COVID-19 IMMUNITY TASK FORCE

Spotlight on CITF-FUNDED RESEARCH

CITF Events

COVID-19 IMMUNITY TASK FORCE | GROUPE DE TRAVAIL SUR L'IMMUNITÉ FACE À LA COVID-19 | CanCOVID

Seminar Series | Research Results & Implications

The impact of COVID-19 disease & vaccination on pregnancy and newborns

Monday, December 20, 2021 | 11:30 a.m. EST

Less than a week to go!

The CITF and CanCOVID are eager to share the latest research from three CITF-supported studies on the impact of SARS-CoV-2 infection and COVID-19 vaccination on pregnancy and newborns. Topics to be addressed include:

- The increased risk of serious illness requiring hospital admission for pregnant people with a SARS-CoV-2 infection.
- The higher risk of consequences to the baby.

- Results from a recent study on pregnancy outcomes among individuals who received COVID-19 vaccines during pregnancy, compared with unvaccinated individuals.
- The presence of SARS-CoV-2 antibodies in breast milk and the value of breastfeeding following infection and vaccination.

The featured speakers are: Dr. **Deshayne Fell** of the University of Ottawa and the Children's Hospital of Eastern Ontario Research Institute; Dr. **Deborah Money** of the University of British Columbia and BC Women's Hospital; and Dr. **Deborah O'Connor** of the University of Toronto. The presentation will be followed by a panel discussion and a question-and-answer period.

Register Here

CITF-Funded Research Results

Researchers identify features associated with heightened risk of myocarditis/pericarditis following mRNA vaccination

A team that included CITF-funded researcher Dr. Jeffrey Kwong from ICES and Public Health Ontario has found that 70% of cases of myocarditis (inflammation of the heart muscle) and pericarditis (inflammation of the sac holding the heart) following COVID-19 vaccination in Ontario occurred after the second dose. From December 14, 2020, to September 4, 2021, during which 19.7 million doses of mRNA vaccine were administered, approximately 0.002% of vaccinated individuals, met the inclusion criteria for myocarditis or pericarditis. 77% of cases were in males, the median age was 24, and events commonly occurred three days after vaccination. Dose interval, vaccine product, and use of mix-and-match also played a role. The study, in preprint and therefore not yet peer reviewed, used Ontario's

passive vaccine safety surveillance system, COVID-19 vaccine registry, and health administrative databases.

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Severe adverse effects following immunization with COVID-19 vaccines exceedingly rare: CANVAS-COVID

With more than a million participants enrolled in its study, the Canadian National Vaccine Safety Network (CANVAS-COVID) shows that more than 90% of those who are vaccinated do not experience any side effects other than temporary and localized pain at the injection site. Dr. Julie Bettinger, from the British Columbia Children's Hospital Research Institute and University of BC, presented some of the latest results from the CANVAS-COVID vaccine safety survey at the Canadian Immunization Conference on December 8, 2021.

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From Preprint to Publication

Older adults likely remain at higher risk for COVID-19 even after vaccination

In a CITF-funded study originally released as a preprint and now published in the *Journal of Infectious Diseases*, Drs. Mark Brockman and Zabrina Brumme from Simon Fraser University and Dr. Marc Romney from the University of British Columbia examined immune responses following COVID-19 vaccination in over 150 adults aged 24-98 years. They found that although two doses of the mRNA vaccines induced readily detectable antibody responses against SARS-CoV-2 in nearly all people, these

responses were significantly weaker among older adults. They also found that antibody responses in blood declined during the first three months following the second vaccine dose, regardless of age, and remained significantly lower among older adults over time.

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Immune cell analysis reveals the amount of SARS-CoV-2 in blood is a strong predictor of mortality

CITF-funded researchers Drs. Daniel Kaufmann, Andrés Finzi and Nicolas Chomont from the Université de Montréal and the Université de Montréal hospital research centre (CRCHUM), along with their collaborators, found that the amount of viral mRNA in the blood of hospitalized patients can help identify patients who will suffer severe COVID-19, and even death. The discovery of molecular markers to help identify individuals at risk of severe disease could contribute to determining early preventive measures for improved patient outcomes. The manuscript is published in *Science Advances*.

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CITF Announcement

Protecting Canadians from COVID-19: How are we doing?

The CITF has developed a statistical model to combine antibody results with other epidemiological data, such as confirmed cases of COVID-19, so that we can estimate how many Canadians have protection from COVID-19. CITF modelling uses serosurveys from CITF-supported research groups and publications documented by **SeroTracker**. We combined seroprevalence

results with data on confirmed COVID-19 cases to determine the proportion of Canadians previously infected with SARS-CoV-2.

See novel CITF modelling data online

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