



**COVID-19 IMMUNITY
TASK FORCE**

Spotlight on **CITF-FUNDED RESEARCH**



CITF-Funded Research Results

Seroprevalence due to infection stable around 80% in Canadian blood donors in October

The latest CITF-funded report from Canadian Blood Services suggests that seroprevalence due to infection among Canadian blood donors is now stable at approximately 80%. The report, which profiles the results of samples from adult blood donors, found that 81.6% had anti-nucleocapsid antibodies (due to infection) in October 2023, up very slightly from 80.1% in September 2023, but this difference is not statistically significant. The percentage of young donors ages 17-24 who had infection-acquired antibodies was 91.8% by October 31st, 2023, slightly higher than the 90.25% observed in September 2023. Self-declared Indigenous and racialized donors continued to have higher seroprevalence due to infection than self-declared white donors.

[Read more](#)

Infection-acquired seroprevalence increased between March 2022 and January 2023 in the Northwest Territories

A CITF-funded study, conducted among residents in the Northwest Territories (NWT), found that seroprevalence due to vaccination or infection was greater than 95% in all age groups throughout 2022. Seroprevalence due to infection rose substantially between March 2022 and January 2023. These are unpublished results.

[Read more](#)

Enhanced immune responses were observed with longer intervals between COVID-19 vaccine doses

A CITF-funded study, published in *Cureus*, examined the impact of different dosing intervals between the first two COVID-19 mRNA vaccines. Intervals longer than 38 days, compared to a short interval of less than 30 days, resulted in higher levels of SARS-CoV-2 anti-spike antibodies. The longest interval (74 days and greater) was associated with the highest SARS-CoV-2 spike IgG antibodies. Both the long interval (39-73 days) and the longest interval (74 days and more) were associated with higher receptor-binding domain (RBD) IgG antibody concentrations.

[Read more](#)

A comprehensive review of infection control guidelines relating to COVID-19 for dentists and dental hygienists

A CITF-funded study, published in *JADA*, summarized the strategies for reopening oral healthcare practices as infection prevention and control guidelines (IPCG) evolved during the pandemic. The researchers found that updates in the guidelines between March 2020 and January 2022 differed across all provinces and territories in Canada, as well as between dentists and dental hygienists in the same jurisdictions, particularly in regard to face-covering recommendations.

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People experiencing homelessness were at high risk for SARS-CoV-2 infection

A CITF-funded study, published in *JAMA Network Open*, found that people experiencing homelessness had high rates of SARS-CoV-2 infection throughout 2021 and 2022, particularly after the Omicron variant became dominant. Additional factors that were significantly associated with increased incidence of infection included alcohol consumption and recent immigration to Canada.

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Complete COVID-19 vaccination series was associated with a reduced case fatality rate for patients with advanced CKD

A CTIF-funded study, published in the *Clinical Journal of the American Society of Nephrology*, showed that people with advanced Chronic Kidney Disease (CKD) who were double-vaccinated (at a time when only two doses were available) had markedly decreased fatality rates compared to CKD patients who had only one dose or no doses. The researchers note that this population had fatality rates as high as those for people on dialysis and they advocate for prioritizing the vaccination of patients with advanced CKD in global efforts against COVID-19.

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The frequency of routine childhood vaccinations was lower during the first wave of the COVID-19 pandemic in Toronto

A CITF-funded study, published in the *Canadian Journal of Public Health*, found that the frequency of on-time routine childhood vaccinations decreased during the first wave of the COVID-19 pandemic in Toronto. The researchers expressed concern that the observed delays and reductions in vaccination uptake may increase the risk of outbreaks of vaccine-preventable diseases.

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The supervised RF-PHATE data visualization method demonstrates clearer qualitative and quantitative insights compared to popular unsupervised data visualization methods

A CITF-funded study, published in preprint and not yet peer-reviewed, introduced a data visualization method called RF-PHATE, which was able to generate low-dimensional visualizations highlighting relevant data relationships while disregarding extraneous factors. The researchers demonstrated their algorithm's abilities through case studies of diesel-exposed lung cells, multiple sclerosis (MS), and COVID-19.

[Read more](#)



From Preprint to Publication

Each booster dose increases vaccine effectiveness against all Omicron subvariants

A CITF-funded study, published in *Clinical Infectious Diseases*, provided evidence that protection provided by COVID-19 vaccines and/or prior SARS-CoV-2 infections against severe outcomes is reduced when immune evasive SARS-CoV-2 variants and subvariants emerge. Vaccine protection was high when Omicron BA.1/BA.2 was predominant but fell to less than 50% during periods of Omicron BA.4/BA.5 and BQ/XBB predominance.

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