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

How long does immunity to COVID-19 last?

Waning immunity, boosters, and dosing intervals

January 24, 2022 | 12:30 p.m. to 2:00 p.m. EST

SAVE THE DATE

With the arrival of Omicron and the looming threat of other emerging variants, the crucial question on everyone's mind is: how long does immunity to SARS-CoV-2 last? The evidence will be essential to determining Canada's booster strategy that aims to mitigate future waves of infection, prevent undue stress on the healthcare system, and keep the population safe.

At our next *Research Results & Implications* seminar, CITF experts will explain

the reasons behind waning antibody levels, the importance of other features of the immune system, the need for vaccine boosters, and the best dosing intervals to achieve maximum protection.

Our expert speakers include **Dr. Jeff Kwong** of ICES, Public Health Ontario, and the University of Toronto, **Dr. Dawn Bowdish** and **Dr. Andrew Costa** of McMaster University, and **Dr. Victor Ferreira**, on behalf of **Dr. Deepali Kumar**'s lab at the University Health Network, Toronto.

Monday January 24, 2022, 12:30 p.m. to 2:00 p.m.

SAVE THE DATE

Seminar Series | Research Results & Implications

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

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

CanCOVID

Watch the seminar on how COVID-19 disease impacts pregnancy and newborns

Now available, video of the third CITF/CanCOVID seminar series on the evidence regarding how COVID-19 affects pregnant people and newborns, along with advice from our expert scientists.

Watch the video

CITF-Funded Research Results

Canadian Blood Services data reveal evidence of antibody wane among adult population

The latest Canadian Blood Services report indicates that 98% of blood donors sampled had antibodies to SARS-CoV-2. This number is largely driven by immunization with at least one vaccine dose, as infection-acquired seroprevalence stayed low, at 4.3%. Results also reveal a downward trend in the mean levels of antibodies across all age groups between September and October, supporting the need for a third (booster) dose.

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Boosting immunity in the elderly

In a pre-print, not yet peer reviewed, study led by CITF-funded researchers Drs. Andrew Costa and Dawn Bowdish at McMaster University, people in retirement or nursing homes had blood tests taken over time to measure immunity after the second and third doses of mRNA SARS-CoV-2 vaccines. The researchers found that the third vaccine dose brought about levels of neutralization capacity that were much higher than what was achieved post-second dose.

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Study measures vaccine effectiveness against Omicron infection in Ontario

In this not-yet peer reviewed pre-print, led by CITF-funded researcher Dr. Jeff Kwong on behalf of the Canadian Immunization Research Network (CIRN), researchers evaluated the effectiveness of mRNA vaccines against

the Omicron variant in Ontario. They found that two doses of COVID-19 vaccines were not protective against Omicron infection. However, more than seven days after a third dose of an mRNA vaccine, effectiveness against Omicron infection was 37%.

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How can serosurveys be used in the vaccine era?

In this preprint, not yet peer reviewed, led by both SeroTracker, CITF-funded researchers and CITF Secretariat employees, the authors present an approach to help interpret serosurvey results and distinguish between infection-acquired and vaccine-induced immunity. Making the distinction between infection- and vaccine-induced immunity can help guide public health officials worldwide in their strategy for providing vaccines against COVID-19.

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A viral-vector COVID-19 vaccine candidate under development

Researchers, including Dr. Ryan Troyer from the University of Western Ontario, who is funded by the CITF, are developing a new vaccine that uses a harmless virus-based delivery vehicle. This approach enables the SARS-CoV-2 spike protein to be presented to the immune system, thereby training it to recognize and prevent SARS-CoV-2 infection. The vaccine candidate was demonstrated to be capable of providing protection from infection and significantly reduced lung inflammation, a hallmark of COVID-19, in animal models. The paper is published in *PLoS Pathogens*.

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From Preprint to Publication

Background rates for blood clotting events in Ontario provide context for COVID-19 vaccine safety assessment

In order to help public health authorities and clinicians to contextualize observed events of vaccine-induced immune thrombotic thrombocytopenia (VITT) - an extremely rare but serious blood clot following immunization with the AstraZeneca/Vaxzevria COVID-19 vaccine - the Canadian Immunization Research Network (CIRN), including CITF-funded researcher Dr. Jeff Kwong, sought to estimate background rates of selected thromboembolic and coagulation disorders in Ontario from 2015-2020. Without the amalgamation of this data, comparison between existing thromboembolic and coagulation disorder rates and VITT are difficult. This analysis is intended to help healthcare professionals assess potential vaccine safety signals. It first appeared as a preprint, and is now published in *BMJ Open*.

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CITF Announcement

Coming soon: January edition of the *CITF Monthly Review*

Watch your in-box for the new issue of the *CITF Monthly Review* featuring the latest CITF seroprevalence modelling data, updated national data from Canadian Blood Services, an international research review article on waning immunity to SARS-CoV-2, and highlights of the latest results from CITF-funded projects.

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