

*The Newfoundland & Labrador Centre for Applied Health Research (NLCAHR) sends this COVID-19 e-bulletin to our health system stakeholders on a bi-weekly basis. This e-bulletin includes results from recent searches of health evidence and grey literature on the pandemic under specific subject headings, highlighting those findings considered to be of particular relevance to you.*

*We welcome your [feedback and suggestions](#).*

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**You can find all NLCAHR e-bulletins and COVID-19 Quick Response Reports [online here](#).**

**Articles about COVID-19 VARIANTS are highlighted in RED below.**

## CLINICAL PRESENTATION AND BIOLOGY

**Public Health Ontario: [COVID-19 B.1.617 Variant of Concern – What We Know So Far](#) (Updated June 28, 2021)**

“Surveillance testing (including genomic sequencing of a sufficient sample of positive cases) will help us better understand the epidemiology of B.1.617. Currently, there is no indication that individual or societal public health measures such as case and contact management, vaccination rollout and non-pharmaceutical interventions such as physical distancing in Ontario need to be changed. However, ongoing monitoring of single-dose vaccine effectiveness and the impact of England’s shortened second dose schedule will help to inform Ontario’s second-dose roll-out. Heightened surveillance, close monitoring of case rate indicators, and local assessment of transmissibility are also needed to inform public health measures and Ontario’s new recovery plan.” [LINK](#)

**Al Jazeera: [India says Delta Plus is a ‘variant of concern’, 22 cases found](#) (June 23, 2021)**

“India has declared a new coronavirus variant to be of concern after nearly two dozen cases had been detected across the country so far. The variant AY.1, identified locally as Delta Plus and first identified in Europe, has been found in at least 22 cases across Maharashtra, Kerala and Madhya Pradesh states, India’s health ministry said on Tuesday.” [LINK](#)

**Salk: [The Novel Coronavirus’ Spike Protein Plays Additional Key Role In Illness](#) (April 30, 2021)**

“Study shows that the virus spike proteins (which behave very differently than those safely encoded by vaccines) also play a key role in the disease itself. [The paper, published on April 30, 2021, in Circulation Research](#), also shows conclusively that COVID-19 is a *vascular disease*, demonstrating exactly how the SARS-CoV-2 virus damages and attacks the vascular system on a cellular level. The findings help explain COVID-19’s wide variety of seemingly unconnected complications, and could open the door for new research into more effective therapies.” [LINK](#)

**Nature:** [High-dimensional characterization of post-acute sequelae of COVID-19](#) (April 22, 2021)

“The authors use the national healthcare databases of the US Department of Veterans Affairs to systematically and comprehensively identify 6-month incident sequelae—including diagnoses, medication use and laboratory abnormalities—in patients with COVID-19 who survived for at least 30 days after diagnosis. The findings show that a substantial burden of health loss that spans pulmonary and several extra-pulmonary organ systems is experienced by patients who survive after the acute phase of COVID-19. These results will help to inform health system planning and the development of multidisciplinary care strategies to reduce chronic health loss among individuals with COVID-19.” [LINK](#)

**The New York Times:** [Many Post-COVID Patients Are Experiencing New Medical Problems, Study Finds](#) (June 14, 2021)

“An analysis of health insurance records of almost two million coronavirus patients found new issues in nearly a quarter — including those whose COVID infection was mild or asymptomatic. [The study](#), tracking the health insurance records of nearly two million people in the United States who contracted the coronavirus last year, found that one month or more after their infection, almost one-quarter — 23 percent — of them sought medical treatment for new conditions.” [LINK](#)

**Acta Paediatrica:** [Preliminary evidence on long COVID in children](#) (April 9, 2021)

“To date, data on Long COVID in children are scarce, with the exception of an earlier description of five children with Long COVID in Sweden. [The authors] assessed persistent symptoms in paediatric patients previously diagnosed with COVID-19 in a cross sectional study. More than a half of the children assessed during the survey reported at least one symptom. In particular, 42.6% presented at least one symptom >60 days after infection. Symptoms like fatigue, muscle and joint pain, headache, insomnia, respiratory problems and palpitations were particularly frequent, as also described in adults.” [LINK](#)

**StatNews:** [As more kids go down the ‘deep, dark tunnel’ of long COVID, doctors still can’t predict who is at risk](#) (June 10, 2021)

“At the pandemic’s outset, it looked like children might be spared the severe illness striking adults in the first COVID wave, when hospitals were pushed to their limits and older age tracked tightly with worse outcomes. Children seemed at first to show minimal symptoms. Then in a small minority of cases, the rare but mysterious multi-inflammatory syndrome, or MIS-C, began appearing in children (and some adults, too, labeled MIS-A). The Centers for Disease Control and Prevention reports 4,018 cases of MIS-C, including 36 deaths, in which life-threatening inflammation can strike the heart, lungs, kidneys, brain, skin, eyes, or gastrointestinal organs.” [LINK](#)

## HEALTH EQUITY AND ETHICS (VULNERABLE GROUPS)

**Tropical Diseases, Travel Medicine and Vaccines:** [Racial equity in the fight against COVID-19: a qualitative study examining the importance of collecting race-based data in the Canadian context](#)

(June 10, 2021)

“A failure to ensure racial equity in response to the COVID-19 pandemic has caused Black communities in Canada to disproportionately be impacted. The aim of the current study was to determine the needs and concerns of Black communities in the Greater Toronto Area (GTA) and to highlight the importance of collecting race-based COVID-19 data early on to address these needs.” [LINK](#)

**BioMed Central Medical Ethics:** [Who should be tested in a pandemic? Ethical considerations](#) (June 22, 2021)

“In the initial phase of the COVID-19 pandemic, difficult decisions had to be made on the allocation of testing resources. Similar situations can arise in future pandemics. Therefore, careful consideration of who should be tested is an important part of pandemic preparedness. We focus on four ethical aspects of that problem: how to prioritize scarce testing resources, the regulation of commercial direct-to-consumer test services, testing of unauthorized immigrants, and obligatory testing.” [LINK](#)

**Public Library of Science One:** [COVID-19 vaccine prioritization of incarcerated people relative to other vulnerable groups: An analysis of state plans](#) (June 15, 2021)

“This study uses document analysis to compare the relative prioritization of incarcerated people, correctional staff, and other groups at increased risk of COVID-19 infection and morbidity.” [LINK](#)

**The Lancet Regional Health – Europe:** [Exposures associated with SARS-CoV-2 infection in France: A nationwide online case-control study](#) (June 7, 2021)

“To further understand the places and activities facilitating transmission, we present here the findings of a large case-control study conducted in October and November 2020 in France.” [LINK](#)

**COVID-19 Evidence Network to Support Decision Making in Canada:** [Factors affecting COVID-19 vaccination acceptance and uptake among the general public: a living behavioural science evidence synthesis](#) (v2. May 31, 2021)

“Research Question: How can behavioural science help inform messaging to and broader supports for the general public to encourage vaccination for COVID-19? How can behavioural science help address vaccine-related concerns from equity-seeking groups?” [LINK](#)

## HEALTH SYSTEM ADMINISTRATION

**McMaster University Health Forum:** [COVID-19 Living Evidence: What went well and what could have gone better in the COVID-19 response in Canada, as well as what will need to go well in future given any available foresight work being conducted?](#) (updated June 15, 2021)

“With respect to what could have gone better, documents focused on the challenge of decentralized decision-making leading to varied responses and varied successes in these responses across jurisdictions.” [LINK](#)

**Vaccine:** [Trust in government, intention to vaccinate and COVID-19 vaccine hesitancy: a comparative survey of five large cities in the United States, United Kingdom, and Australia](#) (June 23, 2021)

“Success for COVID-19 vaccination programs requires high levels of vaccine acceptance. Our data suggest more than 25% of adults may not be willing to receive a COVID-19 vaccine, but many of them were not explicitly anti-vaccination and thus may become more willing to vaccinate over time. Among the three countries surveyed, there appear to be cultural differences, political influences, and differing experiences with COVID-19 that may affect willingness to receive a COVID-19 vaccine.” [LINK](#)

**Public Health Agency of Canada:** [Vaccine Injury Support Program \(VISP\)](#) (not dated)

“The purpose of the VISP is to ensure that all people in Canada who have experienced a serious and permanent injury as a result of receiving a Health Canada authorized vaccine, administered in Canada on or after December 8, 2020, have fair and timely access to financial support.” [LINK](#)

**The British Medical Journal: [Building a sustainable infrastructure for COVID-19 vaccinations long term](#)** (June 21, 2021).

"We know that many GP teams are at breaking point and must be fully supported if they are to provide mass COVID-19 vaccination in addition to their core work. Investment in primary care led vaccination sites, supported by local pharmacies, is likely to be the most cost-effective option for ongoing mass vaccination, as well as being the option that is preferred by most patients." [LINK](#)

**Clinical Infectious Diseases: [Universal Use of N95s in Healthcare Settings when Community COVID-19 Rates are high](#)** (June 11 2021)

"The greatest threat of transmission in healthcare facilities may therefore be patients and healthcare workers with early occult infection. N95s' superior fit and filtration provide superior exposure protection for healthcare providers seeing patients with early undiagnosed infection and superior source control to protect patients from healthcare workers with early undiagnosed infection. The probability of occult infection in patients and healthcare workers is greatest when community incidence rates are high. Universal use of N95s may help decrease nosocomial transmission at such times." [LINK](#)

**Nature: [Expiratory aerosol particle escape from surgical masks due to imperfect sealing](#)** (June 8, 2021)

"We examined the effectiveness of surgical masks at reducing emission of expiratory particles produced from talking or coughing after accounting for air escape out the edges of the mask. As previously observed, the particle concentration for air that passes through the mask is reduced substantially from no mask wearing. We find that air escaping out the mask top (by the nose) carries the most particles and provides the smallest reduction compared to no mask wearing." [LINK](#)

## INFECTION PREVENTION AND CONTROL

**The Conversation: [COVID-19 Delta Variant in Canada: FAQ on origins, hotspots and vaccine protection](#)** (June 17, 2021)

"In Canada, Delta was first detected in early April in British Columbia. Although Alpha is the most dominant variant lineage detected in Canada, Delta's growth has accelerated across many provinces. Alberta data suggests that the number of cases is doubling every six to 12 days. Ontario has estimated that 40 per cent of its new cases as of June 14, 2021 are due to Delta. Modelling results from B.C. suggest that Delta will significantly contribute to overall trajectory by this August." [LINK](#)

**The British Medical Journal Opinion: [COVID-19 and the Delta Variant—we need an urgent focus on mitigations in schools](#)** (June 11, 2021)

"Second, there needs to be central investment in ventilation and air cleaning in schools, including CO<sub>2</sub> monitors, and air filtration devices, to supplement ventilation where needed. Risk can also be reduced by moving to learning outdoors, where possible, including physical education activities." [LINK](#)

**Public Health England: [Vaccines highly effective against hospitalisation from Delta Variant](#)** (June 14, 2021)

"New analysis by Public Health England shows for the first time that 2 doses of COVID-19 vaccines are highly effective against hospitalisation from the Delta (B.1.617.2) Variant." [LINK](#)

**Ars Technica: [Experts “extremely worried” about Delta Variant as US death toll hits 600,000](#)** (June 15, 2021)

“But experts are still concerned. The pace of vaccination has slowed significantly in the US, and many states—particularly in the South—are far behind the goal of getting 70 percent of adults at least one vaccine. Pockets of low vaccination are fueling fears among experts that cases could once again spike as Delta continues its spread.”

[LINK](#)

**Nature: [Has SARS-CoV-2 reached peak fitness?](#)** (June 21, 2021)

“Therefore, while the world needs to remain on full alert in order to promptly detect the emergence of ‘vaccine-piercing’ variants and, in that case, rapidly update the available vaccines, there is reason for very cautious optimism. In any case, what is certain is that the emergence of such vaccine-evading variants, if at all possible, will be made more likely by viral spread and replication...For this reason, it will be in humanity’s own interest to not be greedy and instead provide vaccines at an affordable price to all mankind: history has in fact taught that when dealing with the global control of an infectious disease, the most effective way to be selfish is to be generous.”

[LINK](#)

**National Collaborating Centre for Environmental Health: [Contextualizing the risks of indirect COVID-19 transmission in multi-unit residential buildings](#)** (March 24, 2021)

“This review suggests that plumbing stacks, as well as air flow between units driven by natural forces such as the stack effect and the wind, may pose a risk of indirect transmission in a Multi-Unit Residential Building (MURB). However, given the vast numbers of people (and COVID-19 cases) that are housed in MURBs, the scarcity of documented incidents suggests that such events are rare. More such events have probably occurred, and either have not yet been published or were not fully investigated. Even so, MURB outbreaks due to indirect transmission do not appear to have contributed significantly to the pandemic.” [LINK](#)

**Canadian Medical Association Journal: [Mitigating airborne transmission of SARS-CoV-2](#)** (June 8, 2021)

“Although good ventilation can mitigate long-range aerosol transmission of SARS-CoV-2, the World Health Organization and Centres for Disease Control’s acknowledgement of airborne spread at close range highlights an urgent need to revisit PPE guidelines in all Canadian healthcare settings.” [LINK](#)

## TREATMENT

**American Journal of Therapeutics: [Ivermectin for Prevention and Treatment of COVID-19 Infection - A Systematic Review, Meta-analysis, and Trial Sequential Analysis to Inform Clinical Guidelines](#)** (June 17, 2021)

“Moderate-certainty evidence finds that large reductions in COVID-19 deaths are possible using ivermectin. Using ivermectin early in the clinical course may reduce numbers progressing to severe disease. The apparent safety and low cost suggest that ivermectin is likely to have a significant impact on the SARS-CoV-2 pandemic globally.” [LINK](#)

**Nature: [The mechanisms of action of ivermectin against SARS-CoV-2: An evidence-based clinical review article](#)** (June 15, 2021)

“This evidence-based review article aims to discuss the mechanism of action of ivermectin against SARS-CoV-2 and summarizing the available literature over the years. A schematic of the key cellular and biomolecular interactions between Ivermectin, host cell, and SARS-CoV-2 in COVID-19 pathogenesis and prevention of complications have been proposed.” [LINK](#)

**Centre for Infectious Disease Research and Policy (CIDRAP) Experts: [mRNA COVID-19 vaccines likely tied to heart inflammation](#) (June 23, 2021)**

“A panel of expert advisors to the Centers for Disease Control and Prevention (CDC), discussed rare instances of heart inflammation among mRNA COVID-19 vaccine recipients. The committee agreed the vaccines are likely linked to cases of myocarditis and pericarditis but said the benefits of vaccination outweigh the risks.” [LINK](#)

**Al Jazeera: [How COVID vaccines work against the Delta variant](#) (June 16, 2021)**

“The Delta Variant of coronavirus is a source of serious concern as lab tests have shown it is more contagious and resistant to vaccines compared with other forms of COVID-19. However, there is evidence that the available jabs retain important effectiveness against it after two doses.” [LINK](#)

## MENTAL HEALTH & WELLNESS

**International Journal of Mental Health and Addiction: [Interventions to Optimise Mental Health Outcomes During the COVID-19 Pandemic: A Scoping Review](#) (June 15, 2021)**

“Adverse mental health has been a major consequence of the COVID-19 pandemic. This review examines interventions to enhance mental health outcomes and well-being of populations during COVID-19.” [LINK](#)

**Science of The Total Environment: [Climate change, environment pollution, COVID-19 pandemic and mental health](#) (January 15, 2021)**

“Converging data would indicate the existence of possible relationships between climate change, environmental pollution and epidemics/pandemics, such as the current one due to SARS-CoV-2 virus. Each of these phenomena has been supposed to provoke detrimental effects on mental health. Therefore, the purpose of this paper was to review the available scientific literature on these variables in order to suggest and comment on their eventual synergistic effects on mental health.” [LINK](#)

**Sport Sciences for Health: [The impact of sitting time and physical activity on mental health during COVID-19 lockdown](#) (June 10, 2021)**

“The primary aim of this study was to investigate the association between physical activity and sitting time on adults’ mental health (i.e., depression, anxiety and wellbeing) and the influence of mediators and confounders.” [LINK](#)

**Journal of Affective Disorders Reports: [Examining the Effects of Social Determinants of Health on COVID-19 Related Stress, Family's Stress and Discord, and Personal Diagnosis of COVID-19](#) (June 16, 2021)**

“COVID-19 is a significant threat to people's mental health and social well-being. The research examined the effects of social determinants of health on COVID-19 related stress, family's stress and discord, and personal diagnosis of COVID-19.” [LINK](#)

**The British Medical Journal: [Exposure to green spaces may strengthen resilience and support mental health in the face of the COVID-19 pandemic](#) (June 21, 2021)**

“Outdoor recreation in green spaces has emerged during the present pandemic as an essential tool to combat distress. The mental health benefits of exposure to green spaces has been documented extensively before. Here, we briefly demonstrate that such exposure may restore and improve aspects of resilience and complement other means of mental health support, such as that offered by General Practitioners.” [LINK](#)

**Journal of Affective Disorders: [Trends in depression & anxiety symptom severity among mental health service attendees during the COVID-19 pandemic](#)** (June 15, 2021)

“The current study explored trends in self-reported depression and anxiety symptoms for those attending UK primary care and community-based psychological treatment services each week during the first half of 2020 compared to average weekly scores over the three preceding years to track changes during the COVID-19 pandemic.” [LINK](#)

**Journal of Eating Disorders: [Access to care and worsening eating disorder symptomatology in youth during the COVID-19 pandemic](#)** (June 10, 2021)

“Shelter-in-place orders and social distancing guidelines, in response to the COVID-19 pandemic, have limited traditional face-to-face interactions and led to many clinical providers transitioning to the use of videoconferencing platforms. The present study aims to assess how the COVID-19 pandemic has impacted adolescents’/young adults’ eating disorder (ED)-related care, and how access to, changes in, perceived disruptions to, and quality of care are associated with ED thoughts and behaviors.” [LINK](#)

This **COVID-19 e-bulletin** was prepared by researchers at the Newfoundland & Labrador Centre for Applied Health Research (Kazeem Adefemi, Waseem Abu Ashour, Wendy Lasisi, and Pablo Navarro) to summarize research evidence and grey literature produced by a variety of sources that were accessed online in June of 2021.

Given the rapidly changing nature of the coronavirus pandemic, some of the references included in this e-bulletin may quickly become out-of-date.

We further caution readers that researchers at the Newfoundland & Labrador Centre for Applied Health Research are not experts on infectious diseases and are relaying work produced by others.

This report has been produced quickly and it is not exhaustive, nor have the included studies been critically appraised.

**QUESTIONS/ SUGGESTIONS? CONTACT:**

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