

# COVID-19 PANDEMIC – RAEB'S EVIDENCE UPDATE

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

• October 5, 2020 •

## FEATURED

- RAEB's rapid responses for Ontario's health sector
- 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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## RAEB'S RAPID RESPONSES FOR ONTARIO'S HEALTH SECTOR

Please contact [Evidence Synthesis Unit](#) for the full read of this rapid response

- **Enhancing the Capacity and Quality of COVID-19 and Non-COVID-19-Related Care Funding**
  - Most jurisdictions have experienced a disruption of hospital capacity and services for both COVID and non-COVID patients. In order to face the demands of this pandemic, jurisdictions have established care models to help standardize care, optimize resource utilization, and protect patients and health care workers. For example:
    - **Ontario:** Creating community-based specialty clinics for procedures, tests, and assessments;
    - **Saskatchewan:** Implementing designated hospitals and field units;
    - **United States (US):** Using US Navy hospital ships for humanitarian and disaster responses, including in New York City and Los Angeles during the COVID-19 pandemic;
    - **Boston:** Creating a field hospital to provide post-acute care for COVID-19 patients;
    - **Minnesota:** Using a hospital for surge capacity and cohorting COVID-19 patients;
    - **United Kingdom (UK):** Designating COVID-19-free hospitals to continue routine appointments;
    - **Italy:** Using designated hospitals and a hospital ship;
    - **China:** Implementing designated hospitals, newly built temporary hospitals, and Fangcang shelter hospitals;
    - **Singapore:** Using field tent structures; and
    - **South Korea:** Establishing Community Treatment Centers.

\* 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*

## RAEB'S RAPID RESPONSES FOR ONTARIO'S HEALTH SECTOR cont'd

- **Opioid Use in Isolation During the COVID-19 Pandemic**

- **Interventions:** Take-home treatment programs (e.g., take-home naloxone [THN]) were identified as the most used intervention across Canada (Alberta, British Columbia), Australia, Europe, the UK, and US that address opioid use in isolation.
  - **Take-Home Treatment Programs:** Take-home medication (i.e., methadone and buprenorphine) and THN programs are the main 'take-home' interventions that can be used in isolation. In particular, there is a trend toward the provision of THN, usually in the form of pre-filled syringes or nasal sprays.
    - **Effectiveness:** Take-home treatment programs for opioid users have been reported to be effective in: decreasing substance cravings, increasing overdose reversals, reducing opioid death rates, improving mental health, and permitting changes in legislation allowing for THN programs to be available without prescriptions (i.e., Canada, France, Italy, and UK).
    - **Challenges:** The challenges associated with take-home treatment programs include: treatment medication being ineffective in suppressing substance craving, increased risk of overdose by treating in isolation, safety for opioid users administering treatment in isolation, a shortage of treatment, and infection prevention and control risks in obtaining treatment kits during the pandemic.
  - **Virtual Care Interventions:** Virtual care modalities, such as buprenorphine medication-assisted treatment programs delivered online, automated pill dispensers, virtual counselling services, hotlines, and mobile applications (apps), are reported to be effective for opioid treatment in isolation. In particular, the Lifeguard app in British Columbia, which automatically connects substance users to emergency responders when they are unresponsive when using a substance, reported over 1,700 downloads, 5,000 uses, and five cases where paramedics were required to locate and revive the user.
  - **Communication and Education Initiatives:** Communication/education materials on opioid use in isolation include infographics on opioid treatment, online patient education tools including videos, pictures, downloadable booklets, and fact sheets, and resources for pain management including YouTube videos on administering naloxone.
- **Statistics:** Mortality and usage rates of opioid users in Canada and the US within the context of the COVID-19 pandemic have increased. There is growing evidence that opioid overdose deaths during the COVID-19 pandemic can be attributed to disruptions in illegal drug supply due to border closures, contaminated illicit drug markets, reductions in the number of people seeking care from harm reduction services and treatment clinics, and people using in isolation.

## 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.

### TRANSMISSION

- ***Canadian Medical Association Journal: Working in a bubble: How can businesses reopen while limiting the risk of COVID-19 outbreaks?***  
[Sept 30, 2020](#). This analysis suggests that implementing a work bubble strategy that physically separates employees either spatially or temporally (or both) through adjusted work schedules will reduce the risk of company-wide disease transmission and reduce the risk of full operational shutdown. Practical challenges to implementing these strategies exist (e.g., complexity of workforce scheduling, decreased productivity) but with careful planning and technological assistance, the risks of returning to the workplace can be reduced. [Read](#).
- ***medRxiv: Estimation of the fraction of COVID-19-infected people in US states and countries worldwide***  
[Sept 28, 2020](#). This study (preprint) found severe universal under-reporting of COVID-19 cases worldwide, where the actual cumulative cases were estimated to be five-20 times greater than the confirmed cases. The study projected that 10% of the populations of countries such as Belgium, Brazil, and the US, have been likely infected by COVID-19 once. [Read](#).
- ***Infection Control & Hospital Epidemiology: Seroprevalence of SARS-CoV-2 among Veterans Affairs Healthcare System employees in the US***  
[Sept 23, 2020](#). This survey study found that seroprevalence of SARS-CoV-2 was not significantly different among Veterans Affairs Healthcare System employees who provided direct patient care, compared to employees who did not, suggesting that facility-wide infection control measures were effective. Employees who reported direct personal contact with COVID-19 positive persons outside of work were more likely to have SARS-CoV-2 antibodies. [Read](#).
- ***PLOS ONE: Occurrence and transmission potential of asymptomatic and presymptomatic SARS-CoV-2 infections***  
[Sept 22, 2020](#). This living systematic review and meta-analysis suggests that most people who become infected with SARS-CoV-2 will not remain asymptomatic throughout the course of the infection. Presymptomatic and asymptomatic infections of SARS-CoV-2 transmission will require a combination of prevention measures, enhanced hand hygiene, masks wearing, testing, tracing, isolation strategies, and social distancing. [Read](#).

## RESEARCH EVIDENCE/JURISDICTIONAL EXPERIENCE cont'd

### DATA ANALYTICS, MODELLING AND MEASUREMENT

- ***Emerg Infect Dis: COVID-19 model to inform transmission reducing measures and health system preparedness in Australia***  
[Sept 28, 2020](#). This modeling study shows that an unmitigated COVID-19 epidemic would rapidly overwhelm Australia's health sector capacity. Case-targeted measures, including isolation of those known to be infected and quarantine of their close contacts, must remain an ongoing cornerstone of the public health response. These interventions effectively reduce transmission but are unlikely to be maintained throughout the epidemic course. [Read](#).

### HEALTH EQUITY AND VULNERABLE POPULATIONS

- ***The National Collaborating Centre for Methods and Tools: Impact of COVID-19 and public health measures on food security***  
[Sept 25, 2020](#). A limited number of studies identified increases in food insecurity during COVID-19 lockdown compared to pre-pandemic levels due to: household loss of income, unemployment, or inability to work due to the pandemic; low income or education; receiving government assistance; families headed by a person with an unskilled job; having children; younger age; disability; racial/ethnic minority, Australian Aboriginal, or Hispanic identity; and rurality. Few studies provide a comparator to rates prior to the pandemic, limiting the potential to identify changes in rates of food insecurity. Across studies, reported rates of food insecurity during the pandemic ranged from 14.8% in Canada to 56% in low-income Brazil. [Read](#).
- ***The Lancet: COVID-19 among people experiencing homelessness in England***  
[Sept 23, 2020](#). This study estimated that the preventive measures imposed in England between February and May 2020, may have avoided 21,092 infections, 266 deaths, 1,164 hospital admissions, and 338 intensive care unit admissions among the homeless population. [Read](#).

### FRONTLINE WORKERS

- ***Journal of Clinical Sleep Medicine: The effects of COVID-19 stay-at-home order on sleep, health, and working patterns among health care workers***  
[Sept 25, 2020](#). This survey study showed that during the COVID -19 stay-at-home orders in the US, health care workers reported worsening mood in addition to several changes to their sleeping, working, and behaviour patterns. Health care workers who continued to work in-person reported less total sleep time, while those who worked from home had no change in sleep duration. Most of the sample, regardless of whether they worked entirely from home or continued to work in-person, reported a worsening of their mood, as well as increased bedtime screen time. [Read](#).

## RESEARCH EVIDENCE/JURISDICTIONAL EXPERIENCE cont'd

### PUBLIC HEALTH MEASURES

- ***The Lancet: Lessons learned from easing COVID-19 restrictions in Asia Pacific and Europe***  
[Sept 24, 2020](#). This article uses an adapted comparative framework to examine the approaches taken by nine high-income countries and regions that have started to ease COVID-19 restrictions: five in the Asia Pacific region (i.e., Hong Kong, Japan, New Zealand, Singapore, and South Korea) and four in Europe (i.e., Germany, Norway, Spain, and the UK). Overall, this article suggests that: 1) countries can move forward mainly on the basis of the epidemiology or on the epidemiology in combination with other considerations, however, a clear and transparent plan that describes which factors are being taken into account is essential; 2) countries should not ease restrictions until they have robust systems in place to closely monitor the infection situation; 3) continued measures to reduce transmission will be needed for some time; and 4) each country should have an effective find, test, trace, isolate, and support system in place. [Read](#).
- ***The Lancet: Short-term and long-term health impacts of air pollution reductions from COVID-19 lockdowns in China and Europe***  
[Sept 22, 2020](#). This study found that lockdown interventions led to substantial reductions in emissions in China and Europe and avoided tens of thousands of premature deaths from air pollution, with significant differences observed in Europe and China (i.e., 24,200 and 2,190 premature deaths due to air pollution were avoided during the lockdown period in China and Europe, respectively). [Read](#).

### DISEASE MANAGEMENT

- ***European Journal of Cancer: Mortality in patients with cancer and COVID-19***  
[Sept 22, 2020](#). This systematic review found that mortality is high among cancer patients with COVID-19. The study recommended that cancer be considered an independent risk factor, in addition to older age, male sex, black race, current smoker, along with other comorbidities. There are subsets of cancer patients with greater risk to COVID-19, such as patients with haematological malignancies or lung cancer, however deeper analysis is needed. [Read](#).

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## 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.