

# COVID-19 PANDEMIC

## RAEB'S Evidence Update

Highlights of health research synthesized by the Research, Analysis and Evaluation Branch

January 25, 2021

### Featured

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### Research Evidence and Jurisdictional Experience

The research evidence profiled below was selected from highly esteemed academic journals and grey literature sources, based on date of publication and potential applicability or interest to the Ontario health sector.

#### Understanding the Disease

***The Journal of the American Medical Association (JAMA): Reports of forgone medical care among US adults during the initial phase of the COVID-19 pandemic***

**January 21, 2021.** In this study of 1,337 participants, 41% of respondents reported forgoing medical care from March through mid-July 2020. Among adults who reported needing care during this period, more than half reported forgoing care for any reason, more than one-quarter reported forgoing care owing to fear of SARS-CoV-2 transmission, and 7% reported forgoing care owing to financial concerns. [Article](#).

#### Transmission

***The Lancet: Household transmission of SARS-CoV-2 and risk factors of susceptibility and infectivity***

**January 18, 2021.** Using data collected from the Wuhan Center for Disease Control and Prevention, this study assessed how intervention policies in Wuhan, China affected the household reproductive number (i.e., mean number of household contacts that a case can infect) between December 2, 2019 and April 18, 2020. Based on data collected from 27,101 households with 29,578 primary COVID-19 cases and 57,581 household contacts, children and

adolescents were less susceptible to SARS-CoV-2 infection but were more infectious than older individuals. Compared with symptomatic cases, presymptomatic cases were more infectious and individuals with asymptomatic infection were less infectious. These findings have implications for devising interventions for blocking household transmission of SARS-CoV-2, such as timely vaccination of eligible children once resources become available. [Article](#).

## Disease Management

### ***European Journal of Allergy and Clinical Immunology: European Academy of Allergy and Clinical Immunology (EAACI) position statement on the diagnosis, management, and prevention of severe allergic reactions to COVID-19 vaccines***

**January 13, 2021.** This statement clarifies that there is no contraindication to administer Pfizer/BioNTech BNT162B2, Moderna mRNA-1273, and AstraZeneca ChAdOx1-S vaccines to allergic patients who do not have a history of an allergic reaction to any of the vaccine components. As is the case for any medication, anaphylaxis may occur after vaccination in the absence of a history of allergic disease; thus, the EAACI provides a simplified algorithm of prevention, diagnosis, and treatment of severe allergic reactions and a list of recommended medications and equipment for vaccine centres. The EAACI also describes potentially allergenic/immunogenic components of the approved vaccines and proposes a workup to identify the responsible allergen. Lastly, the EAACI proposes an international roadmap towards precision diagnosis and management to minimize the risk of allergic reactions to COVID-19 vaccines and to facilitate their broader and safer use. [Article](#).

### ***New England Journal of Medicine (NEJM): Convalescent plasma antibody levels and the risk of death from COVID-19***

**January 13, 2021.** Drawing on data from 3,082 patients in a US national registry, this study determined the anti-SARS-CoV-2 IgG antibody levels in convalescent plasma used to treat hospitalized adults with COVID-19. Death within 30 days after plasma transfusion occurred in 115 of 515 patients (22.3%) in the high-titer group, 549 of 2,006 patients (27.4%) in the medium-titer group, and 166 of 561 patients (29.6%) in the low-titer group. A lower risk of death within 30 days in the high-titer group than in the low-titer group was observed among patients who had not received mechanical ventilation before transfusion, and no effect on the risk of death was observed among patients who had received mechanical ventilation. Among patients hospitalized with COVID-19 who were not receiving mechanical ventilation, transfusion of plasma with higher anti-SARS-CoV-2 IgG antibody levels was associated with a lower risk of death than transfusion of plasma with lower antibody levels. [Article](#).

**Vaccine: Predictors of intention to vaccinate against COVID-19 – Results of a nationwide survey in the US**

**January 9, 2021.** This study conducted a nationwide online survey of 804 English-speaking adults (compensated participants were recruited through an internet survey panel of 2.5 million residents developed by a commercial survey firm). COVID-19 vaccination intentions were weak, with 14.8% of respondents being unlikely to get vaccinated and another 23.0% unsure. Intent to vaccinate was highest for men, older people, individuals who identified as white and non-Hispanic, the affluent and college-educated, Democrats, those who were married or partnered, people with pre-existing medical conditions, and those vaccinated against influenza during the 2019-20 flu season. [Article](#).

**Public Health Measures*****Medical Virology: The effectiveness of active surveillance measures for COVID-19 cases***

**January 19, 2021.** This study assessed the impact of three intervention and control methods used between January 21 and February 16, 2020 to mitigate the COVID-19 outbreak in Pudong New Area, Shanghai. The methods resulted in a total of 108 confirmed COVID-19 cases being identified: 41.67% through active surveillance measures; 20.37% through close-contact (CC) tracing; and 21.30% through the quarantine of potential exposure populations (PEPs). Cases identified through CC tracing and PEPs demonstrated shortened time intervals (two and three days shorter, respectively) from illness onset to both the first medical visit and isolation than self-admission cases, thereby, contributing to the effective control of COVID-19 outbreak in the area. [Article](#).

***Australian and New Zealand Journal of Public Health: Communications in the time of a pandemic: The readability of documents for public consumption***

**January 18, 2021.** This research investigated if written communications of the most commonly sought sources of COVID-19 information available on the internet (i.e., WHO, and the governments of Australia, the UK, and the US) have readability levels commensurate with those of the general public. Similar to the previous research, most documents assessed had a readability standard that was at or above the recommended grade level, and as such inaccessible to substantial portions of the general public. Government departments need to consider their audience and monitor readability of the documents they produce to ensure that readers can understand them. [Article](#).

***Nature: Increase in suicide following an initial decline during the COVID-19 pandemic in Japan***

**January 15, 2021.** This study used month-level records of suicides covering the entire Japanese population to assess whether suicide mortality changed during the pandemic. The study found

that monthly suicide rates declined by 14% (between February and June 2020), potentially due to the government's generous subsidies, reduced working hours, and school closure. Suicide rates increased by 16% during the second wave (July to October 2020), with a larger increase among females (37%) and children and adolescents (49%). These findings have implications for the importance of effective suicide prevention as a public health consideration, as the modifiers (government subsidies) may not be sustained. [Article](#).

## Health Equity and Vulnerable Populations

### ***JAMA: Racial/ethnic disparities in opioid overdoses during the COVID-19 pandemic in Philadelphia***

**January 21, 2021.** This study suggested that COVID-19 was associated with increases in opioid overdose among non-Hispanic Black individuals but decreases among non-Hispanic White individuals. COVID-19 has exacerbated pre-existing stressors, social isolation, and economic deprivation disproportionately in Black communities, possibly contributing to increased substance use. The pre-existing racial disparities in accessing substance use treatment may also be heightened by COVID-19-related shifts in treatment availability. [Article](#).

### ***JAMA: Association of social and economic inequality with COVID-19 incidence and mortality across US counties***

**January 21, 2020.** This study suggests that COVID-19 surveillance systems should account for county-level income inequality to better understand the social patterning of COVID-19 incidence and mortality. High levels of income inequality may harm population health irrespective of racial/ethnic composition. [Article](#).

### ***Postgraduate Medicine: Psychosocial impact of the COVID-19 pandemic on Canadian men***

**January 18, 2021.** This study investigated the factors associated with various mental health indicators (e.g., anxiety, depression, fear of COVID-19) regarding the COVID-19 pandemic among 434 men. Respondents indicated: their mental health was negatively affected by COVID-19 (79.3%); government-imposed physical distancing measures had negatively affected their mental health (65.5%); moderate financial stress due to COVID-19 (51.2%); a negative impact on intimate partner relationships (37.7%); engaging in abuse (30.9%), primarily verbal abuse (22.5%); being abused by their partner (27.3%), primarily verbal abuse (22.5%); and experiences of suicidal ideation (42.2%). Study findings can help inform health providers' treatment of Canadian men, as well as shape policies that will be implemented during subsequent waves of COVID-19 or during future infectious outbreaks. [Article](#).

**JAMA: Clinical characteristics and outcomes of hospitalized women giving birth with and without COVID-19**

**January 15, 2021.** This study compared the clinical characteristics and outcomes of hospitalized women who gave birth with and without COVID-19. Using the Premier Healthcare Database, researchers identified women who gave birth and were discharged between April 1 and November 23, 2020 (N=406,446). Of the women studied, 6,380 (1.6%) had COVID-19. Although the absolute risk differences were small, in-hospital death, venous thromboembolism, and preeclampsia were considerably higher among women who gave birth with COVID-19 than in those without. These findings indicate a need for strategies to minimize risk and to include this population in clinical trials of treatments and vaccines. [Article](#).

**Anthropology in Action: Birth doulas respond during COVID-19**

**January 2021.** Based on survey data collected from over 500 birth doulas in March 2020 and follow-up interviews with select doulas in June 2020, this US study reported that doulas express a range of opinions about the pandemic and the new restrictions surrounding birth practices, which have transformed and interrupted the non-medical intimate support doulas provide. Participants described how the pandemic and new hospital policies reshaped: 1) the intimate experience of birth; 2) the virtual delivery of intimate embodied practices (e.g., ‘breath work’); and 3) clients’ preferences for at-home births over hospital births. The study’s results provide a resource for rethinking how maternal care can look both in and after the pandemic. [Article](#).

**Journal of Adolescent Health: Socio-emotional impact of COVID-19 on adolescents’ mental health**

**January 2021.** This US study that documented adolescents’ (N=407) subjective experiences of the COVID-19 pandemic suggested that participants perceived various changes in their relationships with family and friends (e.g., less perceived friend support). Their perceived social and emotional changes (i.e., increases in negative affect, decreases in positive affect) were associated with elevated depressive symptoms, anxiety symptoms, and loneliness. These findings may help sensitize clinicians and scholars to the vulnerabilities (changes in friendship dynamics), as well as resiliencies (supportive family contexts), presented to adolescents during the early months of COVID-19. [Article](#).

## Trusted Resources

The Evidence Synthesis Network (ESN) is a collaborative COVID-19 response initiative by Ontario’s research and knowledge production community. The [ESN website](#) is a portal where research evidence requests can be made and includes previously completed ESN briefing notes.

An up-to-date and comprehensive list of sources, organized by type of research evidence, is available on McMaster Health Forum’s COVID-19 Evidence Network to support Decision-making (COVID-END) [website](#).

The [Ontario COVID-19 Science Advisory Table](#) is a group of scientific experts and health system leaders who evaluate and report on emerging evidence relevant to the COVID-19 pandemic, to inform Ontario’s response to the pandemic.

## About RAEB

Through research funding, brokering, translating, and sharing, we promote an enhanced evidence use capacity that supports all aspects of health policy, programming, and investment decision-making. Services include:

- Literature reviews
- Jurisdictional scans
- Economic analysis
- Evaluation planning
- Research fund management
- Knowledge translation services

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