September 24, 2021. This analysis found that increases in pediatric COVID-19 case rates during the start of the 2021-22 school year were smaller in US counties with school mask requirements than in those without school mask requirements. These findings suggest that school mask requirements, in combination with other prevention strategies, including COVID-19 vaccination, are critical to reduce the spread of COVID-19 in schools. [Article](#).

Health Equity and Vulnerable Populations

JAMA: Assessment of online food ordering and delivery in Singapore during the COVID-19 pandemic

September 23, 2021. The results of this study involving 11,372 customers and 462 restaurants suggested an association between customers' diets and unhealthier eating habits during the COVID-19 lockdown (i.e., probability of food orders containing vegetables decreased by 15% while the probability of orders being barbecue/fried food or beverage category increased by 11%) and changes in eating habits persisted after lockdown measures were removed. [Article](#).

Journal of the American Geriatrics Society: Long-term care facility characteristics associated with COVID-19 outcomes in the US

September 21, 2021. This systematic review found the strongest and most consistent predictors associated with COVID-19 cases and deaths in long-term care facilities were larger facilities (i.e., more beds) and location in an area with high COVID-19 prevalence. Facility size and community factors, such as virus prevalence, also explained much of the variation by race. More staff members were associated with a higher probability of any outbreak; however, in facilities with known cases, higher staffing was associated with fewer deaths. Other

characteristics, such as ratings, ownership, and prior infection control citations, did not have consistent associations with COVID-19 outcomes. [Article](#).

Annals of Oncology: Exploring cancer patients' and survivors' experiences of cancer care in COVID-19

September 21, 2021. This study found that participants (n=16) described 'feeling afraid' and 'keeping safe through prevention and shielding strategies'. Participants reported that substituting face-to-face appointments with telehealth services restricted their access to professional and social support and reliable information. In Phase One of COVID-19 pandemic response, participants felt public health measures had created a sense of 'not missing out', but by Phase Two the continued restrictions on social interactions amplified feelings of isolation. [Article](#).

JAMA: Factors associated with changes in pregnancy intention among women who were mothers of young children in New York City following the COVID-19 outbreak

September 15, 2021. In this study of 1,179 women in New York City who were mothers of young children, nearly half of those who had been attempting to become pregnant and more than a third who had been thinking about trying before the COVID-19 pandemic stopped seeking to become pregnant in the first few months of the outbreak. The results of this study suggest that the outbreak of the COVID-19 pandemic was associated with fewer women planning or attempting to become pregnant; the authors note that these findings may have long-term effects on fertility rates. [Article](#).

Frontline Workers

New England Journal of Medicine: Effectiveness of mRNA COVID-19 vaccine among US health care personnel

September 22, 2021. This study of 1,482 health care personnel in 25 US states evaluated the effectiveness of partial and complete COVID-19 vaccination with Moderna or Pfizer-BioNTech vaccines. Vaccine effectiveness for partial vaccination was 77.6% with the Pfizer-BioNTech and 88.9% with the Moderna; for complete vaccination, vaccine effectiveness was 88.8% and 96.3%, respectively. Both vaccines were highly effective under real-world conditions in preventing symptomatic COVID-19 in health care personnel, including those at risk for severe COVID-19 and those in racial and ethnic groups that have been disproportionately affected by the pandemic. [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 September, there were 12 newly added evidence syntheses. Two of these syntheses provide insight across two domains of the COVID-END taxonomy (public health measures and health system arrangements; and clinical management and health system arrangements) and the remaining focus on public health measures (n=5) and clinical management (n=5). Please visit [Canadian Spotlight 9.2](#) 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:

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- Jurisdictional scans
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