

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](#).

To subscribe to this e-bulletin, please email: Rochelle.Baker@med.mun.ca

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

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

CLINICAL PRESENTATION AND BIOLOGY

The Guardian: [New COVID Variant \(B1525\) with Potentially Worrying Mutations Found in UK](#)
(February 15, 2021)

"Another coronavirus variant with a potentially worrying set of mutations has been detected in the UK and should be targeted in surge testing, experts have said. Researchers say 32 cases of B1525 have been found in Britain, with other cases in countries including Denmark, US and Australia. There is currently no evidence that this set of mutations causes more severe illness or increased transmissibility." [LINK](#)

Journal of the American Medical Association: [SARS-CoV-2 Viral Variants—Tackling a Moving Target](#)
(February 11, 2021)

"The authors report the emergence of a novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) variant in Southern California that accounted for 44% (37 of 85) of samples collected and studied in January, 2021. Data suggest that current vaccines could retain the ability to prevent hospitalizations and deaths, even in the face of decreased overall efficacy due to antigenic variation. It is unclear whether changes in vaccine composition will be needed to effectively control the COVID-19 pandemic; however, it is prudent to be prepared. SARS-CoV-2 will be with the global population for some time and has clearly shown its tendency toward rapid antigenic variation, providing a "wake-up call" that a sustained effort to develop a pan-SARS-CoV-2 vaccine is warranted." [LINK](#)

Nature: [Analysis of SARS-CoV-2 mutations in the United States suggests presence of four sub-strains and novel variants](#) (February 15, 2021).

"Our analysis suggests the presence of four sub-strains and eleven top mutations in the United States. These eleven top mutations belong to 3 disconnected groups. The first and second groups consisting of 5 and 8 concurrent mutations are prevailing, while the other group with three concurrent mutations gradually fades out. Moreover, we reveal that female immune systems are more active than those of males in responding to SARS-CoV-2 infections." [LINK](#)

STAT News: [‘What other variants might be out there?’ An expert on viral evolution on what’s happening with coronavirus mutations](#) (February 8, 2021)

"The virus, like any virus, has picked up mutations as it spread, but it has only been in the past few months that it has been altered in ways that could dramatically shift the dynamics of the COVID-19 pandemic." [LINK](#)

National Institutes of Health (UK): [Researchers propose that humidity from masks may lessen severity of COVID-19](#) (February 12, 2021)

"Masks help protect the people wearing them from getting or spreading SARS-CoV-2, the virus that causes COVID-19, but now researchers from the National Institutes of Health have added evidence for yet another potential benefit for wearers: The humidity created inside the mask may help combat respiratory diseases such as COVID-19. The investigators found that face masks substantially increase the humidity in the air that the mask-wearer breathes in. This higher level of humidity in inhaled air, the researchers suggest, could help explain why wearing masks has been linked to lower disease severity in people infected with SARS-CoV-2, because hydration of the respiratory tract is known to benefit the immune system." [LINK](#)

HEALTH SYSTEM ADMINISTRATION

MedPage Today (Op-Ed): [#ZeroCOVID or #HarmReduction?](#) (February 09, 2021)

"There are two schools of thought for the future of COVID-19. #ZeroCOVID is an emerging idea that all nations can nearly eliminate SARS-CoV-2 transmission, and occasional outbreaks can be rapidly dealt with by public health services. #HarmReduction is an alternate philosophy that emphasizes that the goal of policy is to minimize the harms of the virus, but that #ZeroCOVID may not be possible." [LINK](#)

Nature: [The coronavirus is here to stay — here’s what that means](#) (February 16, 2021)

"The future will depend heavily on the type of immunity people acquire through infection or vaccination and how the virus evolves. Influenza and the four human coronaviruses that cause common colds are also endemic: but a combination of annual vaccines and acquired immunity means that societies tolerate the seasonal deaths and illnesses they bring without requiring lockdowns, masks and social distancing." [LINK](#)

Journal of the American Medical Association (Health Policy): [The COVID-19 Pandemic as an Opportunity to Ensure a More Successful Future for Science and Public Health](#) (February 9, 2021)

"Public health is critical for society’s well-being and needs protection from the vagaries of partisan politics...What model of funding streams and governance structure can help to insulate public health institutions from near-term political concerns and position them to generate and disseminate data and science to best serve the public, including anticipating and responding to public health emergencies?" [LINK](#)

Clinical Journal of Oncology Nursing: [Mental Health and COVID-19: The Psychological Implications of a Pandemic for Nurses](#) (February 1, 2021)

This paper explores the potential psychological sequelae of nursing (sequelae means a condition which is the consequence of a previous condition, disease or injury) during a pandemic and provides recommendations to support a psychologically healthy work environment. [LINK](#)

JAMA Insights: [Pregnancy, Postpartum Care, and COVID-19 Vaccination in 2021](#) (February 8, 2021)

This review summarizes the epidemiology of COVID-19 infection in pregnant and lactating women and its effects on perinatal outcomes. The authors present an overview of the various guidance documents from the Centres for Disease Control, Food & Drug Administration, and obstetrics-gynecology specialty organizations on the safety of coronavirus vaccines during pregnancy and while breastfeeding. [LINK](#)

Surgery: [Colorectal screening: We have not caught up. A surge of colorectal cancer after the coronavirus disease 2019 \(COVID-19\) pandemic?](#) (January 21, 2021)

This article argues that health system responses to the pandemic have adversely affected colorectal cancer screening, diagnosis and care; and that a "post-COVID pandemic analysis" is required to analyze and appropriately respond to colorectal cancer in the community. [LINK](#)

INFECTION PREVENTION AND CONTROL

Sky News: [COVID-19 infection rate plummets in England, says Imperial College study](#) (February 18, 2021)

"One of the largest and most authoritative coronavirus surveys has found that infections are quickly falling in England, confirming that lockdown is working to suppress the virus." [LINK](#)

Public Health Ontario: [Factors Affecting COVID-19 Period of Communicability – What We Know So Far](#) (February 16, 2021)

This review summarizes current evidence on the transmissibility of the SARS-Cov-2 virus and the various factors that affect the duration of infectivity in different individuals and conditions. [LINK](#)

National Collaborating Centre for Methods and Tools: [What is known about the risk of transmission of COVID-19 during musical activities such as singing or playing a wind instrument, and how can these risks be mitigated?](#) (February 03, 2021)

"Available reviews of low quality suggest that the risk of transmission through singing and instrument playing could be mitigated through standard public health measures such as screening, distancing, surface sanitizing, respiratory etiquette, hand hygiene, and mask use when possible, along with interventions specific to these settings, such as increased ventilation, shorter schedules, and outdoor venues." [LINK](#)

Canadian Medical Association Journal: [COVID-19 outbreak among physicians at a Canadian curling bonspiel: a descriptive observational study](#) (February 9, 2021)

"Our data suggest that attending buffet lunches in the curling rink lounge may have been important for transmission. Interestingly, the single team with no confirmed cases did not attend any social events outside of their curling games, suggesting that social activities associated with sporting events may be as, or more, important for transmission." [LINK](#)

Nature: [Rapid coronavirus tests: a guide for the perplexed](#) (February 9, 2021)

"The only thing the scientists do agree on is that there needs to be clear communication about what rapid tests are for, and what a negative result means. "Throwing tools at people who don't know how to use them appropriately is a terrible idea..." [LINK](#)

Annals of Internal Medicine: [The Sensitivity and Costs of Testing for SARS-CoV-2 Infection with Saliva versus Nasopharyngeal Swabs: A Systematic Review and Meta-analysis](#) (January 12, 2021)

This systematic review found concludes that "Saliva sampling seems to be a similarly sensitive and less costly alternative that could replace nasopharyngeal swabs for collection of clinical samples for SARS-CoV-2 testing." [LINK](#)

TREATMENT

[CBC: How the vaccines we have — and the ones coming next — stack up against COVID-19 variants](#) (February 12, 2021)

"Health Canada has approved two COVID-19 vaccines, Moderna and Pfizer-BioNTech, and three more may be approved in coming months. Here's how the five shots compare and what we know so far about how they fare in the fight against the more infectious variants." [LINK](#)

The Conversation: [How to make COVID vaccines more effective: give people vitamin and mineral supplements](#) (February 12, 2021)

"For the immune system to fight off infection or generate good protection against a disease following vaccination, it needs a variety of micronutrients. This is likely to be just as true for COVID-19 as for other diseases. Given that malnutrition is common among elderly people, raising their vitamin and mineral levels before they get vaccinated could be a way of boosting the effectiveness of COVID-19 vaccines." [LINK](#)

Endpoints News: [Why mucosal immunity may be required to end the pandemic](#) (February 9, 2021)

"There is a scenario that we need to be prepared for and one that could possibly derail our fight against this virus: These first-generation vaccines will be able to effectively block disease, but not the transmission of the SARS-CoV-2 virus. Without mucosal immunity, the virus may continue to thrive in a person's nasal cavity allowing for easy transmission. This is why wearing a mask, even after vaccination with an intramuscular vaccine, will remain critical." [LINK](#)

The Atlantic: [What If We Never Reach Herd Immunity?](#) (February 9, 2021)

"The role of COVID-19 vaccines may ultimately be more akin to that of the flu shot: reducing hospitalizations and deaths by mitigating the disease's severity. The COVID-19 vaccines as a whole are excellent at preventing severe disease, and this level of protection so far seems to hold even against a new coronavirus variant found in South Africa that is causing reinfections. This, rather than herd immunity, is a more achievable goal for the vaccines." [LINK](#)

SENIORS AND OTHER VULNERABLE GROUPS

National Collaborating Centre for Indigenous Health: [Virtual Series on First Nations, Inuit and Métis peoples and COVID-19](#) (February 3, 2021)

"This virtual series explored themes including: Indigenous governance and self-determination in planning and responding to COVID-19; socio-economic impacts of COVID-19 on the health and well-being of First Nations, Inuit and Métis peoples; data collection on COVID-19 cases in First Nations, Inuit and Métis populations and communities; and innovative public health messaging on COVID-19 and Indigenous Peoples." [LINK](#)

BioMed Central Medicine: [COVID-19 pandemic and violence: rising risks and decreasing urgent care-seeking for sexual assault and domestic violence survivors](#) (February 5, 2021)

This study examined the changes in emergency department admissions for sexual assault and domestic violence since the COVID-19 pandemic was declared. [LINK](#)

American Society for Microbiology: [Comorbidities in SARS-CoV-2 Patients: a Systematic Review and Meta-Analysis](#) (February 9, 2021)

This systematic review evaluated the correlation between comorbidities and their role in the exacerbation of disease in COVID-19 patients leading to fatal outcomes. [LINK](#)

Public Library of Science One: [The prognostic value of comorbidity for the severity of COVID-19: A systematic review and meta-analysis study](#) (February 16, 2021)

This study provides additional data regarding the clinical characteristics of patients diagnosed with COVID-19, and in particular analyzes the factors associated with disease severity, lack of improvement, and mortality. [LINK](#)

Diabetologia: [The disproportionate excess mortality risk of COVID-19 in younger people with diabetes warrants vaccination prioritization](#) (February 16, 2021)

This paper discusses the interaction between age and diabetes in the context of COVID-19 to further inform the complex prioritization decisions around COVID-19 vaccination. [LINK](#)

Public Library of Science One: [The association between body mass index and severity of Coronavirus Disease 2019 \(COVID-19\): A cohort study](#) (February 16, 2021)

This study examined the association between body mass index (BMI) levels and the severity of COVID-19. [LINK](#)

Journal of Clinical Medicine: [Effect of Excessive Body Weight and Emotional Disorders on the Course of Pregnancy and Well-Being of a Newborn before and during COVID-19 Pandemic](#) (February 9, 2021)

This study evaluated whether excessive body weight and the COVID-19 pandemic affect depression, and subsequently whether depression, excessive body weight, and the COVID-19 pandemic affect the course of pregnancy, as well as the well-being of a newborn. [LINK](#)

BioMed Central: [Modifiable lifestyle factors and severe COVID-19 risk: a Mendelian randomization study](#) (February 3, 2021)

This study investigated the causality between four lifestyle factors, namely BMI, smoking, physical activity and alcohol consumption, and severe illness of COVID-19 using a large sample size and the two-sample Mendelian Randomization approach. [LINK](#)

MENTAL HEALTH & WELLNESS

Journal of the American Medical Association: [Social Isolation and Loneliness: Imperatives for Health Care in a Post-COVID World](#) (February 9, 2021)

"Moving forward, there must be continued acknowledgement of the inherent connection between social isolation and the other social determinants of health, as well as leveraging of relationship-based care and community-level supports to address social needs." [LINK](#)

Public Library of Science One: [Interventions to reduce social isolation and loneliness during COVID-19 physical distancing measures: A rapid systematic review](#) (February 17, 2021)

This study identified effective interventions to reduce social isolation and loneliness that are compatible with COVID-19 shielding and social distancing measures. [LINK](#)

World Health Organization & the Organization for Economic Co-operation and Development: [Sustaining lives and livelihoods: a decision framework for calibrating social and movement measures during the COVID-19 pandemic](#) (December 2020)

"Strong, sustained policies that mitigate the harmful economic consequences of COVID-19 are also necessary to support workers and the viable businesses most affected by social and movement measures... A five-step framework is proposed here to support decision-making." [LINK](#)

Psychiatric Services: [Social Determinants of Mental Health as Mediators and Moderators of the Mental Health Impacts of the COVID-19 Pandemic](#) (February 17, 2021)

"Contracting COVID-19, being exposed to it, or being affected by societal containment measures can have consequences that are themselves social determinants of health. Preexisting social determinants of health also drive the disproportionately high prevalence of COVID-19 infection and deaths among minority, marginalized, and other vulnerable populations. Thus, the social determinants of mental health act as both mediators and moderators of the pandemic's impacts, and like all social determinants, the effects of the pandemic are

underpinned by public policies and social norms. The major economic impacts of containment measures have had cascading effects that will affect mental health for years to come." [LINK](#)

British Journal of Psychiatry: [Development of severe psychological distress among low-income individuals during the COVID-19 pandemic: longitudinal study](#) (February 15, 2021)

This study examined how the spread of COVID-19 has altered the general public's mental health, and whether such changes differ in relation to individual income. [LINK](#)

National Institutes of Health: [Study Identifies Risk Factors for Elevated Anxiety in Young Adults during COVID-19 Pandemic](#) (February 12, 2021)

"A new study has identified early risk factors that predicted heightened anxiety in young adults during the coronavirus (COVID-19) pandemic. The findings from the study, supported by the National Institutes of Health and published in the Journal of the American Academy of Child and Adolescent Psychiatry, could help predict who is at greatest risk of developing anxiety during stressful life events in early adulthood and inform prevention and intervention efforts. The findings suggest that targeting social wariness in childhood and worry dysregulation in adolescence may be a viable strategy for the prevention of anxiety disorders. The findings also suggest that targeting dysregulated worry in adolescence may be particularly important for identifying those who might be at risk for heightened anxiety during stressful life events like the COVID-19 pandemic and preventing that heightened anxiety." [LINK](#)

Journal of Psychiatric Research: [College student mental health risks during the COVID-19 pandemic: Implications of campus relocation](#) (February 2, 2021)

This study examined mandated relocation experiences related to self-reported worry, grief, loneliness, and depressive, generalized anxiety, and post-traumatic stress disorder (PTSD) symptoms among college students during the COVID-19 pandemic. [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 February, 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.

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