

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

Nature: [Increased mortality in community-tested cases of SARS-CoV-2 lineage B.1.1.7](#) (April 7, 2021)

“The authors analyze a dataset that links 2,245,263 positive SARS-CoV-2 community tests and 17,452 deaths associated with COVID-19 in England from 1 November 2020 to 14 February 2021. The analysis suggests that B.1.1.7 is not only more transmissible than pre-existing SARS-CoV-2 variants, but may also cause more severe illness.” [LINK](#)

British Medical Journal: [Risk of mortality in patients infected with SARS-CoV-2 variant of concern 202012/1: matched cohort study](#) (March 10, 2021)

“The probability that the risk of mortality is increased by infection with VOC-202012/01 is high. If this finding is generalizable to other populations, infection with VOC-202012/1 has the potential to cause substantial additional mortality compared with previously circulating variants. Healthcare capacity planning and national and international control policies are all impacted by this finding, with increased mortality lending weight to the argument that further coordinated and stringent measures are justified to reduce deaths from SARS-CoV-2.” [LINK](#)

The Lancet Respiratory Medicine: [The COVID-19 puzzle: deciphering pathophysiology and phenotypes of a new disease entity](#) (May 6, 2021)

“The authors review the intricacies of COVID-19 pathophysiology, its various phenotypes, and the anti-SARS-CoV-2 host response at the humoral and cellular levels. Some similarities exist between COVID-19 and respiratory failure of other origins, but evidence for many distinctive mechanistic features indicates that COVID-19 constitutes a new disease entity, with emerging data suggesting involvement of an endotheliopathy-centred pathophysiology.” [LINK](#)

Kaiser Health News: [COVID ‘Doesn’t Discriminate by Age’: Serious Cases on the Rise in Younger Adults](#)
(May 4, 2021)

- “About 32% of the U.S. population is now fully vaccinated, but the vast majority are people older than 65 — a group that was prioritized in the initial phase of the vaccine rollout.
- Nationally, adults under 50 now account for the most hospitalized COVID patients in the country — about 36% of all hospital admissions. Those ages 50 to 64 account for the second-highest number of hospitalizations, or about 31%. Meanwhile, hospitalizations among adults 65 and older have fallen significantly.
- Although new infections are gradually declining nationwide, some regions have contended with a resurgence of the coronavirus in recent months — what some have called a “fourth wave” — propelled by the B.1.1.7 variant, first identified in the United Kingdom, which is estimated to be somewhere between 40% and 70% more contagious.
- As many states ditch pandemic precautions, this more virulent strain still has ample room to spread among the younger population, which remains broadly susceptible to the disease.” [LINK](#)

Centres for Disease Control: [SARS-CoV-2 Variant Classifications and Definitions](#) (May 12, 2021)

“Genetic variants of SARS-CoV-2 have been emerging and circulating around the world throughout the COVID-19 pandemic. A US government interagency group developed a Variant Classification scheme that defines three classes of SARS-CoV-2 variants: Variant of Interest; Variant of Concern; Variant of High Consequence.” [LINK](#)

HEALTH EQUITY AND ETHICS (VULNERABLE GROUPS)

BioMed Central: [Ethical considerations and patient safety concerns for cancelling non-urgent surgeries during the COVID-19 pandemic: A Review](#) (April 29, 2021)

“The objective of this review is to discuss the ethics of elective surgery cancellation during the COVID-19 pandemic in relation to beneficence, non-maleficence, justice, and autonomy. This review hypothesizes that a more equitable decision-making algorithm can be formulated by analyzing the ethical dilemmas of elective surgical care during the pandemic through the lens of these four pillars. This paper’s analysis shows that non-urgent surgeries treat conditions that can become urgent if left untreated.” [LINK](#)

Journal of Medical Ethics: [Spoonful of honey or a gallon of vinegar? A conditional COVID-19 vaccination policy for front-line healthcare workers](#) (May 11, 2021)

This paper defines and defends a mildly coercive ‘conditional’ vaccination policy for Frontline Healthcare Workers that represents a middle ground between an entirely voluntary and entirely mandatory approach. [LINK](#)

Engineering: [COVID-19 Vaccine Allocation: Modeling Health Outcomes and Equity Implications of Alternative Strategies](#) (May 3, 2021)

This paper uses a simple, age-stratified susceptible-exposed-infectious-recovered model to quantitatively assess the performance of alternative prioritization strategies with respect to avoided deaths, avoided infections, and life-years gained. The authors demonstrate that “prioritizing essential workers is a viable strategy for reducing the number of cases and years of life lost, while the largest reduction in deaths is achieved by prioritizing older adults in most scenarios, even if the vaccine is effective at blocking viral transmission. Uncertainty regarding this property and potential delays in dose delivery reinforce the call for prioritizing older adults. Additionally, [the authors] investigate the strength of the equity motive that would support an allocation strategy attaching absolute priority to essential workers for a vaccine that reduces infection-fatality risk.” [LINK](#)

HEALTH SYSTEM ADMINISTRATION

Nature: [How COVID broke the evidence pipeline](#) (May 12, 2021)

“As the COVID-19 response turns from a sprint to a marathon, researchers are taking stock and looking ahead. In October, global health leaders will meet for three days to discuss what’s been learned from COVID-19 about supplying evidence in health emergencies. ‘COVID-19 is a stress test that revealed the flaws in systems that produce evidence,’ says Elie Akl, an internal-medicine specialist and clinical epidemiologist at the American University of Beirut. ‘It would be shameful if we come out of this experience and not make the necessary change for the next crisis.’ ” [LINK](#)

MIT Technology Review: [We reviewed three at-home COVID tests. The results were mixed](#) (May 4, 2021)

“Some experts have argued that cheap, fast tests could be used to screen the whole population every week. But what I learned is that this type of mass screening could be as much of a public nuisance as pandemic-buster. In fact, if you tested everyone in the US tomorrow with over-the-counter tests, the large majority of positive results—maybe nine out of 10—would be false alarms.” [LINK](#)

Social Science Research Network (SSRN): [How Did We Get Here: What Are Droplets and Aerosols and How Far Do They Go? A Historical Perspective on the Transmission of Respiratory Infectious Diseases](#) (April 28, 2021)

“The COVID-19 pandemic has exposed major gaps in our understanding of the transmission of viruses through the air. These gaps slowed recognition of airborne transmission of the disease, contributed to muddled public health policies, and impeded clear messaging on how best to slow transmission of COVID-19. In particular, current recommendations have been based on four tenets: 1) respiratory disease transmission routes can be viewed mostly in a binary manner of "droplets" versus "aerosols"; 2) this dichotomy depends on droplet size alone; 3) the cutoff size between these routes of transmission is 5µm; and 4) there is a dichotomy in the distance at which transmission by each route is relevant. Yet, a relationship between these assertions is not supported by current scientific knowledge.” [LINK](#)

SPOR Evidence Alliance: [Rapid and point-of-care diagnostic tests for SARS-CoV-2 \(COVID-19\)](#) (June 3, 2020)

“[M]oving diagnostic testing for COVID-19 from laboratory settings to the point of care is potentially transformative in the rate and quantity of testing that could be performed. Eleven diagnostic tests that are potentially suitable for testing for COVID-19 at the point-of-care are described: six molecular tests, and five antibody-based tests. Some devices show high diagnostic accuracy during controlled testing, but performance data from clinical settings, and a clear understanding of the optimal population and role for these tests in the care pathway, are currently lacking.” [LINK](#)

The Conversation: [The secret to how Atlantic Canada weathered the COVID-19 storm? Political will](#) (April 13, 2021)

“There are many lessons to be learned from Atlantic Canada’s COVID-19 success story. But there’s one to reject, too: the idea that Atlantic Canada’s success is due to a quality unique to the region, its communities and public life... There is often more agreement on these issues than the public realizes. We must recognize that the prevalence of polarization and dissent is frequently overblown, shielding politicians from accountability to public needs and demands. Until we do, politicians will continue to attribute Atlantic Canada’s success to its collective ethic, rather than its political will — as the battle against COVID-19 rages on in the rest of the country.” [LINK](#)

The Conversation: [Doug Ford's flip-flops: A dangerous failure of risk communication in COVID-19 third wave](#) (April 22, 2021)

"It is now apparent that Ontario cannot vaccinate its way out of the crisis. The way out requires effective public health measures based on solid risk communications. With over one year of real-life crisis opportunities to figure out how to effectively communicate pandemic risk, why are mistakes still being made?" [LINK](#)

COVID-End: [Mandatory vaccination for healthcare workers: an analysis of law and policy](#) (January 19, 2021)

"Provincial and territorial governments should set clear rules for vaccination of healthcare workers across public and private settings and not leave this task to individual employers. Although a mandate that health care workers must be vaccinated, or else stay home without pay, could be the subject of a Charter challenge, governments should be able to successfully defend such a challenge." [LINK](#)

The Lancet: [School reopening without robust COVID-19 mitigation risks accelerating the pandemic](#) (March 10, 2021)

"Given uncertainty around the long-term health effects of SARS-CoV-2 infection, it would be unwise to let the virus circulate in children, with consequent risk to their families. Reopening fully in the setting of high community transmission without appropriate safeguards risks depriving many children of education and social interaction again, worsening existing inequalities. By contributing to high community transmission, it also provides fertile ground for virus evolution and new variants. Multi-layered mitigations can substantially reduce the risk of transmission within schools and into households. In the [panel](#) we summarize a set of recommendations that are in line with [guidelines from the US Centers for Disease Control and Prevention](#) (CDC) and practiced in many countries to reduce the risk of transmission in schools and mitigate the impact of COVID-19 on children and families." [LINK](#)

Personality and Individual Differences: [Moral foundations underlying behavioral compliance during the COVID-19 pandemic](#) (March, 2021)

"Our study with 1,033 Americans revealed that caring and fairness concerns predict complying with all behaviors, while sanctity concerns only predict compliance with wearing face masks and social distancing. A deeper investigation revealed age differences in loyalty and sanctity concerns for staying-at-home and social distancing, and in sanctity concerns only for wearing face masks. The findings document the innate intuitions that guide one's decision to comply with such behaviors. They also provide governments and policy officials with implications on possible message frames to use in communicating the importance of the three behaviors in order to protect one's and the public's health from COVID-19 and other flu-like illnesses in the future." [LINK](#)

INFECTION PREVENTION AND CONTROL

The Guardian: [Is oral sex more COVID-safe than kissing? The expert guide to a horny, healthy summer](#) (May 13, 2021)

"As we look ahead to the post-COVID dating world, the rules are very much a work in progress. From every quarter, one hears the same message: there is no such thing as zero risk. An acceptable gamble to one person will look like outrageous recklessness to another. The pandemic hasn't treated us all the same, and we're likely to emerge with different versions of what "moral" and "responsible" look like... Here is a guide to some questions you might be asking about post-pandemic dating, answered by the experts." [LINK](#)

New York Times: [A Misleading C.D.C. Number](#) (May 11, 2021)

“That benchmark [10% of transmission happens outside/outdoors] “seems to be a huge exaggeration,” Dr. Muge Cevik, a virologist at the University of St. Andrews, said. In truth, the share of transmission that has occurred outdoors seems to be below 1 percent and may be below 0.1 percent, multiple epidemiologists told me. The rare outdoor transmission that has happened almost all seems to have involved crowded places or close conversation.” [LINK](#)

The Lancet: [Microbe SARS-CoV-2: eye protection might be the missing key](#) (February 23, 2021)

“COVID-19 has brought into focus many important factors that limit personal protective equipment efficacy, including frequent failure to use eye protection. Inadequate eye protection might explain why front-line workers who, despite wearing apparently adequate gloves, gowns, and masks, still can remain at increased risk of infection.” [LINK](#)

World Health Organization: [Roadmap to improve and ensure good indoor ventilation in the context of COVID-19](#) (March 1, 2021)

“Understanding and controlling building ventilation can improve the quality of the air we breathe and reduce the risk of indoor health concerns including prevent the virus that causes COVID-19 from spreading indoors.” [LINK](#)

CanCOVID: [Behavioural Science Principles for Enhancing Adherence to Public Health Measures](#) (April 22, 2021)

“Adherence to masking and distancing has become a habit for most Canadians, with 86% reporting wearing a face mask in public and 75% reporting following physical distancing guidelines. While these successful behavioural changes should be recognized, these data also highlight an opportunity to support enhanced adherence to both physical distancing and masking. While 80% of Canadians report the ability to continue following these measures for at least the next six months, the majority are getting tired of following COVID-19 public health measures. Capitalizing on existing habits while empathizing with fatigue requires a renewed and evidence-based approach to supporting public health measures that draws on behavioural science.” [LINK](#)

COVID-End Rapid Review Update 2: [What strategies mitigate risk of COVID-19 outbreaks and mortality in long-term care facilities?](#) (March 9, 2021)

“Previous versions of this review included two unique questions: what risk factors are associated with COVID-19 outbreaks and mortality in LTC facilities and what strategies mitigate risk? The majority of risk factors identified were non-modifiable. In order to inform actionable strategies to mitigate risk in LTC settings, in this update we have focused exclusively on strategies to mitigate risk of outbreaks and reduce mortality. A previous archived version containing information on risk factors can be found [here](#).” [LINK](#)

National Collaborating Centre for Environmental Health: [Fomites and the COVID-19 pandemic: An evidence review on their role in viral transmission](#) (March 23, 2021)

“It is important to continue to follow the multilayered control measures approach in order to sever the chain of transmission at all possible links, including proper hand hygiene and appropriate cleaning and disinfection. Given that available evidence suggests that droplet and aerosol transmission continue to be the primary transmission route for SARS-CoV-2, it would be prudent to balance surface disinfection with other interventions to prevent droplet and aerosol transmission. Public health messaging should also emphasize the safe use of disinfection products to prevent acute and chronic health impacts from overuse and misuse of these products.” [LINK](#)

TREATMENT

American Journal of Therapeutics: [Review of the Emerging Evidence Demonstrating the Efficacy of Ivermectin in the Prophylaxis and Treatment of COVID-19](#) (May, 2021)

“Meta-analyses based on 18 randomized controlled treatment trials of Ivermectin in COVID-19 have found large, statistically significant reductions in mortality, time to clinical recovery, and time to viral clearance. Furthermore, results from numerous controlled prophylaxis trials report significantly reduced risks of contracting COVID-19 with the regular use of Ivermectin. Finally, the many examples of Ivermectin distribution campaigns leading to rapid population-wide decreases in morbidity and mortality indicate that an oral agent effective in all phases of COVID-19 has been identified.” [LINK](#)

MENTAL HEALTH & WELLNESS

Journal of Autism and Developmental Disorders: [Elevated Levels of COVID-19-Related Stress and Mental Health Problems among Parents of Children with Developmental Disorders during the Pandemic](#) (April 28, 2021)

This study provides a timely investigation into the stress and mental health of parents during the COVID-19 pandemic. The implications of web-based parenting skills interventions, online psychological support services, and family-friendly policy initiatives are also discussed. [LINK](#)

General Hospital Psychiatry: [Psychological impact of the COVID-19 pandemic on hospital workers over time: Relationship to occupational role, living with children and elders, and modifiable factors](#) (May 5, 2021)

This study used data collected from hospital-based healthcare workers in the fall of 2020 (prior to the peak of the second wave in Ontario, Canada) and in the winter of 2021 (immediately after a peak in cases) to assess the relationship of occupational roles, care for children and elders at home, sleep quality, and self-efficacy with respect to the occupational challenges of the pandemic, on changes in emotional exhaustion and psychological distress over this time. [LINK](#)

Clinical Epidemiology and Global Health: [How healthcare workers are coping with mental health challenges during COVID-19 pandemic - a cross-sectional multi-countries study](#) (May 7, 2021)

This study investigated the coping strategies among healthcare workers from different countries and their attitude towards teamwork during the COVID-19 pandemic. [LINK](#)

British Medical Journal Open: [Cross-sectional survey on physician burnout during the COVID-19 pandemic in Vancouver, Canada: the role of gender, ethnicity and sexual orientation](#) (May 10, 2021)

This study investigated the prevalence of physician burnout during the pandemic and differences by gender, ethnicity or sexual orientation. [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 April and May 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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