



COVID-19
IMMUNITY
TASK FORCE

GROUPE DE TRAVAIL
SUR L'IMMUNITÉ
FACE À LA COVID-19

Summary report # 12

How social determinants of health affected
the COVID-19 pandemic in Canada

Background

Social and economic inequities have contributed to how certain communities in Canada have been disproportionately affected by COVID-19. A variety of factors - including income and material deprivation, employment, household and bedroom density, race/ethnicity, and education - have led to a higher likelihood of becoming infected with SARS-CoV-2 and suffering more severe outcomes (hospitalization and death) from COVID-19. Furthermore, social determinants have had a measurable effect on access to vaccines and vaccine uptake across the country. The findings clarify the urgent need for policies and practices to redress these inequities.

For the 12th seminar in our *Research Results & Implications* series, CITF-funded experts presented their findings, including among blood donors and in COVID-19 “hot-spots” in the Greater Toronto Area, Ontario’s Peel Region, and Montreal-North, Quebec.

Researchers and CITF-funded studies included

Focus	Presenters, lead researcher(s) and affiliation	Study population	Location of study
Social determinants of health	Dr. Sheila O'Brien Canadian Blood Services; University of Ottawa	516,107 adult blood donors	Canada (excluding Quebec & Territories)
COVID-19 seroprevalence and vaccine responses among Black Canadians (seroMARK)	Dr. Upton Allen University of Toronto; Hospital for Sick Children (SickKids)	Adults & children	Greater Toronto Area
Montreal-North (RISC-Montréal)	Dr. Jack Jedwab Metropolis Institute and the Association for Canadian Studies Dr. Simona Bignami Université de Montréal	1,318 adults	Montreal-North
South Asian Community, Ontario	Dr. Sonia Anand McMaster University; Hamilton Health Sciences	Adults of South Asian descent	Peel Region, Ontario

At a glance: key findings from CITF-funded research

The findings in this summary are, in some instances, unpublished, and have not yet been peer-reviewed. Details about the findings are found below.

Key findings:

- Canadians who identify as racialized have suffered disproportionately from SARS-CoV-2 infection, severe COVID-19 disease, and death.
- The most materially deprived have consistently tested higher for infection-acquired antibodies than the least materially deprived, as measured by neighbourhood, income, job security, and level of education.
- Healthcare workers and teachers were disproportionately affected by higher rates of infection.
- In studies focused on Black and South Asian populations, researchers found that convincing people to participate in research was very much facilitated by engaging trusted community leaders and building relationships.
- Vaccine hesitancy was higher among new immigrants, which might indicate that it takes time for people to develop trust in the healthcare system and/or to learn how to access the services that are available.

More in depth

People who identify as racialized and those who are materially deprived have shown higher levels of infection-induced antibodies throughout the pandemic

Canadian Blood Services has tracked more than 516,000 blood samples for SARS-CoV-2 antibodies since April 2020. It is responsible for collecting blood donations across Canada, except in Quebec and the Territories. Though blood donors are typically healthier than the general population, their data are considered to provide a representative picture of the state of infection among adults. By the fall of 2021 nearly all blood donors had been vaccinated.

Racialized populations have consistently had higher infection-acquired seroprevalence in all regions (Western Canada, Ontario, and Atlantic Canada), with the widest gap evident during the Omicron wave, between January and March 2022. Similarly, the most materially deprived population endured higher levels of infection than the least materially deprived, though this pattern did not hold for Atlantic Canada.

Presenting on behalf of Canadian Blood Services, Dr. Sheila O'Brien concluded that, with most blood donors being reasonably health-conscious, these findings underscore the pervasiveness of the socioeconomic gradient in Canada.

Black Canadians in Toronto were disproportionately impacted by COVID-19

In the first year of the pandemic, Black people in Ontario were more likely to have infection-acquired antibodies (14.4%) compared to front-line workers (13.4%), students/teachers (13%), and the general population in Ontario's "hot zone" of Northwest Toronto (12.6%). Their seropositivity was exceeded only by the population under the age of 19 (20%). According to the latest results (July – December 2022) presented by Dr. Upton Allen, Northwest Toronto continues to exceed overall infection-acquired seropositivity of the general population of Ontario, 66.7% to 55.9%.

Sickle cell disease as a particular risk factor

Sickle cell disease, which predominately affects Black people, is a known risk factor for severe outcomes of COVID-19 disease. Despite this, and the fact that vaccines are generally safe for children with sickle cell disease, vaccine uptake has been low. Indeed, vaccine uptake among children in general is low: among 12- to 17-year-olds in Ontario, only 12.5% have had two doses and at least one booster more than six months ago; 8.7% had two doses and at least one booster less than six months ago.

Approximately 63% of Ontario's children below the age of 17 had two doses of vaccine, which is no longer considered sufficiently protective. Among children aged 5 to 11, only 6.3% had at least one booster done within less than six months.

Community engagement is crucial for outreach to racialized communities

For various reasons, the healthcare system and researchers face challenges engaging with some racialized communities to address the socioeconomic gradient observed in COVID-19 studies. In order to overcome inequities in access and representation, it is important to tackle these issues.

Dr. Allen's experience suggests that community advisory groups can be beneficial in enhancing representation of Black communities in COVID-19-related research and that the most suitable model of community engagement relies on sustained interaction between researchers and members of the community.

Dr. Anand's research with South Asians in Peel Region emphasized the importance of outreach through community-based media, especially those that publish or broadcast in languages spoken in the community, and through trusted community leaders, including respected religious figures.

Healthcare work and teaching were identified as higher risk professions

An online survey of residents of Montreal-North, conducted between August 9, 2021 and December 31, 2022 by Drs. Jack Jedwab and Simona Bignami, revealed that healthcare workers were most at risk of infection during the Omicron and post-Omicron periods. They were supplanted by preschool, primary and high school teachers in the Fall of 2022. These findings are supported by Dr. Allen's work in Toronto, which showed that frontline workers (which would include those in healthcare) and teachers/students had high rates of seropositivity since the Omicron waves.

Other socioeconomic correlates with higher seropositivity

Studies of "hot spots" revealed other socioeconomic characteristics associated with higher seropositivity:

- Racialization and material deprivation;
- Frontline work, which is often lower paid and does not allow for work-at-home options;
- School environments where students and teachers were susceptible, particularly when Omicron waves coincided with the return to in-person learning and relaxation of mitigation measures such as distancing and masking;

- Middle-aged men, those born in Canada (as compared to immigrants born abroad), and those having lower levels of education;
- Those living in multi-generational families, which indicates higher household density.

Socioeconomic correlates of vaccine hesitancy

Dr. Anand's study of the South Asian community in Peel Region found that newer immigrants, those with lower levels of education, and who were employed exhibited higher levels of vaccine hesitancy. She showed that the three most trusted sources for COVID-19-related information were: healthcare providers or provincial public health bodies, traditional media sources (TV news channel, newspaper), and social media.

These findings indicate that social determinants affect whether people take advantage of vaccines, as well as rates of infection.

Policy implications

Reducing excess risk of infection and disease within at-risk communities will be facilitated by the following initiatives:

- Partnering with communities to tailor programs to their socio-cultural and economic realities.
- Co-creating custom materials and guidance that address concerns about tests and increase study participation.
- Fostering sustained relationships and interaction between researchers and community members.
- Addressing upstream determinants and mitigating barriers to healthcare, housing, education, and employment opportunities.

Improving vaccine coverage and uptake within at-risk communities depends on:

- Collaborating with community leaders and key opinion leaders to co-develop strategies to identify issues and address concerns.
- Partnering with community advocacy groups to disseminate tailored information effectively.
- Providing information about vaccines in people's own language and in accessible formats