

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.

Please note that this week's e-bulletin has been organized using a new set of subject headings to better reflect the focus of current scientific research on the novel coronavirus. We are hopeful that these new research categories will address emerging health and healthcare priorities.

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

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

CLINICAL PRESENTATION AND BIOLOGY

Alberta Health Services: [COVID-19 Scientific Advisory Group Rapid Evidence Report](#) (November 30, 2020)

"This report sought to determine the current best evidence regarding the nature, frequency, duration, risk factors, and mechanism of persistent, long-term, post-COVID-19 symptoms. Although structured definitions of chronic symptoms are not yet standardized, this review found 46 unique chronic symptoms described after acute COVID-19 infection. The chronic symptoms noted most frequently across studies included: shortness of breath (dyspnea), fatigue, cough, headache, loss of smell (anosmia), cognitive impairment, loss of taste (ageusia), and muscle/joint pain (myalgia). Less frequently noted were chronic sleep impairments, chest pain, tachycardia, GI upset, muscle weakness, and anxiety." [LINK](#)

Public Health Agency of Canada (PHAC): [Emerging Evidence on COVID-19 - Rapid Review of Infectious Period](#) (September 10, 2020)

"This evergreen rapid review of the infectious period contains key studies captured by the *PHAC Emerging Sciences Daily COVID-19 Literature Scan* up to August 31, 2020. Overall, the best available evidence indicates that the infectious period for most symptomatic cases is considered to start on average 2.5 days before developing symptoms, to peak at around day 4 of symptoms, and to decrease to low levels within 8-10 days after the start of symptoms, for a total of 10-13 days. The asymptomatic infectious period has been found to be similar. Longer infectious periods have been documented in more severe or immunocompromised cases (18-32 days post symptom onset)." [LINK](#)

Journal of the American Medical Association (JAMA) Internal Medicine: [Antibodies, Immunity, and COVID-19](#) (November 24, 2020)

“A robust and well-designed seroprevalence* study using residual serum samples from across the U.S.A. has found that herd immunity to SARS-CoV-2 is nowhere in sight, even as the COVID-19 pandemic has raged on for a year. The good news is that the limited number of reinfections of SARS-CoV-2 to date, and the experience with natural infections with other viruses, suggest that protective immunity to COVID-19 *should* result, a harbinger for the success of vaccines. The bad news is that, like the 1918 influenza pandemic, achieving herd immunity through natural infections will take years of painful sacrifice that are tallied in numerous deaths, severe long-term health sequelae, and widespread economic disruption and hardship.” [LINK](#)

* *seroprevalence indicates the number of persons in a population who test positive for a disease based on serology (blood serum) specimens.*

Nature Communications: [No evidence for increased transmissibility from recurrent mutations in SARS-CoV-2](#) (November 30, 2020)

“The authors formally tested whether any homoplasies (e.g., recurrent viral mutations) observed in SARS-CoV-2 to date were significantly associated with increased viral transmission. Researchers did not identify a single recurrent mutation in this set that is convincingly associated with increased viral transmission. At this stage, the authors find no evidence for significantly more transmissible lineages of SARS-CoV-2 as the result of recurrent mutations.” [LINK](#)

HEALTH SYSTEM ADMINISTRATION

Alberta Health Services COVID-19 Scientific Advisory Group: [Rapid Response Review of Quarantine Period for Exposed Healthcare Workers](#) (November 5, 2020)

This review considered the risk of COVID-19 infection transmission by/from healthcare workers if the quarantine period, post-exposure, is less than 14 days, and assessed whether this risk of transmission varies across a range of COVID-19 case exposures. [LINK](#)

Journal of Cardiac Surgery: [COVID-19: The rising cost of cardiac surgery and disease](#) (December 1, 2020)

The authors of this article reviewed the potential impact of postponing elective cardiovascular surgeries, reduced acute care, and consequently, long-term cardiac damage directly resulting from COVID-19 on the cost of managing cardiac diseases in the near future. [LINK](#)

Nature: [How Iceland hammered COVID with science](#) (November 25, 2020)

This article details the lessons that can be learned from Iceland's scientific response to the COVID-19 pandemic. [LINK](#)

Canadian Institute for Health Information (CIHI): [COVID-19's effect on hospital care services](#) (November 19, 2020)

This report from CIHI provides a picture of the impact of COVID-19 measures and policies on hospital care services in Canada from March to June 2020. [LINK](#)

Canadian Institute for Health Information (CIHI): [How COVID-19 affected emergency departments](#) (November 19, 2020).

This report from CIHI provides a picture of the early impact of COVID-19 measures and restrictions on emergency department visits and services between March and June 2020. [LINK](#)

INFECTION PREVENTION AND CONTROL

Alberta Health Services COVID-19 Scientific Advisory Group: [Rapid Evidence Report: Can people with previous COVID-19 infection be re-infected by the virus?](#) (November 6, 2020).

"Reinfection with SARS-CoV-2 after recovery from COVID-19 disease has been demonstrated to be possible, although it is not frequently reported as yet. It is unclear whether re-infection will prove to be rare, or will become increasingly common over time. Therefore, the average duration of natural immunity to this new pandemic virus is not yet able to be known." [LINK](#)

Public Health Agency of Canada Emerging Evidence on COVID-19: [Evidence Brief of COVID-19 quarantine length reduction strategies and effectiveness](#) (September 16, 2020)

"This evidence brief identifies and summarizes published and pre-published data on alternative quarantine strategies (e.g. combinations of RT-PCR* testing and quarantine) to explore the potential trade-offs compared to the 14 day quarantine currently used." [LINK](#)

**RT-PCR testing is real-time reverse transcription polymerase chain reaction testing for COVID-19*

National Collaborating Centre for Methods and Tools: [Living Rapid Review Update 10: What is the specific role of daycares and schools in COVID-19 transmission?](#) (November 12, 2020).

"Based on the published reports to date from both prior to COVID-19 lockdown and following re-opening, the risk of transmission from children to children and from children to adults in primary school and daycare settings appears to be low, when infection control measures are in place. The certainty of the evidence is low (based on a GRADE assessment: Grading of Recommendations, Assessment, Development and Evaluations), and findings may change as new data become available" [LINK](#)

National Collaborating Centre for Methods and Tools: [Rapid Review: What is known about the risk of COVID-19 transmission across different indoor settings in the community such as restaurants and gyms?](#) (November 04, 2020)

"This review seeks to identify, appraise, and summarize emerging research evidence to support evidence-informed decision making on COVID-19 infection prevention and control measures in a variety of indoor community settings." [LINK](#)

MedPage Today: [COVID-19 on Surfaces: Examining the Known Unknowns](#) (November 20, 2020)

Drawing from the findings of a systematic review, this news article highlights persisting knowledge gaps on the role of contaminated surfaces in COVID-19 transmission. [LINK](#)

- **Original research:** American Society of Tropical Medicine and Hygiene- A systematic review of surface contamination, stability, and disinfection data on SARS-CoV-2 (January 1 - July 10, 2020) [LINK](#)

Nature Medicine: [Understanding protection from SARS-CoV-2 by studying re-infection](#) (October 22, 2020)

"In the case of SARS-CoV-2, recent reports of re-infection, as indicated by viral sequence differences, clinical data, and data on potential exposure, have raised critical questions about whether and how well a first infection protects against reinfection." [LINK](#)

The Atlantic: [Don't Eat Inside a Restaurant: The risk of catching the coronavirus is much higher indoors](#) (November 20, 2020)

"In a September study, people who tested positive for COVID-19 were more than twice as likely as those who tested negative to report eating in a restaurant recently." [LINK](#)

- **Original Research:** The original study, a CDC report, is available [here](#)

The Conversation: [Children may transmit coronavirus at the same rate as adults: what we now know about schools and COVID-19](#) (November 23, 2020).

"The latest research shows infections in children frequently go undetected, and that children are just as susceptible as adults are to infection. Children likely transmit the virus at a similar rate to adults as well." [LINK](#)

- **Original Research:** The original study, a CDC report, is available [here](#)

TREATMENT

Scientific Reports: [A systematic review of corticosteroid treatment for non-critically ill patients with COVID-19](#) (December 1, 2020)

"The World Health Organization (WHO) published guidance recommending systemic corticosteroids for the treatment of patients with severe or critical COVID-19 and no corticosteroids for those with non-severe COVID-19. Although their recommendations for critical cases were based on the results from seven randomized controlled trials (RCTs), the recommendations for noncritical cases were based on the results from only one RCT, the Randomized Evaluation of COVID-19 Therapy (RECOVERY) trial. In search of additional evidence of corticosteroids' effect on COVID-19, the authors systematically reviewed controlled observational studies (besides RCTs) that also assessed the impact of corticosteroid treatment on any type of mortality and/or other outcomes in non-critical patients. This study found some additional evidence to support the WHO recommendations, especially for patients not requiring any respiratory support (mild or moderate cases). However, some patients who did not require oxygen on admission to hospital and who would then progress to more severe disease could benefit from corticosteroid treatment; thus, careful monitoring is crucial for these patients." [LINK](#)

SENIORS AND OTHER VULNERABLE GROUPS

Alberta Health Services: [Rapid Evidence Report: What risk factors \(such as age, medical conditions, or lifestyle factors\) are associated with the development of severe outcomes in COVID-19?](#) (August 21, 2020)

"The risk of COVID-19 transmission is not influenced by comorbidities but is a direct reflection of community transmission rates and people's exposure history. The data presented in this study evaluate the associations of various health conditions with severe outcomes among patients who have tested positive for COVID-19." [LINK](#)

National Collaborating Centre for Infectious Diseases: [Corrections and correctional facilities as a public health setting in Canada](#) (October 26, 2020)

"This document describes correctional facilities and regulations to protect incarcerated persons' health. The authors provide a rationale for the value and importance of public health services, in partnership with, and in addition to, primary care for inmates and people working in correctional facilities in Canada." [LINK](#)

National Collaborating Centre for Methods and Tools and National Collaborating Centre for Indigenous Health: [Rapid Review: What factors may help protect Indigenous peoples and communities in Canada and internationally from the COVID-19 pandemic and its impacts?](#) (October 16, 2020)

"The COVID-19 pandemic has exacerbated pervasive socio-economic and health inequities, creating challenges for Indigenous peoples and communities in Canada and around the world. Indigenous peoples and communities are responding to COVID-19 using practices, knowledges, and assets that may provide some protection from the pandemic and its impacts. This rapid review includes evidence available up to October 8, 2020." [LINK](#)

National Collaborating Centre for Methods and Tools: [Living Rapid Review Update 10: What is the specific role of daycares and schools in COVID-19 transmission?](#) (November 12, 2020)

“This living rapid review was produced to support public health decision makers’ response to the COVID-19 pandemic and concerns the specific role of daycare centres and schools in COVID-19 transmission. This review seeks to identify, appraise, and summarize emerging research evidence to support evidence-informed decision making. This review is based on the most recent research evidence available at the time of release. This updated version includes evidence available up to November 2, 2020.” [LINK](#)

National Collaborating Centre for Methods and Tools: [Rapid Review: What risk factors are associated with COVID-19 outbreaks and mortality in long-term care facilities and what strategies mitigate risk?](#)

(October 16, 2020)

“To date, strategies used by certain facilities and jurisdictions have shown preliminary evidence of efficacy at reducing risk of infections and outbreaks. Understanding risk factors for infections and outbreaks at the resident, facility, and community level will facilitate the development of strategies to help mitigate this risk. This rapid review includes evidence available up to October 5, 2020.” [LINK](#)

Cell Metabolism: [Glucose or Insulin, Which is the Culprit in Patients with COVID-19 and Diabetes?](#)

(November 24, 2020)

“Patients with a metabolic syndrome (overweight, diabetes, hypertension, and dyslipidemia) have a particularly bad outcome if infected with SARS-CoV-2. The authors (Yu et al. 2020) suggest that insulin therapy itself may promote fatality in patients with COVID-19 and diabetes.” [LINK](#)

Respiratory Medicine: [Tobacco use as a well-recognized cause of severe COVID-19 manifestations](#)

(November 19, 2020)

This literature review summarizes evidence for the association of tobacco use with the severity of COVID-19 manifestations. [LINK](#)

MENTAL HEALTH & WELLNESS

American Academy of Pediatrics: [Guidance on Providing Pediatric Well-Care during COVID-19](#)

(November 2, 2020)

“Since the onset of the pandemic, a significant drop in well-child visits has resulted in delays in vaccinations, delays in appropriate screenings and referrals and delays in anticipatory guidance to assure optimal health.” [LINK](#)

American Journal of Geriatric Psychiatry: [COVID-19, Psychological Well-being and Physical Activity Levels in Older Adults during the Nationwide Lockdown in Spain](#)

(November 28, 2020)

“Results showed that older adults who regularly engaged in vigorous physical activity and moderate-vigorous physical activity during the quarantine reported higher scores in resilience (Locus, Self-efficacy, and Optimism), positive affect, and lower in depressive symptoms.” [LINK](#)

BioMed Central Public Health: [A rapid review of mental and physical health effects of working at home: how do we optimize health?](#)

(November 30, 2020)

This rapid review assessed the impact of working at home on individual workers’ mental and physical health, and determined any gender difference, to develop recommendations for employers and employees to optimize workers’ health. [LINK](#)

Clinical Obesity: [The same storm but not the same boat: Effects of COVID-19 stay-at-home order on mental health in individuals with overweight](#)

(November 20, 2020)

This study described the effects of stay-at-home orders and social distancing during the coronavirus disease (COVID-19) outbreak on mental health and compared these outcomes among individuals with normal weight and overweight. [LINK](#)

European Archives of Psychiatry and Clinical Neuroscience: [Psychological and neuropsychiatric implications of COVID-19](#) (November 22, 2020)

This review draws on evidence from previous coronavirus outbreaks (i.e., SARS, MERS) and emerging evidence from China, Europe, Asia and the U.S.A. to synthesize the current knowledge regarding the psychological and neuropsychiatric implications of the COVID-19 pandemic. [LINK](#)

Journal of Clinical Nursing: [Insomnia, fatigue and psychosocial well-being during COVID-19 pandemic: A cross-sectional survey of hospital nursing staff in the United States](#) (November 20, 2020)

This cross-sectional exploratory study described and quantified levels of insomnia, fatigue, inter-shift recovery, and psychological well-being (burnout, post-traumatic stress and psychological distress) among hospital nursing staff during the COVID-19 pandemic in the U.S. A., and examined differences in these measures based on work-related characteristics, including whether or not nursing staff cared for patients with confirmed cases of COVID-19. [LINK](#)

Social Psychiatry and Psychiatric Epidemiology: [Mental health of clinical staff working in high-risk epidemic and pandemic health emergencies: A rapid review of the evidence and living meta-analysis](#) (November 27, 2020)

This rapid review and meta-analysis forms the basis of a living meta-analysis of the mental health of clinical staff dealing with epidemics and pandemics of high-risk infectious diseases, including studies from coronavirus disease 2019 (COVID-19), Ebola virus disease, H1N1 influenza, Severe Acute Respiratory Syndrome (SARS), and Middle East Respiratory Syndrome (MERS) to understand the potential impact on mental health and to inform policy on supporting staff during the current 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 November and December of 2020. 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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