FEATURED

- Evidence products produced with our partners
- 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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EVIDENCE PRODUCTS PRODUCED WITH OUR PARTNERS

The COVID-19 Evidence Synthesis Network is comprised of groups specializing in evidence synthesis and knowledge translation. The group has committed to provide their expertise to provide high-quality, relevant, and timely synthesized research evidence about COVID-19 to inform decision makers as the pandemic continues. Please contact *Evidence Synthesis Unit* for the full read of these evidence products.

COVID-19 Vaccination Planning *(Produced in collaboration with McMaster Health Forum)*

- Supply: Many countries have secured agreements for COVID-19 vaccines through a variety of mechanisms, including international alliances (e.g., COVAX), local public-private partnerships, and country agreements with vaccine producers.
- Distribution: Centralized distribution approaches will be used in Europe (via advanced purchase agreements with vaccine producers) and the US (to ship vaccines to administration sites), and Germany will use a decentralized approach via 60 country-wide distribution centres.
- Allocation: Guidelines and jurisdictions suggest phased vaccination approaches: first starting with health care workers and vulnerable populations (e.g., essential workers, older adults), followed by expanded coverage for remaining populations.
- Administration: Site options vary across jurisdictions (e.g., pharmacies, nursing homes, physician clinics, hospitals, mobile clinics), and logistical challenges (e.g., monitoring, staff training) need to be considered.
- Workforce Capacity: In Quebec, physicians, nurses, pharmacists, respiratory therapists, and midwives can administer vaccines, and other providers are being requested (e.g., social workers). The scope of practice will be expanded for pharmacists to administer vaccines in the US. European countries are encouraged to foster new recruitments and training programs with students or retired staff.
- Monitoring: Immunization surveillance systems and integrated IT systems will be developed and used to track purchasing, ordering, patient doses, and patient outcomes in compliance with data protection and privacy regulations in some jurisdictions.
- Communication: The US and Europe are enhancing partnerships and information campaigns to promote vaccine safety, efficacy, and acceptance.
- Performance Indicators: The WHO's Vaccine Readiness Assessment Tool offers a roadmap for countries to plan for COVID-19 vaccine introduction and a framework for countries to self-monitor their readiness progress against key milestones.
- Implementation Implications: Detailed scenarios should be planned for now based on prior vaccination campaigns and current COVID-19 research, but they may evolve as more information becomes available.
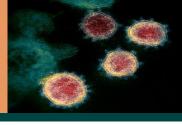
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RESEARCH EVIDENCE/JURISDICTIONAL EXPERIENCE

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

- *Lancet*: Characteristics and outcomes of neonatal SARS-CoV-2 infection in the UK
  Nov 9, 2020. A study of 66 babies with confirmed SARS-CoV-2 infection (incidence of 5-6 per 10,000 live births) in the first 28 days of life who received inpatient care between March 1 and April 30, 2020 suggested that neonatal SARS-CoV-2 infection is uncommon in babies admitted to hospital. Infection with neonatal admission following birth to a mother with perinatal SARS-CoV-2 infection was unlikely, and possible vertical transmission rare, supporting international guidance to avoid separation of mother and baby. The high proportion of babies from Black, Asian, or minority ethnic groups requires investigation. *Read*.

TRANSMISSION

- *PLoS One*: Proportion of asymptomatic infection among COVID-19-positive persons and their transmission potential
  Nov 3, 2020. This systematic review and meta-analysis that critically evaluated recent literature on the asymptomatic infection of COVID-19 reported that asymptomatic infection among COVID-19 positive persons appears high and the potential for transmission is substantial. The proportions of asymptomatic COVID-19 infections varied across studies and participant groups, including the general population (20% to 75%), obstetric patients (95%), and nursing home residents (54%). *Read*.

DISEASE MANAGEMENT

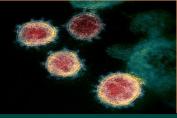- *WHO*: Readiness for influenza during the COVID-19 pandemic
  Nov 6, 2020. This policy brief provides a summary of information and considerations to ensure optimal management of influenza during the COVID-19 pandemic. It addresses key issues, including potential co-circulation of influenza and SARS-CoV-2, differentiation between influenza and COVID-19 in patients, and planning influenza prevention and control interventions. The document also includes links to detailed technical guidance and other resources regarding the intersection of influenza and COVID-19, including monitoring the situation, preventing seasonal influenza, reducing severe complications and mortality, protecting specific populations, and communicating and engaging with the public. *Read*.
- *NEJM*: Remdesivir for the treatment of COVID-19
  Nov 5, 2020. This final report of a randomized controlled trial found that remdesivir was superior to placebo in shortening the time to recovery in adults who were hospitalized with COVID-19 and had evidence of lower respiratory tract infection. *Read*.
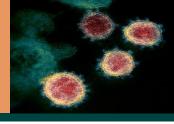
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RESEARCH EVIDENCE/JURISDICTIONAL EXPERIENCE cont'd

PUBLIC HEALTH MEASURES

- *Emerg Infect Dis*: Effectiveness of mask use and risks of SARS-CoV-2 infection in Thailand
  Nov 2020. Findings from a study based in Thailand supports consistent mask wearing, handwashing, and social distancing to protect against COVID-19. A comparison of personal protective behaviours among positive (n=211) and negative (n=839) cases suggested that: 1) wearing a mask all the time during contact with a positive case was associated with lower risk for SARS-CoV-2 infection; 2) wearing a mask sometimes during contact did not lower infection risk; 3) type of mask worn was not associated with infection; 4) contacts who always wore masks were more likely to practice social distancing; and 5) maintaining more than one-metre distance from a person with COVID-19, having close contact for fewer than 15 minutes, and frequent handwashing were associated with lower risk of infection. *Read*.

HEALTH EQUITY AND VULNERABLE POPULATIONS

- *London School of Economics and Political Science*: The impact of COVID-19 on social care workers' workload, wellbeing, and ability to provide care safely
  Nov 9, 2020. Between July 3 and August 10, 2020, a UK-based study surveyed 296 frontline care workers' perceptions of their own wellbeing, working conditions, and intentions to stay or leave the sector during COVID-19. The study reported evidence of increased workload, stress, and feelings of being unsafe at work. Researchers call for practice strategies and guidance to support care workers' wellbeing at work. *Read*.
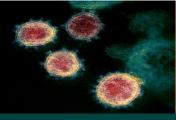
DATA ANALYTICS, MODELLING AND MEASUREMENT

- *CMAJ*: Clearing the surgical backlog caused by COVID-19 in Ontario
  Nov 2, 2020. This study estimated the size of the non-emergent surgical backlog during COVID-19 in Ontario, and the time and resources required to clear the backlog. Using time series forecasting, queuing models, and probabilistic sensitivity analysis, the study results suggested that between March 15 and June 13, 2020 the estimated surgical backlog in Ontario was 148,364 surgeries – an average weekly increase of 11,413 surgeries. The estimated backlog clearance time was 84 weeks, with an estimated weekly throughput of 717 patients requiring 719 operating room hours, 265 ward beds, and nine ICU beds each week. The magnitude of the surgical backlog raises serious implications for Ontario's recovery phase. *Read*.
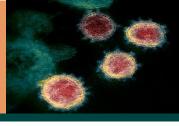
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RESEARCH EVIDENCE/JURISDICTIONAL EXPERIENCE cont'd

INFECTION, PREVENTION AND CONTROL IN SPECIFIC SETTINGS

- *JAMA*: Association between nursing home crowding and COVID-19 infection and mortality in Ontario
  Nov 9, 2020. This cohort study, which included more than 78,000 residents of 618 nursing homes in Ontario, found that COVID-19 mortality in homes with low crowding was less than half (578 of 46,028 residents [1.3%]) than that of homes with high crowding (874 of 32,579 residents [2.7%]). Shared bedrooms and bathrooms in nursing homes are associated with larger and deadlier COVID-19 outbreaks. *Read*.

FRONTLINE WORKERS

- *Cochrane Library*: Interventions to support the resilience and mental health of frontline health and social care professionals during and after a disease outbreak, epidemic, or pandemic
  Nov 5, 2020. This systematic review found there is a lack of both quantitative and qualitative evidence from studies carried out during or after disease epidemics and pandemics that can inform the selection of interventions that are beneficial to the resilience and mental health of frontline workers. Barriers to implementation of an intervention may include: 1) frontline workers, or the organizations in which they worked, not being fully aware of what they needed to support their mental well-being; and 2) a lack of equipment, staff time, or skills needed for an intervention. Facilitators may include: 1) interventions that could be adapted for a local area; 2) having effective communication, both formally within an organization and informal or social networks; and 3) having positive, safe, and supportive learning environments for frontline health care professionals. *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.
- An up-to-date and comprehensive list of sources, organized by type of research evidence, is available on McMaster Health Forum's COVID-19 Evidence Network to support Decision-making (COVID-END) website.
- 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.

* 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*

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