

# Spotlight on CITF-FUNDED RESEARCH



### **CITF Announcements**

### Latest updates to our FAQ page

Our CITF experts have recently updated the FAQ web page to address new questions. Included are questions on the current thinking about COVID-19 vaccination for different population groups (such as children, pregnant and breastfeeding persons, and people who are immunocompromised), as well as about the effectiveness of bivalent vaccines and when to get vaccinated after a confirmed SARS CoV-2 infection. The FAQ page also has the latest updates on approved COVID-19 vaccines in Canada and recommended doses.

### **Read more**



### **CITF-Funded Research Results**

## Researchers propose new SNP-PCR for subtyping SARS-CoV-2 and its variants

CITF-funded researchers have published a short letter in *Clinical Microbiology and Infection* proposing a complementary approach, known as SNP-PCR, as a front-line diagnostic approach. SNP-PCR is based on the detection of minor targeted genomic variations among SARS-CoV-2 variants (also known as single nucleotide polymorphisms). This technology can be easily implemented and rolled out to rapidly detect and respond to the emergence of new variants across Canada.

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### Virtual care technologies during the COVID-19 pandemic changed how healthcare was received among Canadian gay, bisexual, and queer men

A CITF-funded study, published in *Sociology of Health and Illness*, discovered that virtual care (healthcare at home using mainly telephone consultations) not only helps with delivering and receiving medical care but also brings about changes in the ways that people interact and provide care. This analysis provides healthcare providers with valuable information about improvements that need to be made when offering virtual care to Canadian gay, bisexual, and queer men, and other diverse populations.

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## The COVID-19 Anxiety Syndrome Scale is valid for assessing anxiety in Canadian dentists

A CITF-funded study, published in *Clinical Psychology and Psychotherapy,* found that the COVID-19 Anxiety Syndrome scale (C-19ASS) is a valid and reliable instrument to measure COVID-19-related anxiety among Canadian dentists, whether used in English or French.

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## Three vaccine doses are important for optimal protection against SARS-CoV-2 infection in older people with HIV

A CITF-funded study, published in preprint and not yet peer-reviewed, found that older people living with HIV require at least three doses of COVID-19 vaccines to maximize immune responses against SARS-CoV-2. Vaccines, however, may increase HIV reservoirs in people with HIV who have low-level persistent viremia.

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### Sustained IFN signaling is associated with delayed development of SARS-CoV-2-specific immunity

A CITF- and CIHR- funded study, published in preprint and not yet peerreviewed, found that SARS-CoV-2-infected patients experiencing high, sustained interferon signaling have a delayed generation of spike-specific CD4+ T cells and RBD-specific B cells. This directly links to a delay in mounting an antibody response against the virus. In patients who also show increased inflammation, tissue damage, and plasma viral RNA exposure, it is associated with a high risk of death.

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## SARS-CoV-2 seroepidemiologic studies need to improve reporting

A CITF-funded study, published in preprint and not yet peer-reviewed, found that the reporting of SARS-CoV-2 seroepidemiologic studies needs improvement, particularly in providing adequately detailed information about laboratory methods. Researchers showed that the median adherence to this requirement was 48% per study, as evaluated via the Reporting of Seroepidemiologic studies—SARS-CoV-2 (ROSES-S) guideline.

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### Omicron breakthrough infection induces superior mucosal and humoral immunity to SARS-CoV-2 variants than booster vaccination

A CITF-funded study that presented results at the CITF Scientific Meeting in Vancouver found that an Omicron breakthrough infection (an infection after a full vaccine series) induces a stronger overall immune response than booster vaccination alone.

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### Lessons learned from monitoring T cell responses to SARS-CoV-2 infection and vaccination

A CITF-funded study that presented results at the CITF Scientific Meeting in Vancouver found that T cells are an important part of the immune response, working along with antibodies to respond effectively to SARS-CoV-2 infection. Immune responses after COVID-19 vaccination were also assessed in individuals with immune-mediated inflammatory diseases (IMIDs), revealing that the third vaccine dose reduced waning immunity.

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### **From Preprint to Publication**

## Hybrid immunity protects against cell-to-cell spread of SARS-CoV-2

A CITF-funded study, published in *JCI Insight*, showed that hybrid immunity (resulting from having both an infection and vaccination) confers greater protection against cell-to-cell spread of SARS-CoV-2 than vaccination alone. This might explain why hybrid immunity offers better protection against reinfections than vaccination alone.





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