

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

CLINICAL PRESENTATION AND BIOLOGY

Eurosurveillance: [Case fatality risk of the SARS-CoV-2 variant of concern B.1.1.7 in England, 16 November 2020 to 5 February 2021](#) (March 18, 2021)

"The SARS-CoV-2 B.1.1.7 variant of concern (VOC) is increasing in prevalence across Europe. Accurate estimation of disease severity associated with this VOC is critical for pandemic planning. We found increased risk of death for VOC compared with non-VOC cases in England (hazard ratio: 1.67; 95% confidence interval: 1.34–2.09; $p < 0.0001$). Absolute risk of death by 28 days increased with age and comorbidities. This VOC has potential to spread faster with higher mortality than the pandemic to date." [LINK](#)

The Guardian: [Almost one third of UK COVID hospital patients readmitted within four months](#) (April 1, 2021)

"Nearly a third of people who have been in hospital suffering from COVID-19 are readmitted for further treatment within four months of being discharged, and one in eight of patients dies in the same period, doctors have found."

[LINK](#)

- Original research: [Post-COVID syndrome in individuals admitted to hospital with COVID-19: a retrospective cohort study](#)

Financial Times: [Long COVID affects most hospital patients, two UK studies find](#) (March 24, 2021)

"Most patients treated in hospital for Covid-19 are still suffering a wide range of symptoms five months after discharge — and middle-aged women are even more likely to have long COVID than other groups — according to two UK studies released on Wednesday." [LINK](#)

- Original research: [Physical, cognitive and mental health impacts of COVID-19 following hospitalisation – a multi-centre prospective cohort study](#) by the [PHOSP-COVID Collaborative Group](#), and [Long COVID in adults discharged from UK hospitals after Covid-19: A prospective, multicentre cohort study using the ISARIC WHO Clinical Characterisation Protocol](#) by the [University of Glasgow ISARIC WHO Clinical Characterisation Protocol](#)

Montreal Gazette: [Experts wonder why younger people seem to be getting sicker with COVID](#) (March 24, 2021)

Theresa Tam: “It’s a complex picture but what I will say is with increased replacement, if you like, of previous virus strains with the new variants, particularly the B.1.1.7 variant, we know that it can take off fast. Its reproduction number ... is higher so it has faster spread. And right now, the highest ... incidence is in the younger age groups. As soon as you get more numbers of people, you are going to see more cases of severe outcomes.” [LINK](#)

MedRxiv: [SARS-CoV-2 seropositivity and subsequent infection risk in healthy young adults: a prospective cohort study](#) (January 29, 2021)

“Seropositive young adults had about one-fifth the risk of subsequent infection compared with seronegative individuals. Although antibodies induced by initial infection are largely protective, they do not guarantee effective SARS-CoV-2 neutralization activity or immunity against subsequent infection. These findings may be relevant for optimization of mass vaccination strategies.” [LINK](#)

HEALTH EQUITY AND ETHICS

Scientific Reports: [A systematic review and meta-analysis of obesity and COVID-19 outcomes](#) (March 30, 2021)

The authors of this systematic review assessed whether obesity is associated with adverse COVID-19 outcomes or death. “Data from the first 6 months of the pandemic suggested that obesity is associated with a more severe COVID-19 disease course but may not be associated with increased mortality.” [LINK](#)

Medicine: [Comorbidities’ potential impacts on severe and non-severe patients with COVID-19: A systematic review and meta-analysis](#) (March 26, 2021)

This study estimated the association of chronic comorbidities in severe and non-severe cases. “This meta-analysis supports the finding that chronic comorbidities may contribute to severe outcome in patients with COVID-19. According to the findings of the present study, old age and 2 or more comorbidities are significantly impactful to COVID-19 outcomes in hospitalized patients in China.” [LINK](#)

Cancer Letters: [Epidemiological and clinical characteristics of cancer patients with COVID-19: A systematic review and meta-analysis of global data](#) (March 20, 2021)

This study is a systematic review and meta-analysis of observational studies concerning cancer patients with COVID-19 to investigate the following points: 1) the estimated prevalence of cancer among COVID-19 patients, as a function of various factors; 2) whether cancer patients with COVID-19 have distinct clinical courses and worse outcomes, compared with COVID-19 patients without cancer; and 3) whether there are geographic variations in the severe illness and mortality rate among cancer patients with COVID-19. [LINK](#)

Canadian Journal of Public Health: [Identifying gaps in COVID-19 health equity data reporting in Canada using a scorecard approach](#) (March 19, 2021)

The authors of this study performed an environmental scan of COVID-19 data reporting across Canadian provinces and territories to assess health equity-focused reporting in Canada using a scorecard approach. A scan was performed of provincial and territorial reporting of five data elements across three units of aggregation to assess 15 “overall indicators.” The scorecard also looked at vulnerable settings and social markers to assess 180 “equity-related” indicators as of December 31, 2020. The authors concluded that “one year into the pandemic, socially stratified reporting for COVID-19 outcomes remains sparse in Canada. However, several “best practices” in health equity-oriented reporting were observed and set a relevant precedent for all jurisdictions to follow for this pandemic and future ones.” [LINK](#)

New England Journal of Medicine: [“Vaccine Passport” Certification — Policy and Ethical Considerations](#) (March 31, 2021)

“Another key role for government is to ensure that architects of certification rules have ready access to the best and most current scientific information on vaccine effectiveness and limitations. In distilling this knowledge, government should recognize that its primary goal in guiding private actors is not complete elimination of risk; rather, the social complexity of COVID-19 requires guidance geared to gradations of risk that various actors might reasonably want to avoid.” [LINK](#)

HEALTH SYSTEM ADMINISTRATION

BBC: [COVID: The countries that nailed it, and what we can learn from them](#) (March 22, 2021)

“... the steps listed below highlight some policies from around the world that have proved effective. Piece them together and you have the blueprint for a “pandemic playbook” - a manual for managing future infectious disease outbreaks.” 1) Preparation; 2) Test, track, and trace; 3) Quarantine support; 4) Protect the elderly; 5) A vaccination strategy. [LINK](#)

The Globe and Mail: [The collapse of Merkel’s pandemic-control machine is a warning to us all](#) (April 1, 2021)

“It’s been clear for more than a year that by far the most significant spreader of COVID-19 is vacation travel. It could be argued that neither Germany nor Canada would have any infections but for their citizens’ vacation habits. This combination of feuding, slow-responding premiers, and a lack of will to put an end to deadly southbound vacation travel ought to sound familiar to Canadians. In Germany, everyone expected better.” [LINK](#)

Global News: [All Canadians could get 1 dose of COVID-19 vaccine by summer — if all goes well](#) (March 18, 2021)

“Prime Minister Justin Trudeau has said Canada’s ultimate goal has been to provide [the vaccine to] all Canadians who want a shot by the end of September. However, procurement numbers show that there are more than enough doses coming from Pfizer, Moderna and AstraZeneca to pass the one-dose-per-person target by the end of June.” [LINK](#)

Nature: [Has COVID peaked? Maybe, but it’s too soon to be sure](#) (March 18, 2021)

“The early evidence is encouraging, but the possibility of variants escaping pre-existing immunity is a clear and present concern... There are lots of places where population immunity and vaccine coverage is quite low, and those places will remain vulnerable.” [LINK](#)

New England Journal of Medicine: [SARS-CoV-2 Infection after Vaccination in Health Care Workers in California](#) (March 23, 2021)

The authors reviewed data about COVID-19 infections among vaccinated healthcare workers at University of California, San Diego (UCSD) and the University of California, Los Angeles (UCLA). “In our cohort, the absolute risk of testing positive for SARS-CoV-2 after vaccination was 1.19% among healthcare workers at UCSD and 0.97% among those at UCLA; these rates are higher than the risks reported in the trials of mRNA-1273 vaccine and BNT162b2 vaccine. The rarity of positive test results 14 days after administration of the second dose of vaccine is encouraging and suggests that the efficacy of these vaccines is maintained outside the trial setting. These data underscore the critical importance of continued public health mitigation measures (masking, physical distancing, daily symptom screening, and regular testing), even in environments with a high incidence of vaccination, until herd immunity is reached at large.” [LINK](#)

CNN Health: [Cough more hazardous to COVID-19 medical workers than intubation, research suggests](#) (March 12, 2021)

“A new wave of research now shows that several of those procedures [(i.e., intubation)], were not the most hazardous. Recent studies have determined that a basic cough produces about 20 times more particles than intubation, a procedure one doctor likened to the risk of being next to a nuclear reactor. [LINK](#)”

Canadian Institutes for Health Information (CIHI): [Long-term care and COVID-19: The first 6 months](#) (March 30, 2021)

“This release takes a closer look at the impact of COVID-19 on LTC residents and staff during the first 6 months of the pandemic (known as Wave 1) and provides early comparisons of outbreaks, cases and deaths between the first and second waves (to February 15, 2021). The following key findings are reported: 1) COVID-19 cases among residents of LTC and retirement homes increased by nearly two-thirds during Wave 2 compared with Wave 1. 2) Compared with pre-pandemic years, in Wave 1, LTC residents had fewer physician visits; fewer hospital transfers; and less contact with friends and family, which is associated with higher rates of depression. 3) In all provinces where it could be measured, the total number of resident deaths was higher than normal during this period, even in places with fewer COVID-19 deaths. 4) Provincial and national inquiries (to date) on COVID-19 in LTC have made similar recommendations and speak to long-standing concerns in the sector.” [LINK](#)

INFECTION PREVENTION AND CONTROL

The Atlantic: [The Fourth Surge Is Upon Us. This Time, It's Different](#) (March 30, 2021)

“We should immediately match variant surges with vaccination surges that target the most vulnerable by going where they are, in the cities and states experiencing active outbreaks—an effort modeled on a public-health tool called “ring vaccination.” Ring vaccination involves vaccinating contacts and potential contacts of cases, essentially smothering the outbreak by surrounding it with immunity. We should do this, but on a surge scale, essentially ring-vaccinating whole cities and even states.” [LINK](#)

CNBC: [Mutations could render current COVID vaccines ineffective in a year or less, epidemiologists warn](#) (March 30, 2021)

“Key points: Mutations of the coronavirus could render current vaccines ineffective within a year, according to a survey of experts in 28 countries. Of those surveyed, almost a third gave a time frame of nine months or less. Fewer than 1 in 8 said they believed that mutations would never render the current vaccines ineffective.” [LINK](#)

Bloomberg: [We Must Start Planning For a Permanent Pandemic](#) (March 24, 2021)

“We should therefore assume that the virus is already mutating fast in the many poor countries that have so far received no jabs at all, even if their youthful populations keep mortality manageable and thus mask the severity of local outbreaks. Last month, Antonio Guterres, the Secretary General of the United Nations, reminded the world that 75% of all shots had been administered in just 10 countries, while 130 others hadn’t primed a single syringe.” [LINK](#)

- See also quoted research: [The Potential Future of the COVID-19 Pandemic \(JAMA\)](#).

Nature: [Why indoor spaces are still prime COVID hotspots](#) (March 30, 2021)

“For months, health authorities have singled out indoor spaces with poor ventilation as potential infection hotspots. And on 1 March, the World Health Organization (WHO) released a long-awaited road map to better ventilation. The document — which Morawska contributed to — sets out specific targets and measures that businesses and other places can take to improve ventilation and make buildings safer. But Philomena Bluysen, a building engineer at the Delft University of Technology in the Netherlands, says that more needs to be done. “The WHO guidelines,” she says, “are the minimum.” [LINK](#)

MedRxiv (Preprint): [Ventilation procedures to minimize the airborne transmission of viruses at schools](#) (March 24, 2021)

"There is widespread consensus that improved ventilation is needed to minimize the transmission potential of airborne viruses in schools, whether through mechanical systems or ad-hoc manual airing procedures in naturally ventilated buildings... For naturally-ventilated classrooms, we propose a novel feedback control strategy using CO₂ concentrations to continuously monitor and adjust the airing procedure. Our case studies show how such procedures can be applied in the real world to support the reopening of schools during the pandemic. Our results also show the inadequacy of relying on absolute CO₂ concentration thresholds as the sole indicator of airborne transmission risk." [LINK](#)

- See also: [FAQs on Protecting Yourself from COVID-19 Aerosol Transmission](#). December 9, 2020.

Minnesota Star Tribune: [Mapping of Carver County outbreak unmask how COVID spreads](#) (March 20, 2021)

"A public health investigation linked 140 COVID-19 cases among more than 50 locations and groups, mostly schools and sports teams in Carver County. The cluster shows a high "attack rate" of infected people spreading the virus to multiple close contacts. Genomic sequencing found the more infectious B.1.1.7 variant of the virus in about a quarter of cases so far." [LINK](#)

TREATMENT

STAT News: [Operations research advice for COVID-19 vaccination planners: think bigger, move faster](#) (March 21, 2021)

"... the absolute priority is getting the largest number of individuals vaccinated as soon as vaccine is delivered, meaning the 1 million shots a day approach makes sense only if this is the exact delivery schedule of vaccines nationwide. Every person scheduled for a COVID-19 shot tomorrow when the dose intended for them is actually available today — say due to limited operating hours or staff availability at the vaccination center — adds an unvaccinated person-day to the national ledger. This is why efforts to use local distribution sites, which may be essential for incremental success at reaching hard-to-vaccinate communities, need to be part of a larger unified strategy to leave no ready dose unused. Linking smaller local centers into tightly integrated networks that are capable of coordinating vaccine dispensing on a daily basis may meet this need. Creating more interactive and responsive — not to mention accessible and comprehensible — vaccination scheduling systems is essential to enabling such networks to match daily supply with demand." [LINK](#)

Biochemical and Biophysical Research Communications: [The broad spectrum host-directed agent ivermectin as an antiviral for SARS-CoV-2?](#) (January 29, 2021)

"Cell culture experiments have shown [that ivermectin has] robust antiviral action towards a whole range of viruses, including HIV-1, dengue, Zika and West Nile Virus, V... and SARS-CoV-2 (COVID-19). Close to 70 clinical trials are currently in progress worldwide for SARS-CoV-2. Although few of these studies have been completed, the results that are available, as well as those from observational/retrospective studies, indicate clinical benefit. Here we discuss the case for ivermectin as a host-directed broad-spectrum antiviral agent, including for SARS-CoV-2." [LINK](#)

Real Clear Politics- Pierre Kory: [Censorship Kills: The Shunning of a COVID Therapeutic](#) (March 10, 2021)

"The science shows that ivermectin works. Over 40 randomized trials and observational studies from around the world attest to its efficacy against the novel coronavirus. Meta-analyses by four separate research groups, including ours, found an average reduction in mortality of between 68%-75%. And 10 of 13 randomized controlled trials found statistically significant reductions in time to viral clearance, an effect not associated with any other

COVID-19 therapeutic. Furthermore, ivermectin has an unparalleled safety record and low cost, which should negate any fears or resistance to immediate adoption." [LINK](#)

Science: [A rare clotting disorder may cloud the world's hopes for AstraZeneca's COVID-19 vaccine](#) (March 27, 2021)

"Even if [Greinacher's mechanism](#) isn't the whole story, multiple researchers told Science they were convinced the vaccine was causing the rare set of symptoms. If that turns out to be true, it could have major consequences for the vaccine, which is one of the cornerstones of the World Health Organization's push to immunize the world. AstraZeneca is working with partners around the globe to make and distribute billions of doses in low- and middle-income countries, which might have a harder time identifying and treating rare side effects." [LINK](#)

MENTAL HEALTH & WELLNESS

Index: [You're Still Doing Remote Work All Wrong](#) (March 17, 2021)

"One year later, an army of remote workers are still making rookie mistakes that lead to burnout." This article offers suggestions for working from home and optimizing a healthier work-home balance. [LINK](#)

Foreign Policy: [Everyone Was Wrong on the Pandemic's Societal Impact](#) (March 18, 2021)

In March 2020, a study asked experts and laypeople for their predictions. Neither group came close to being right. [LINK](#)

British Journal of Health Psychology: [The impact of COVID-19 on health behaviour, well-being, and long-term physical health](#) (March 31, 2021)

This paper discusses the impact of the pandemic on population health behaviours, well-being, and long-term physical health (including the prevention and detection of chronic disease). It also discusses the need for upstream behaviour change interventions and long-term strategies to mitigate downstream physical and mental health consequences. [LINK](#)

Health Expectations: [The psychological burden of waiting for procedures and patient-centred strategies that could support the mental health of wait-listed patients and caregivers during the COVID-19 pandemic: A scoping review](#) (March 26, 2021)

This study synthesized research on the mental health impact of waiting and patient-centred mitigation strategies that could be applied in the COVID-19 context. [LINK](#)

Neuroscience & Biobehavioral Reviews: [Anxiety, depression, trauma-related, and sleep disorders among healthcare workers during the COVID-19 pandemic: a systematic review and meta-analysis](#) (March 24, 2021)

This systematic review assessed the prevalence of anxiety, depression, trauma-related, and sleep disorders of healthcare workers during the COVID-19 pandemic. [LINK](#)

BioMed Central Health Services Research: [Workplace factors associated with mental health of healthcare workers during the COVID-19 pandemic: an international cross-sectional study](#) (March 21, 2021)

This international study reports the association between workplace factors and the mental health of healthcare workers during the pandemic. [LINK](#)

Journal of Nephrology: [The Impact of COVID-19 on the mental health of dialysis patients](#) (March 19, 2021)

This study investigated the mental health of dialysis patients during the COVID-19 pandemic compared to the period preceding the pandemic. [LINK](#)

Journal of the American Geriatrics Society: [Worries, attitudes, and mental health of older adults during the COVID-19 pandemic: Canadian and U.S. perspectives](#) (March 18, 2021)

This study provides crucial information about the mental health distress reported by older adults in the US and Canada during the early months of the COVID-19 pandemic. The results highlight the importance of government messaging that is clear, consistent, and that incorporates support for older adults. [LINK](#)

British Medical Journal Open: [Potential impact of physical distancing on physical and mental health: a rapid narrative umbrella review of meta-analyses on the link between social connection and health](#) (March 18, 2021)

This study summarized the strength of evidence in the published literature on the association of physical and mental health with social connection via social isolation, living alone and loneliness. [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 March and April 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:

The Newfoundland & Labrador Centre for Applied Health Research

95 Bonaventure Avenue, Suite 300

St. John's, NL A1B 2X5

nlcahr@mun.ca

www.nlcahr.mun.ca

Newfoundland & Labrador Centre for

**APPLIED
HEALTH
RESEARCH**

www.nlcahr.mun.ca