Newfoundland & Labrador Centre for APPLIED HEALTH RESEARCH
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COVID-19 e-bulletin

July 14, 2020

The Newfoundland & Labrador Centre for Applied Health Research (NLCAHR) will send 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 hope you will find this information to be helpful. We welcome your feedback and suggestions.

You can find NLCAHR e-bulletins and COVID-19 *Quick Response Reports* online here.

REOPENING AFTER LOCKDOWN

Annals of Internal Medicine: Reopening Colleges and Universities during the COVID-19 Pandemic (Published July 2, 2020)
This article explores how colleges and universities can re-open for in-person educational experience for students while implementing measures to protect the health of students, faculty, and staff. LINK

British Journal of Social Psychology: 'Distancers' and 'non-distancers'? The potential social psychological impact of moralizing COVID-19 mitigating practices on sustained behaviour change (Published June 25, 2020)
This article argues that, as lockdown rules are being relaxed, ambiguity in public health policy measures will increase, resulting in tension between those who do and those who do *not* uphold social distancing. The authors explore how and why these processes might come to pass, their impact on an overall societal response to COVID-19, and the need to factor such processes into decisions regarding how to lift restrictions. LINK

ANTICIPATING A "SECOND WAVE"

Disaster Medicine and Public Health Preparedness: A proposed COVID-19 testing algorithm (Published June 24, 2020)
To prevent a massive second wave of infections, the authors propose a data-driven methodology for testing. LINK

Nature News: How countries are using genomics to help avoid a second coronavirus wave (Published May 25, 2020)
This article discusses how scientists in New Zealand, the UK and other places are using sequence data to track new infections as lockdowns ease. LINK

TREATMENT

Stat News: **COVID-19 vaccine from Pfizer and BioNTech shows positive results** (Published July 1, 2020)
"An experimental COVID-19 vaccine being developed by the drug giant Pfizer and the biotech firm BioNTech spurred immune responses in healthy patients, but also caused fever and other side effects, especially at higher doses." LINK

MedRxiv: **Low plasma 25(OH) vitamin D3 level is associated with increased risk of COVID-19 infection: an Israeli population-based study** (Published July 1, 2020)
"The aim [of this study] was to evaluate associations of plasma 25(OH) D status with the likelihood of coronavirus disease (COVID-19) infection and hospitalization." LINK

MedRxiv: **Efficacy and Safety of Remdesivir for COVID-19 Treatment: An Analysis of Randomized, Double-Blind, Placebo-Controlled Trials** (Published June 22, 2020)
"Since the therapeutic effect of remdesivir is controversial, the authors aimed to evaluate clinically meaningful evidence on its efficacy and safety in the treatment of COVID-19 via an analysis of pooled randomized controlled trials." LINK

CLINICAL MANAGEMENT

Brain: A Journal of Neurology: The emerging spectrum of COVID-19 neurology: clinical, radiological and laboratory findings (Published July 8, 2020)
This study looked at the neurological implications of COVID-19 infection in five categories: encephalopathies, inflammatory CNS syndromes including encephalitis, acute disseminated encephalomyelitis with hemorrhage, necrosis, myelitis, and isolated myelitis. LINK

Centres for Disease Control and Prevention: **Considerations for Providing Hemodialysis to Patients with Suspected or Confirmed COVID-19 in Acute Care Settings** (Published July 7, 2020)
This webpage, published by the CDC, outlines a series of considerations for healthcare professionals who are providing hemodialysis to patients with either suspected or confirmed COVID-19 infections within acute healthcare settings. LINK

Eurosurveillance: **Excess all-cause mortality during the COVID-19 pandemic in Europe – preliminary pooled estimates from the EuroMOMO network, March to April 2020**. (Published July 2, 2020)
"The authors present pooled European-wide weekly mortality estimates from the European monitoring of excess mortality for public health action (EuroMOMO) network from the beginning of 2020 until week 18 (23 April–3 May) of this year." LINK

Forbes: **Immunity to COVID-19 Infection May Fade Quickly** (Published June 19, 2020)
"The first unexpected finding is that CAT-scans of the lung showed that two-thirds of those with no clinical signs of COVID-19 had what are called ground-glass opacity abnormalities typical of COVID-19 in at least one lung, and one-third showed ground-glass opacities in both lungs. In simple terms, SARS-CoV-2 is damaging the lungs of the majority who seem symptom-free. The longterm health effects of such injuries may be apparent in later life." LINK

STAT Health: **Watch - It's not just the lungs: The COVID-19 virus attacks like no other 'respiratory' infection** (Published June 26, 2020)
"What [doctors] are understanding is that this coronavirus "has such a diversity of effects on so many different organs, it keeps us up at night," said Thomas McGinn, deputy physician in chief at Northwell Health and director of the Feinstein Institutes for Medical Research. "It's amazing how many different ways it affects the body." LINK

Cochrane Collaboration: **New Cochrane review assesses how accurate antibody tests are for detecting COVID-19** (Published June 25, 2020)
This review by the Cochrane Collaboration indicates that while antibody tests could have a useful role in detecting if someone has had COVID-19, the timing of such tests will be important. LINK

INFECTION CONTROL

FOCUS ON AIRBORNE TRANSMISSION:

Scientific American | Nature Public Health: **Mounting Evidence Suggests Coronavirus is Airborne—but Health Advice Has Not Caught Up** (Published July 8, 2020)
"Converging lines of evidence indicate that SARS-CoV-2, the coronavirus responsible for the COVID-19 pandemic, can pass from person to person in tiny droplets called aerosols that waft through the air and accumulate over time. After months of debate about whether people can transmit the virus through exhaled air, there is growing concern among scientists about this transmission route." LINK

Proceedings of the National Academy of Sciences: **Identifying airborne transmission as the dominant route for the spread of COVID-19** (Published June 30, 2020)
"We have elucidated the transmission pathways of coronavirus disease 2019 (COVID-19) by analyzing the trend and mitigation measures in the three epicenters. Our results show that the airborne transmission route is highly virulent and dominant for the spread of COVID-19." LINK

Materials Today Physics: **Catching and killing of airborne SARS-CoV-2 to control spread of COVID-19 by a heated air disinfection system** (Published July 7, 2020)
This article reports on how a heated air disinfection system, fabricated based on commercial Ni foams, showed ~100% ability for catching and killing of SARS-CoV-2 in indoor spaces. The air disinfection system has significant potential to control spread of COVID-19. LINK

MedRxiv: **Identification of SARS-CoV-2 RNA in Healthcare Heating, Ventilation, and Air Conditioning Units** (Published June 28, 2020)
"The presence of SARS-CoV-2 RNA was detected in approximately 25% of samples taken from nine different locations in multiple air handlers. While samples were not evaluated for viral infectivity, the presence of viral RNA in air handlers raises the possibility that viral particles can enter and travel within the air handling system of a hospital, from room return air through high efficiency MERV-15 filters and into supply air ducts." LINK

Alberta Health Services: **Rapid Review. Effectiveness of Wearing Masks to Reduce Spread of COVID-19 in the Community** (Published June 30, 2020)

This rapid literature review discusses available evidence on the effectiveness of wearing medical and home-made masks to reduce the spread of COVID-19 in the community. LINK

OTHER TOPICS RELATED TO INFECTION CONTROL:

Cochrane Systematic Review: Antibody tests for identification of current and past infection with SARS-CoV-2 (Published June 25, 2020)
This systematic review examines current evidence on the diagnostic accuracy of antibody tests used to determine if a person presenting in the community or in primary or secondary care has SARS-CoV-2 infection, or has previously had SARS-CoV-2 infection, and the accuracy of antibody tests for use in sero-prevalence surveys. LINK

Immunity Primer: Herd Immunity: Understanding COVID-19 (Published May 19, 2020)
The authors explain the basic concepts of herd immunity and discuss its implications in the context of COVID-19. LINK

World Journal of Pediatrics: Updated Diagnosis, Treatment and Prevention of COVID-19 in Children: Experts' Consensus Statement. Second Edition (Published June 16, 2020)
This guidance document summarizes expert consensus on the diagnosis, treatment, and early identification of severe and critical cases of COVID-19 in children. LINK

New South Wales (Australia) COVID-19 Critical Intelligence Unit: Evidence Check. COVID-19 infectivity and transmission in children (Published June 4, 2020).
This evidence brief reviews currently available evidence on the risk of COVID-19 transmission, infection rates, and infectivity of the virus in children. LINK

The Lancet: Willingness to vaccinate against COVID-19 in Australia (Published June 30, 2020)
This study reports the findings of an online survey that explored public attitudes about a potential COVID-19 vaccine and peoples' potential willingness to be vaccinated. LINK

Nature Medicine: Fast and frugal innovations in response to the COVID-19 pandemic (Published May 11, 2020)
This article highlights the various innovative responses that different countries have deployed to manage the COVID-19 pandemic, and the lessons that can be learned from this crisis for future public health interventions and policies. LINK

MedRxiv: COVID-19 Risk among Airline Passengers: Should the Middle Seat Stay Empty? (Published July 05, 2020)
Using mathematical modelling, this article examines the risk of COVID-19 transmission among airline passengers, and considers whether or not keeping the middle seat empty reduces the risk of transmission. LINK

Alberta Health Services: Rapid Review. Risk of Transmission in Dentistry (Published June 30, 2020)
This rapid literature review evaluates available evidence on the risks of infection transmission due to aerosol generation from dental tools and practices and provides recommendations to minimize the risk of COVID-19 transmission within dental clinics. LINK

COVID-19 & HEALTHCARE WORKERS

Cochrane Systematic Review: **Psychological interventions to foster resilience in healthcare professionals** (Published July 5, 2020)
This systematic review examines the impact and efficacy of interventions designed to foster resilience in frontline healthcare professionals. LINK

BMC Medical Education: **The impact of the COVID-19 pandemic on final year medical students in the United Kingdom: a national survey** (Published June 29, 2020)
Using an online survey distributed across 33 UK medical schools, this study evaluated the impact of COVID-19 on final year medical students' examinations and placements, and how it might impact their confidence and preparedness going into their first year of foundation training. LINK

New South Wales (Australia) COVID-19 Critical Intelligence Unit: **Evidence Check - The impact of COVID-19 on clinical education and training** (Published June 18, 2020).
This report examines the impact of the COVID-19 pandemic and the resultant medical and public health response on the mode and content of clinical education and possible recommendations on how to address these impacts. LINK

MENTAL HEALTH & WELLNESS

Psychiatry Research: **The psychological and mental impact of coronavirus disease 2019 (COVID-19) on medical staff and general public – a systematic review and meta-analysis** (Published June 7, 2020)
The authors conducted a systematic review and meta-analysis on the psychological and mental impact of COVID-19 among healthcare workers, the general population, and patients with higher COVID-19 risk. LINK

Quarterly Journal of Medicine: The psychological impact of COVID-19 on mental health in the general population (Published June 22, 2020)
This article comprehensively reviews the current literature about the impact of COVID-19 on mental health in the general population. LINK

The Canadian Journal of Psychiatry: **COVID-19 impacts on child and youth anxiety and depression: challenges and opportunities** (Published June 22, 2020)
This article focuses on the impact on of the pandemic on the mental health of children and adolescents, with particular attention to depression and anxiety. LINK

Diabetes & Metabolic Syndrome| Clinical Research and Reviews: **COVID-19 and addiction** (Published June 9, 2020)
This article analyzes the intricate bi-directional relationship between COVID-19 and addiction. LINK

Washington Post: **'Cries for help': Drug overdoses are soaring during the coronavirus pandemic** (Published July 1, 2020)
"Suspected overdoses nationally [USA] jumped 18% in March, 29% in April and 42% in May, data from ambulance teams, hospitals and police shows." 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 July 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?
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