

The Newfoundland & Labrador Centre for Applied Health Research (NLCAHR) sends this COVID-19 e-bulletin to 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:
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You will find all NLCAHR e-bulletins and COVID-19 Quick Response Reports [online here](#).

CLINICAL PRESENTATION & BIOLOGY

National Academies of Sciences, Engineering, Medicine: [Lessons Learned from the COVID-19 Pandemic to Improve Diagnosis](#) (January 14, 2022)

“...a virtual workshop on January 14, 2022 to examine changes to diagnostic paradigms in response to the COVID-19 pandemic and to consider the lessons learned and opportunities for improving diagnosis within the U.S. health care system.” [LINK](#)

Research Square: [SARS-CoV-2 Omicron Variant is as Deadly as Previous Waves After Adjusting for Vaccinations, Demographics, and Comorbidities](#) (May 2, 2022)

“Although the unadjusted rates of hospital admission and mortality appeared to be higher in previous waves compared to the Omicron period, after adjusting for confounders including various demographics, Charlson comorbidity index scores, and vaccination status (and holding the healthcare utilization constant), we found that the risks of hospitalization and mortality were nearly identical between periods. Our analysis suggests that the intrinsic severity of the Omicron variant may be as severe as previous variants.” [LINK](#)

See also:

- CDC Morbidity and Mortality Weekly Report: [Hospitalization of Infants and Children Aged 0–4 Years with Laboratory-Confirmed COVID-19 — COVID-NET, 14 States, March 2020–February 2022](#) (March 18, 2022)
- Reuters: [Omicron as severe as other COVID variants -large U.S. study](#) (May 5, 2022)

Center for Infectious Disease Research and Policy: [European studies shed light on long COVID risk and recovery](#) (April 27, 2022)

“A trio of new observational studies from Europe describes long COVID prevalence in Luxembourg, the effect of initial infection severity on risk in Sweden, and an occupational therapy program to ease symptoms in Ireland. The

researchers found that 6 in 10 patients (59.5%) had at least one COVID-19 symptom, and that symptoms that don't resolve by 15 weeks are likely to persist for at least a year. One in seven participants (14.2%) indicated that they couldn't fathom coping with their symptoms long term. The most common symptoms were fatigue, shortness of breath, and irritability." [LINK](#)

Neuroscience News: [Cognitive Impairment From Severe COVID-19 Equivalent to 20 Years of Aging](#) (May 3, 2022)

"Cognitive impairment as a result of severe COVID-19 is similar to that sustained between 50 and 70 years of age and is the equivalent to losing 10 IQ points, say a team of scientists from the University of Cambridge and Imperial College London." [LINK](#)

JAMA: [Association of SARS-CoV-2 Infection During Pregnancy With Maternal and Perinatal Outcomes](#) (May 2, 2022)

"This Canadian surveillance study included 6012 completed pregnancies between March 2020 and October 2021. Among cases of infection during pregnancy compared with cases of infection among the general Canadian population of reproductive-age female individuals, there was a significantly increased risk of SARS-CoV-2-related hospitalization (relative risk, 2.65) and intensive care unit admission (relative risk, 5.46). Among cases of infection during pregnancy compared with pregnant individuals without SARS-CoV-2 infection, there was a significantly increased risk of preterm birth (relative risk, 1.63). SARS-CoV-2 infection during pregnancy was significantly associated with increased risk of adverse maternal outcomes and preterm birth." [LINK](#)

Nature: [Diabetes risk rises after COVID, massive study finds](#) (March 31, 2022)

"Even mild SARS-CoV-2 infections can amplify a person's chance of developing diabetes, especially for those already susceptible to the disease. People who get COVID-19 have a greater risk of developing diabetes up to a year later, even after a mild SARS-CoV-2 infection, compared with those who never had the disease, a massive study of almost 200,000 people shows." [LINK](#)

See also:

- The Lancet: [Risks and burdens of incident diabetes in long COVID: a cohort study](#) (March 21, 2022)

The Journal of Infectious Diseases: [Global Prevalence of Post COVID-19 Condition or Long COVID: A Meta-Analysis and Systematic Review](#) (April 16, 2022)

"This study aims to examine the worldwide prevalence of post COVID-19 condition, through a systematic review and meta-analysis. This study finds post COVID-19 condition prevalence is substantial; the health effects of COVID-19 appear to be prolonged and can exert stress on the healthcare system." [LINK](#)

Fortune: [Surviving the pandemic is only half the battle: 'Long COVID' could affect a billion in just a few years](#) (May 8, 2022)

"[Arijit Chakravarty, a COVID researcher and CEO of Fractal Therapeutics, a drug development firm] team's modeling shows that those who are vaccinated but don't take precautions against the virus can expect to get COVID once or twice a year, going forward. Those who are fully vaccinated reduce their risk of long COVID by about half. Assuming the entire world is vaccinated and doesn't take precautions, and that the risk of getting long COVID each time one gets COVID is 10%, "to be conservative," everyone has a 5% chance of getting long COVID

each year, Chakravarty says. Over three years, then, the chance of coming down with long COVID is 14%. If 14% of the world's population, nearly 8 billion, comes down with long COVID—the math isn't pretty, Chakravarty says."

Nature: [Climate change increases cross-species viral transmission risk](#) (April 28, 2022)

"The authors predict that species will aggregate in new combinations at high elevations, in biodiversity hotspots, and in areas of high human population density in Asia and Africa, driving the novel cross-species transmission of their viruses an estimated 4,000 times. Because of their unique dispersal capacity, bats account for the majority of novel viral sharing, and are likely to share viruses along evolutionary pathways that will facilitate future emergence in humans. Surprisingly, the authors find that this ecological transition may already be underway, and holding warming under 2 °C within the century will not reduce future viral sharing." [LINK](#)

HEALTH EQUITY AND ETHICS

Medicine, Health Care and Philosophy: [Relational autonomy: lessons from COVID-19 and twentieth-century philosophy](#) (June 26, 2021)

"COVID-19 has turned many ethical principles and presuppositions upside down. More precisely, the principle of respect for autonomy has been shown to be ill suited to face the ethical challenges posed by the current health crisis. Individual wishes and choices have been subordinated to public interests. Patients have received trial therapies under extraordinary procedures of informed consent. The principle of respect for autonomy, at least in its mainstream interpretation, has been particularly questioned during this pandemic. Further reflection on the nature and value of autonomy is urgently needed. Relational autonomy has been proposed as an alternative account of autonomy that can more adequately respond to contemporary ethical issues in general and to a pandemic such as the one we are currently facing in particular. As relational autonomy is an emerging notion in current bioethics, it requires further consideration and development to be properly operationalized. This paper aims to show how six different philosophical branches—namely, philosophy of nature, philosophical anthropology, existential phenomenology, discourse ethics, hermeneutics, and cultural anthropology—have incorporated the category of relation throughout the twentieth century. We first delve into primary philosophical sources and then apply their insights to the specific field of medical ethics. Learning from the historical developments of other philosophical fields may provide illumination that will enable bioethics to experience a successful "relational turn", which has been partially initiated in contemporary bioethics but not yet achieved." [LINK](#)

Preventing Chronic Disease: [Engaging With Communities — Lessons \(Re\)Learned From COVID-19](#) (July 16, 2020)

"Coronavirus disease 2019 (COVID-19) has underscored longstanding societal differences in the drivers of health and demonstrated the value of applying a health equity lens to engage at-risk communities, communicate with them effectively, share data, and partner with them for program implementation, dissemination, and evaluation. Examples of engagement — across diverse communities and with community organizations; tribes; state and local health departments; hospitals; and universities — highlight the opportunity to apply lessons from COVID-19 for sustained changes in how public health and its partners work collectively to prevent disease and promote health, especially with our most vulnerable communities." [LINK](#)

Health Education & Behavior: [Moving Health Education and Behavior Upstream: Lessons From COVID-19 for Addressing Structural Drivers of Health Inequities](#) (May 14, 2020)

"In this Perspective, we build on social justice and emancipatory traditions within the field of health education, and the field's long-standing commitment to building knowledge and shared power to promote health equity, to examine lessons and opportunities for health education emerging from the COVID-19 pandemic. Examining patterns that emerged as the pandemic unfolded in Metropolitan Detroit, with disproportionate impacts on African American and low-income communities, we consider conditions that contributed to excess exposure, mortality, and reduced access to critical health protective resources. Using a life course framework, we consider enduring impacts of the pandemic for health equity. Finally, we suggest several strategic actions in three focal areas—environment, occupation, and housing—that can be taken by health educators working in partnership with community members, researchers, and decision makers, using, for example, a community-based participatory research approach, to reduce adverse impacts of COVID-19 and promote long-term equity in health" [LINK](#)

NeoReviews: [Advancing Health Equity by Translating Lessons Learned from NICU Family Visitations During the COVID-19 Pandemic](#) (January 1, 2021)

"As new data on COVID-19 are collected on both the national and international levels, guidance and policy changes have been rapidly developed and evolving. Though this disease appears to be affecting children more mildly than adults, its rapid spread and disruption of the social infrastructure has influenced advocacy and protective efforts for children worldwide. For example, policies on visitation in the NICU have varied widely in the United States and have continued to evolve throughout the pandemic. Although these visitation policies were implemented based on concerns for the safety of patients, families, and health care workers, the implications of these policies and the evidence to support them have been questioned by clinicians and family advocates. Although this advocacy has led to positive change, it brings to light the disparities that may be exacerbated by such efforts. We provide some recommendations on how to navigate these lessons learned with a centering on the social determinants of health and encourage others to critically examine further opportunities for change." [LINK](#)

International Journal of Radiation Oncology, Biology, Physics: [Lessons From COVID-19: Addressing Health Equity in Cancer Care](#) (October 1, 2020)

"The COVID-19 pandemic that continues to ravage communities all over the United States is serving to highlight some of the long-standing inequities that have plagued our nation. At the time this article was written, members of the Black community accounted for 52% of COVID-19 deaths in Milwaukee County. This is a striking disparity in a county where only 27% of the population identifies as Black. Similar disparities are noted throughout the United States as other minority and vulnerable populations fall victim to complications from the virus. The same communities disproportionately affected by COVID-19 also face increased cancer disparities across the cancer care continuum, from prevention through diagnosis and death." [LINK](#)

Narrative Inquiry in Bioethics: [Human Research During the COVID-19 Pandemic: Insights From Behind-the-Scenes](#) (July 28, 2021)

"The researchers' stories collected here demonstrate how many ethical and practical challenges routinely associated with conducting human research were amplified during the COVID-19 pandemic. These challenges include designing studies to minimize risks and maximize potential benefits, working with institutional review boards (IRBs), recruiting and enrolling participants, obtaining valid informed consent, promoting data integrity, managing budget constraints, and finding time to fulfill research obligations along with other duties. By offering insights about not only the barriers and challenges researchers encountered but also the creative solutions they and their colleagues found to conduct research, this behind-the-scenes peek at researchers' experiences helps us to identify barriers and potential lasting improvements for human subjects research even in the best of times."

[LINK](#)

European Journal of Public Health: [Learning from past mistakes? The COVID-19 vaccine and the inverse equity hypothesis](#) (January 27, 2021)

“‘This virus does not discriminate’ was a phrase frequently used by politicians across the world to emphasize that no one is free of risk when it comes to contracting severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Whilst there is no discrimination based on the pathogenicity of the virus, there is social discrimination—based on the inequalities inherent within the society in which we live in. Indeed, people from black, Asian and minority ethnic (BAME) groups, as well as those living in more deprived areas are more likely to be infected by SARS-CoV-2, as well as having poorer outcomes from the disease. In countries including England and Sweden, for example, mortality rates are more than twice as high for people living in the most deprived areas, compared to those living in the most affluent. Similarly, after adjusting for the effect of sex, age, deprivation and region, people of Bangladeshi ethnicity have around twice the risk of death when compared to people of White British ethnicity. These socioeconomic and ethnic inequalities, in both COVID-19 prevalence and mortality, have been reported in different health systems across Europe and America. As Bambra et al. have argued, for the most disadvantaged communities in our society, COVID-19 is experienced as a syndemic—that is, a co-occurring synergistic pandemic, which interacts with, and is exacerbated by, chronic health and unequal social conditions.” [LINK](#)

Journal of the American Geriatrics Society: [Facing the COVID-19 Winter: Ethical Lessons for Treating Older Adults](#) (December 7, 2020)

“Nearly 80% of deaths due to COVID-19 concerned people aged 65 and older with multiple chronic conditions. Of the 0.5% vulnerable younger and older adults living in nursing homes, over 40% are COVID-19 fatalities. Since March, society was asked to avoid contact with older adults and others with weakened immunity because asymptomatic transmission exacerbated community spread. Early in the course of the pandemic, aged-based discussions ensued, such as the position statement of the American Geriatrics Society on age and rationing limited health care as well as the potential for elder abuse. Approaching the winter of 2020, we ask, ‘Is society doing enough to protect older adults or contributing toward collective and systematic elder abuse?’” [LINK](#)

Bioethics: [Dying well in nursing homes during COVID-19 and beyond: The need for a relational and familial ethic](#) (May 5, 2021)

“This paper applies a relational and familial ethic to address concerns relating to nursing home deaths and advance care planning during Covid-19 and beyond. The deaths of our elderly in nursing homes during this pandemic have been made more complicated by the restriction of visitors even at the end of life, a time when families would normally be present. While we must be vigilant about preventing unnecessary deaths caused by coronavirus outbreaks in nursing homes, some deaths of our elders are inevitable. Thus, it is essential that advanced care planning occurs in a way that upholds the familial and relational aspects of elders’ lives that often matter to them the most. We invoke concepts from feminist ethicists like Hilde Lindemann and Eva Kittay and introduce Avery Weisman and Thomas Hackett’s concept of “appropriate death” to suggest better ways of planning for those deaths of our elderly that cannot be avoided. Our hope is to allow for deaths that are as meaningful as possible for both the elderly and the family members who survive them.” [LINK](#)

CADTH: [Impacts of COVID-19 on First Nations, Inuit, and Métis Populations in Canada](#) (January 28, 2022)

“The COVID-19 pandemic has had wide-reaching impacts for all populations. This pandemic has changed many aspects of our lives, how we go to work and school, how we socialize and access health care. The purpose of this report is to provide a summary of resources and literature about the outcomes and impacts of COVID-19 on Indigenous populations in Canada” [LINK](#)

The Milbank Quarterly: [Rapid Transition to Telehealth and the Digital Divide: Implications for Primary Care Access and Equity in a Post-COVID Era](#) (June 1, 2021)

“Telehealth has many potential advantages during an infectious disease outbreak such as the COVID-19 pandemic, and the COVID-19 pandemic has accelerated the shift to telehealth as a prominent care delivery mode. Not all health care providers and patients are equally ready to take part in the telehealth revolution, which raises concerns for health equity during and after the COVID-19 pandemic. Without proactive efforts to address both patient- and provider-related digital barriers associated with socioeconomic status, the wide-scale implementation of telehealth amid COVID-19 may reinforce disparities in health access in already marginalized and underserved communities. To ensure greater telehealth equity, policy changes should address barriers faced overwhelmingly by marginalized patient populations and those who serve them.” [LINK](#)

Journal of Medical Internet Research: [Lessons Learned: Beta-Testing the Digital Health Checklist for Researchers Prompts a Call to Action by Behavioral Scientists](#) (December 22, 2021)

“Digital technologies offer unique opportunities for health research. For example, Twitter posts can support public health surveillance to identify outbreaks (eg, influenza and COVID-19), and a wearable fitness tracker can provide real-time data collection to assess the effectiveness of a behavior change intervention. With these opportunities, it is necessary to consider the potential risks and benefits to research participants when using digital tools or strategies. Researchers need to be involved in the risk assessment process, as many tools in the marketplace (eg, wellness apps, fitness sensors) are underregulated. However, there is little guidance to assist researchers and institutional review boards in their evaluation of digital tools for research purposes. To address this gap, the Digital Health Checklist for Researchers (DHC-R) was developed as a decision support tool. A participatory research approach involving a group of behavioral scientists was used to inform DHC-R development. Scientists beta-tested the checklist by retrospectively evaluating the technologies they had chosen for use in their research. This paper describes the lessons learned because of their involvement in the beta-testing process and concludes with recommendations for how the DHC-R could be useful for a variety of digital health stakeholders. Recommendations focus on future research and policy development to support research ethics, including the development of best practices to advance safe and responsible digital health research.” [LINK](#)

Pharmacological Research: [Sex-tailored pharmacology and COVID-19: Next steps towards appropriateness and health equity](#) (23, September 2021)

“Making gender bias visible allows to fill the gaps in knowledge and understand health records and risks of women and men. The coronavirus disease 2019 (COVID-19) pandemic has shown a clear gender difference in health outcomes. The more severe symptoms and higher mortality in men as compared to women are likely due to sex and age differences in immune responses. Age-associated decline in sex steroid hormone levels may mediate proinflammatory reactions in older adults, thereby increasing their risk of adverse outcomes, whereas sex hormones and/or sex hormone receptor modulators may attenuate the inflammatory response and provide benefit to COVID-19 patients. While multiple pharmacological options including anticoagulants, glucocorticoids, antivirals, anti-inflammatory agents and traditional Chinese medicine preparations have been tested to treat COVID-19 patients with varied levels of evidence in terms of efficacy and safety, information on sex-targeted treatment strategies is currently limited. Women may have more benefit from COVID-19 vaccines than men, despite the occurrence of more frequent adverse effects, and long-term safety data with newly developed vectors are eagerly awaited. The prevalent inclusion of men in randomized clinical trials (RCTs) with subsequent extrapolation of results to women needs to be addressed, as reinforcing sex-neutral claims into COVID-19 research may insidiously lead to increased inequities in health care. The huge worldwide effort with over 3000 ongoing RCTs of pharmacological agents should focus on improving knowledge on sex, gender and age as pillars of individual variation in drug responses and enforce appropriateness.” [LINK](#)

Cell Reports Medicine: [Vaccine equity: Past, present, and future](#) (March 15, 2022)

“The term “vaccine equity” primarily points to the enormous imbalance in global COVID-19 vaccine distribution. Vaccine equity should adopt a normative approach toward “health equity,” and various stakeholders across the vaccine life cycle must practice it. The momentum gathered during this pandemic must be used to correct these structural imbalances.” [LINK](#)

HEALTH SYSTEM ADMINISTRATION

Institute for Healthcare Improvement: [Hospital Flow: Pandemic Lessons Learned](#) (March 22, 2022)

“In the following interview, [James Rudy, Senior Director of Integrated Operations at Northwell Health, New York City] shares his lessons learned — including those that apply to small health systems with fewer resources — and describes why a collaborative approach to learning across Northwell Health has kept teams actively engaged in improving flow even during COVID-19 surges.” [LINK](#)

Science Table COVID-19 Advisory for Ontario: [The COVID-19 Pandemic’s Impact on Long-Term Care Homes: Five Lessons Learned](#) (April 28, 2022)

“We identified five critical lessons learned:

- 1) Enhance the entry and retention of LTC home staff through the creation of more full-time positions, adequate staffing levels, and improvement of working conditions,
- 2) Reduce crowding through the elimination of three and four bed ward rooms and creation of more private rooms with dedicated bathrooms,
- 3) Maintain the ability for essential caregivers to have in-person access to the resident,
- 4) Ensure residents have access to timely and high-quality palliative care that promotes both quality and length of life, and
- 5) Build and maintain infection prevention and control (IPAC) expertise within LTC homes.” [LINK](#)

Public Library of Science One: [Insight into resident burnout, mental wellness, and coping mechanisms early in the COVID-19 pandemic](#) (April 15, 2021)

“Acute augmentation of stress and disruption of training, such as during the COVID-19 pandemic, may impact resident wellbeing. We investigated how residents in various specialties in the United States were impacted by COVID-19 on mental wellbeing and resilience levels, and the methodology for coping with the stress incurred. Findings highlight the critical importance of resident mental status in cases of augmented stress situations. Institutional support may contribute to promotion of resident wellbeing.” [LINK](#)

The Lancet: [COVID-19: the next phase and beyond](#) (May 07, 2022)

Finally, now is the time to plan, learn from mistakes, and create strong resilient health systems, as well as national and international preparedness strategies with lasting funding. Capacities of health systems need to be strengthened, not only to be ready for future pandemics, but immediately to deal with the delays in treatment, diagnosis, and care for other diseases after the disruption of the past 2 years. Catch-up vaccine campaigns for diseases such as measles are urgently needed. Preparedness plans, both nationally and internationally, must have a strong emphasis on early data sharing and transparent surveillance.” [LINK](#)

Health Expectations: [The impact of COVID-19 on patient engagement in the health system: Results from a Pan-Canadian survey of patient, family and caregiver partners](#) (January 13, 2022)

"This study provides a snapshot of Canadian patient, family and caregiver partners' perspectives on the impact of COVID-19 on their engagement activities. Understanding how engagement unfolded during a crisis is critical for our future planning if patient engagement is to be fully integrated into the health system. Identifying how patient partners were engaged and not engaged during this time period, as well as the benefits and challenges of virtual engagement opportunities, offers instructive lessons for sustaining patient engagement, including the supports needed to engage with a more diverse set of patient, family and caregiver partners." [LINK](#)

Medical Journal of Australia: [Living with COVID-19 in 2022: the impact of the pandemic on Australian general practice](#) (May 02, 2022)

"With very little resourcing to support the Herculean task of staff restructure, a adaptation to rapidly changing practice protocols, practice-wide vaccination training, complex administrative and information technology redesign, and rapidly escalating service demand, general practices nationally have faced huge COVID-19-related challenges." [LINK](#)

The New England Journal of Medicine: [Audio Interview: Communicating Covid-19 Science](#) (April 28, 2022)

"The continuing spread of SARS-CoV-2 remains a Public Health Emergency of International Concern. What physicians need to know about transmission, diagnosis, and treatment of Covid-19 is the subject of ongoing updates from infectious disease experts at the Journal. In this audio interview conducted on April 26, 2022, the editors are joined by infectious disease specialist Jeanne Marrazzo to discuss how to effectively communicate Covid-19 science, as well as how to use existing therapies judiciously." [LINK](#)

Family Medicine and Community Health: [COVID-19 and beyond: how lessons and evidence from implementation research can benefit health systems' response and preparedness for COVID-19 and future epidemics](#) (September 17, 2021)

"Building health systems and communities that are resilient to major disruptions, such as the COVID-19 pandemic, requires more than responding by shifting investment into medical countermeasures. IMCHA's successes in strengthening health systems, community mobilisation, leadership and intersectoral collaboration to reach vulnerable groups demonstrate that implementation research has a key role to play in informing effective solutions to sustaining essential services, supplies and medicines; supporting communities with information and services; and strengthening leadership to better prepare for and respond to emergencies." [LINK](#)

PLOS ONE: [The impact of the government response on pandemic control in the long run — A dynamic empirical analysis based on COVID-19](#) (May 04, 2022)

"We have the following findings: 1. Government responses have a significant impact on the scale of COVID-19 transmission. 2. The rate of increase of government responses on the growth rate of COVID-19 case fatality rate has the characteristics of cyclicity and repeatability, that is, with the increase in the growth rate of government responses, the COVID-19 case fatality rate shows the following cyclical motion law: increasing first, reaching the maximum point, and then declining, and finally reaching the minimum point and then rising; ultimately, its convergence becomes 0. The cyclical fluctuations of COVID-19 in the long term may be caused by the decline in the level of government response, the mutation of the virus, and the violation of restrictive policies by some citizens. 3. The government response has a lag in controlling the spread of COVID-19." [LINK](#)

Frontiers in Psychology: [Optimizing Decision-Making Processes in Times of COVID-19: Using Reflexivity to Counteract Information-Processing Failures](#) (June 21, 2021)

“The current pandemic has certainly been unprecedented and disruptive on all fronts. Yet, the future is likely to harbor many more unpredictable, unprecedented, highly disruptive, global events which will require quick action based on a sound decision-making process. To increase the chances of handling such future crises successfully, it is critical that policymaking groups lay the foundations for sound decision-making processes in the future by building internal capabilities in sensing, shaping, and flexibly adapting to circumstances as they happen.” [LINK](#)

Cambridge University Press Public Health Emergency Collection: [The need for a disaster readiness mindset: A key lesson from the coronavirus disease 2019 \(COVID-19\) pandemic](#) (January 25, 2021)

“Ultimately, the disaster readiness mindset entails the following: (1) the foresight to develop a comprehensive disaster readiness plan that can help individuals and governments better cope with disasters cost-effectively; (2) the ability to locate and secure critical resources before a disaster that are needed for the society to survive and possibly thrive despite the adverse effects of the potentially catastrophic events; and (3) the agility, mobility, and flexibility required to execute the plan and deliver optimal results in an evolving situation.” [LINK](#)

Nature: [Difficult trade-offs in response to COVID-19: the case for open and inclusive decision-making](#) (December 18, 2020)

“Evidence from before COVID-19 shows that deliberative decision making that is inclusive, transparent and accountable can contribute to more trustworthy and legitimate decisions on difficult ethical questions and political trade-offs. To institute and broaden deliberative processes should therefore be a priority in the context of pandemic response and in anticipation of future health crises. In the short term, it can build legitimacy and support for hard decisions that need to be made in response to the pandemic and prevent further erosion of trust. In the longer term, it can contribute towards virtuous cycles of trust-building and more effective policies.” [LINK](#)

See also:

- World Health Organization: [Difficult trade-offs in response to COVID-19: the case for open and inclusive decision-making](#) (2020)

INFECTION PREVENTION AND CONTROL

Nature Computational Science: [Smart lockdowns to control COVID-19](#) (April 28, 2022)

“The proposed model is an important step for integrating epidemiology and economic modeling and there is room for extending it. The available hospital capacity is important for determining the extent of lockdowns. One could, in principle, determine the shadow value of an additional hospital bed, which is the increase in the value of maximized objective — in this case GDP — of marginally relaxing the constraint of number of beds. The shadow price of relaxing other constraints can also be estimated, which would be valuable to plan for future outbreaks of COVID-19 or other pandemics.” [LINK](#)

See also:

- Nature Computational Science: [Optimizing social and economic activity while containing SARS-CoV-2 transmission using DAEDALUS](#) (April 28, 2022)

The British Medical Journal: [The benefits of large scale covid-19 vaccination](#) (April 27, 2022)

“Clearly, counties with higher vaccination coverage had fewer covid-19 cases and deaths per head of population, and the measured effectiveness in counties with high vaccine coverage was reassuringly large. More than this, vaccination had a disproportionately large effect in counties with low and medium coverage. For instance, an incremental increase in coverage of only 20% (from very low to low) and 50% (from very low to medium) led to reductions in mortality of 60% and 75%, respectively.” [LINK](#)

See also:

- The British Medical Journal: [Public health impact of covid-19 vaccines in the US: observational study](#) (April 27, 2022)

Emerging microbes & infections: [Lessons learned 1 year after SARS-CoV-2 emergence leading to COVID-19 pandemic](#) (March 22, 2021)

“The possibility of emergence of a hypothetical SARS-CoV-3 or other novel viruses from animals or laboratories, and therefore needs for global preparedness should not be ignored. We reviewed representative publications on the epidemiology, virology, clinical manifestations, pathology, laboratory diagnostics, treatment, vaccination, and infection control of COVID-19 as of 20 January 2021, which is 1 year after person-to-person transmission of SARS-CoV-2 was announced. The difficulties of mass testing, labour-intensive contact tracing, importance of compliance to universal masking, low efficacy of antiviral treatment for severe disease, possibilities of vaccine or antiviral-resistant virus variants and SARS-CoV-2 becoming another common cold coronavirus are discussed.” [LINK](#)

Journal of Management Inquiry: [Exploring the Process of Policy Overreaction: The COVID-19 Lockdown Decisions](#) (March 7, 2022)

“Drawing on the response patterns of three countries to the COVID-19 pandemic, we develop a process model of policy overreaction which describes the effects of negative emotions and institutional isomorphism on policy decision-making. Our model highlights four critical stages: negative emotions buildup, propagation of fear, isomorphic decision-making, and leading to an intractable crisis. This article shows precisely how the cascading effect of negative emotions, particularly fear, is contagious and spreads to generate crowd effects, which bend considerably policy makers’ ability to make rational decisions. Our theory provides a better understanding of the process by which policy overreaction takes place.” [LINK](#)

The British Medical Journal: [Effectiveness of public health measures in reducing the incidence of covid-19, SARS-CoV-2 transmission, and covid-19 mortality: systematic review and meta-analysis](#) (November 18, 2021)

“Current evidence from quantitative analyses indicates a benefit associated with handwashing, mask wearing, and physical distancing in reducing the incidence of covid-19. The narrative results of this review indicate an effectiveness of both individual or packages of public health measures on the transmission of SARS-CoV-2 and incidence of covid-19... Further research is needed to assess the effectiveness of public health measures after adequate vaccination coverage has been achieved. It is likely that further control of the covid-19 pandemic depends not only on high vaccination coverage and its effectiveness but also on ongoing adherence to effective and sustainable public health measures.” [LINK](#)

TREATMENT

Signal Transduction and Targeted Therapy: [Surrogate cytokine agonists: promising agents against COVID-19](#) (May 6, 2022)

"Altogether, Yen and colleagues proposed a "cytokine med-chem" approach rooted in principles of induced proximity, utilizing the structurally agonistic and modular platform, to develop cytokine surrogate agonists which may serve as novel starting points for investigating therapies of COVID-19 and many other diseases. In addition, the surrogate cytokine agonist platform allows tuning of cytokine signaling pathways and a tailored cellular response beyond simply recapitulating natural cytokine receptors thus will potentiate the full exploration for drug discovery." [LINK](#)

See also:

- Cell: [Facile discovery of surrogate cytokine agonists](#) (April 14, 2022)

JAMA: [COVID-19 Vaccination — Becoming Part of the New Normal](#) (May 2, 2022)

"As plans are being developed for the coming fall and winter, it is critical that patients and caregivers understand the profound benefit of a booster dose of the mRNA vaccines or a second vaccine dose of any kind after the Janssen/Johnson & Johnson vaccine and that this understanding leads to action now in the face of a current uptick in infection rates. Clinicians should not be susceptible to inertia and should continue to recommend that patients get their COVID-19 vaccination status up to date, meaning primary vaccination and relevant booster(s). There is no evidence that getting vaccinated now will have adverse effects or toxicity that would preempt the administration of an additional vaccine dose in the fall months if there is evidence of waning of immunity, a new variant, or an adverse seasonal pattern." [LINK](#)

CDC Morbidity and Mortality Weekly Report (MMWR): [Effectiveness of a COVID-19 Additional Primary or Booster Vaccine Dose in Preventing SARS-CoV-2 Infection Among Nursing Home Residents During Widespread Circulation of the Omicron Variant — United States, February 14–March 27, 2022](#) (May 6, 2022)

"Analysis of COVID-19 surveillance and vaccination data from approximately 15,000 skilled nursing facilities found that, compared with primary series vaccination only, an additional or booster dose provided greater protection (relative VE = 46.9%) against SARS-CoV-2 infection during Omicron variant predominance. All immunocompromised nursing home residents should receive an additional primary dose, and all nursing home residents should receive a booster dose, when eligible, to protect against COVID-19." [LINK](#)

Eurosurveillance: [COVID-19 vaccine effectiveness against severe disease from SARS-CoV-2 Omicron BA.1 and BA.2 subvariants – surveillance results from southern Sweden, December 2021 to March 2022](#) (May 5, 2022)

"The authors compared vaccine effectiveness against severe COVID-19 between December 2021 and March 2022 when Omicron BA.1 and BA.2 were the dominating SARS-CoV-2 variants in Scania county, Sweden. Effectiveness remained above 80% after the transition from BA.1 to BA.2 among people with at least three vaccine doses but the point estimate decreased markedly to 54% among those with only two doses. Protection from prior infection was also lower after the transition to BA.2. Booster vaccination seems necessary to maintain sufficient protection." [LINK](#)

StatNews: [Paxlovid's failure as a preventative measure raises questions, but doctors still back it as a therapeutic](#) (May 2, 2022)

"Pfizer released news late Friday that Paxlovid, the antiviral currently subject to a big push from the U.S. government, failed to prevent people living with Covid patients from catching the infection. The news is one of several bad headlines for the new Covid pill, but one experts say doesn't affect the medicine's primary use: treating people who are already sick." [LINK](#)

Scientific American: [Nose Spray Vaccines Could Quash COVID Virus Variants](#) (May 3, 2022)

"To block infections entirely, scientists want to deliver inoculations to the site where the virus first makes contact: the nose. People could simply spray the vaccines up their nostrils at home, making the preparation much easier to administer. There are [eight of these nasal vaccines in clinical development now](#) and three in phase 3 clinical trials, where they are being tested in large groups of people. But making these vaccines has proven to be slow going because of the challenges of creating formulations for this unfamiliar route that are both safe and effective." [LINK](#)

StatNews: [Why Nasal Sprays Are Poised to Be the Next Weapon for Fighting Covid](#) (April 25, 2022)

"A nasal spray might more accurately mimic the natural protection a person gains from a recent infection. That's because once the immune system encounters the virus (in this instance, from the nasal vaccine), it stations Covid-ready B and T cells in the nose and throat. What's more, it fosters the development of antibodies called IgA, which take up residence in the mucus lining and can stop the virus from ever reaching the cells lining your airways. You can't get that from a shot, only from a vaccine that enters the body as a virus would. Moore remains convinced there's ample reason to build immunity against Covid in the nose and throat. "You're going to need this, you're going to want this, because it's the endgame," Moore says. Sure, boosters of the current vaccines can reduce infections, but only temporarily, like tapping snooze on an alarm clock. "Then it just repeats," he says. "If you want to stop hitting the snooze button, we need to actually block transmission." [LINK](#)

StatNews: [Experts fear U.S. may default to annual Covid boosters without sufficient data](#) (April 26, 2022)

"A number of vaccine experts are concerned the United States may be sleepwalking into a policy of recommending annual Covid-19 vaccine boosters — without having generated the evidence to show they are actually needed. Already, the Food and Drug Administration has authorized second boosters — or fourth doses — for people aged 50 and older, even though neither that agency nor the Centers for Disease Control and Prevention has explicitly urged people to get them. Based on recent meetings of panels that advise the FDA and the CDC, many vaccine experts assume another booster will be recommended in the fall in anticipation of a possible surge in Covid activity during the cold and flu season next winter." [LINK](#)

MENTAL HEALTH & WELLNESS

Child and Adolescent Mental Health: [Editorial Perspective: Rethinking child and adolescent mental health care after COVID-19](#) (December 24, 2020)

"While COVID-19 pandemic has allegedly passed its first peak in most western countries, health systems are progressively adapting to the 'new normality'. In child and adolescent mental health services (CAMHS), such organizational envisioning is needed to cope with the foreseeable psychological effects of prolonged social isolation induced by nation-wide public health measures such as school closure. CAMHS need to ensure flexible responses to the psychopathological consequences of evolving societal dynamics, as dramatically actualized by the

unexpected COVID-19 pandemic. This would imply (a) shifting the focus of intervention from symptom reduction and containment of acute crises in a comparatively small number of severe cases to a broader preventive strategy, guided by a gradient of increasing intensity and specificity of treatment; (b) promoting smooth access pathways into services and encouraging participation of families; (c) adopting a transdiagnostic staging model to capture the developmental fluctuations from subsyndromal to syndromal states and back, with related changes in the intensity of the need of care; and (d) implementing digital tools to encourage help-seeking and compliance by digitally native youth.” [LINK](#)

International Journal for Environmental Research and Public Health: [The Impact of COVID-19 on Young People’s Mental Health in the UK: Key Insights from Social Media Using Online Ethnography](#) (December 30, 2021)

“There is increasing evidence of the psychological impact of COVID-19 on various population groups, with concern particularly focused on young people’s mental health. However, few papers have engaged with the views of young people themselves. We present findings from a study into young people’s discussions on social media about the impact of COVID-19 on their mental health. Real-time, multi-platform online ethnography was used to collect social media posts by young people in the United Kingdom (UK), March 2020–March 2021, 1033 original posts and 13,860 associated comments were analysed thematically. Mental health difficulties that were described as arising from, or exacerbated by, school closures, lost opportunities or fraught family environments included depression, anxiety and suicidality. Yet, some also described improvements to their mental health, away from prior stressors, such as school. Young people also recounted anxiety at the ramifications of the virus on others. The complexities of the psychological impact of COVID-19 on young people, and how this impact is situated in their pre-existing social worlds, need recognising. Forging appropriate support necessitates looking beyond an individualised conceptualisation of young people’s mental health that sets this apart from broader societal concerns. Instead, both research and practice need to take a systemic approach, recognising young people’s societal belonging and social contexts” [LINK](#)

Economics & Human Biology: [Insights on the implications of COVID-19 mitigation measures for mental health](#) (December 9, 2020)

“Given the unprecedented level and duration of mitigation policies during the 2020 COVID-19 pandemic, it is not surprising that the public and the media have raised important questions about the potential for negative mental health consequences of the measures. To answer them, natural variability in policy implementation across US states and over time was analyzed to determine if mitigation policies correlated with Google searches for terms associated with symptoms of depression and anxiety. Findings indicated that restaurant/bar limits and stay-at-home orders correlated with immediate increases in searches for isolation and worry but the effects tapered off two to four weeks after their respective peaks. Moreover, the policies correlated with a reduction in searches for antidepressants and suicide, thus revealing no evidence of increases in severe symptomatology. The policy implications of these findings are discussed.” [LINK](#)

International Journal for Environmental Research and Public Health: [New Insights on the Mediating Role of Emotional Intelligence and Social Support on University Students’ Mental Health during COVID-19 Pandemic: Gender Matters](#) (December 8, 2021)

“Due to the demanding changes caused in the population by the COVID-19 pandemic, including a persisting experience of fear and social isolation, multiple studies have focused on the protective role of several psychological characteristics on mental health. Emotional intelligence and social support are commonly linked to mental health and well-being. The present study aims to analyze the mediator role of emotional intelligence and social support on university students’ mental health, taking into consideration the role of gender differences. An online questionnaire was administered to a sample of 923 university students during the COVID-19 lockdown in

Portugal. Significant gender differences were found on mental health symptoms, emotional intelligence, and social support. A double mediation model was computed to verify if gender influences on mental health were mediated by emotional intelligence and social support. The results show indirect effects of gender on mental health. However, as both mediators mediate in the opposite direction, the total indirect effects become null. Thus, a strong direct effect of gender on mental health remains. The results of the present study have theoretical implications on protective factors of mental health by gender and practical implications for psychological intervention in university counselling services” [LINK](#)

Public Library of Science One: [Surviving SARS and living through COVID-19: Healthcare worker mental health outcomes and insights for coping](#) (November 10, 2021)

“We conducted this study in the GTA to explore the psychological effects of the COVID-19 pandemic on clinical and non-clinical HCWs, to identify factors that may put HCWs at higher risk of poor mental health outcomes and to assess the impact of work during a previous novel pathogen outbreak, namely the 2003 SARS outbreak in Toronto, on mental health outcomes. As the COVID-19 pandemic continues into its next waves, the results of this study are crucial to assist in the development of strategies to address the mental health needs of HCWs to support their wellbeing, promote their retention and to preserve a high-functioning workforce during this pandemic, and those that will arise in the future. Psychological distress was observed in both clinical and non-clinical HCWs, with no impact from previous SARS work experience. As the pandemic continues, increasing psychological and team support may decrease the mental health impacts.” [LINK](#)

The Journal of Child Psychology and Psychiatry: [Debate: Lessons learned in lockdown – a one-day remotely delivered training on low-intensity psychological interventions for common mental health conditions](#) (July 16, 2020)

“The coronavirus pandemic has highlighted the need for remote technologies to be used in child and adolescent mental health services. With the UK being placed in lockdown one week before a scheduled ‘face-to-face’ low-intensity CBT training day due to COVID-19, there was a need for rapid adaptations to be made to the content, structure and format of a training day for practitioners in mental health services, to suit the online environment. The content covered the core areas of low-intensity CBT in children and adolescents. Findings showed that the one-day low-intensity training day increased knowledge and understanding in all key areas measured, and was positively received, providing further evidence for the effectiveness and acceptability of remote delivery. Given discussed benefits of remote delivery, as well as rapid developments in technologies helping to address some of the challenges raised, going forward, remote delivery could continue to be beneficial for increasing access to much needed evidence-based interventions.” [LINK](#)

Journal of Alzheimer’s Disease: [Mental Health of People with Dementia During COVID-19 Pandemic: What Have We Learned from the First Wave?](#) (August 17, 2021)

“People with dementia (PWD) and their caregivers are populations highly vulnerable to COVID-19 pandemic and its consequences. A better knowledge of the living conditions during the first lockdown is necessary to prevent the risk of poor mental health (PMH) in this population. The present study aimed to compare the mental health of caregivers of PWD living at home or in nursing-homes and to identify specific factors influencing their mental health. PMH was observed for caregivers of PWD during lockdown, whatever PWD living place, suggesting that concern for PWD may explain more of caregiver distress than increased material tasks. In the future, it will be necessary to pay attention to caregivers after the crisis by estimating the longer-term impact on their mental health.” [LINK](#)

Psychiatric Clinics of North America: [Preparing for the Next Pandemic to Protect Public Mental Health: What Have We Learned from COVID-19?](#) (February 24, 2022)

“This article examines current findings from the pandemic and identifies gaps in the understanding of public mental health impact and mitigation strategies. Preparing for future pandemics requires examination of lessons learned and implementing relevant system changes, which require sustained commitment and collaboration from public and private sector entities.” [LINK](#)

Conference Board of Canada: [Wellbeing by Design: Lessons From the Pandemic on Canadian Communities and the Built Environment](#) (February 8, 2022)

“The relationship between our built environment and wellbeing has been studied in the past, but the COVID-19 pandemic has provided a wealth of new data and insights that can inform how changes to design may improve community wellbeing and resilience. Through interviews with health and design professionals, the researchers compiled a series of lessons learned from three periods of the pandemic: the immediate response period, the pre-vaccine period, and a post-vaccine period. One of the clearest findings was that marginalized and vulnerable communities and individuals were disproportionately impacted by the pandemic, and that more attention must be paid to addressing the root causes of existing social inequities and community vulnerabilities and taking action to ameliorate them, in order to increase their resilience. The current crisis provides a window of opportunity to plan and implement such positive changes, but we must act while the pandemic is fresh in our minds.” [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, 2022.

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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