

BC-CfE Marks Record Achievements for World AIDS Day 2020

Started December 1, 1988, World AIDS Day annually raises awareness of the AIDS pandemic and is a day to mourn those who have died of the disease. The World Health Organization chose to focus on “Global solidarity, resilient HIV services” as its theme for this year. As of 2019 there were 38 million people living with HIV infection, 690,000 deaths from HIV-related causes, and 1.7 million people were newly infected.

These numbers demonstrate that the global HIV epidemic is far from over, and there are fears that the spread of the disease may be accelerating during the COVID-19 pandemic. Tragically, the world will be missing the BC CfE-inspired, UNAIDS 90-90-90 target for 2020. That target was set to ensure that 90% of people living with HIV are aware of their status, and of that group of people diagnosed with HIV, 90% are receiving treatment, and then of all people receiving treatment 90% have achieved viral suppression.

COVID-19's massive disruptions have made HIV services unaffordable or unobtainable for many, and the pandemic's interference with supply chains and service delivery meant that, as of July 2020, one third of people on HIV treatment around the world had experienced interruptions in drug supplies. A WHO and UNAIDS modeling study showed that a “six-month disruption in access to HIV medicines could lead to a doubling in AIDS-related deaths in sub-Saharan Africa in 2020 alone.”

However, in the midst of this bleakness, within a surging global pandemic and the opioid overdose epidemic, BC has been able to meet and surpass the UNAIDS target. In BC, as of this writing, at least 90% of people living with HIV are diagnosed, at least 90% of those diagnosed are receiving treatment with antiretroviral therapy, and

at least 90% of those on treatment have a sustained undetectable HIV viral load. Furthermore, our province has seen a greater than 90% decrease in people living with and dying from AIDS. New HIV diagnoses in BC reached their lowest level yet in 2020, down by approximately 80% from the peak in 1987, when over 900 cases were diagnosed annually in BC.

To announce and celebrate these achievements while observing COVID-19 restrictions, the BC Centre for Excellence in HIV/AIDS (BC-CfE) and the BC Ministry of Health held a virtual press conference on World AIDS Day hosted by Ms. Fiona Dalton with statements by Minister of Health Hon. Adrian Dix and Dr. Julio Montaner.

Dr. Julio Montaner, the BC-CfE's Executive Director & Physician-in-Chief, said, “I am pleased to report BC has now surpassed the UNAIDS 90-90-90 target. Furthermore, this year BC has seen new HIV diagnoses decrease to the lowest level since the peak of the epidemic in the pre-HAART era. This is on top of this year's announcement of a record low number of AIDS diagnoses in BC. Our success remains strictly dependent on our ability to continue to support the existing programs and people living with HIV/AIDS. Failure to do so would be devastating and severely undermine the success of our strategy.”

Fiona Dalton, President and CEO of Providence Health Care said, “The 90-90-90 target for the management of HIV/AIDS is an incredibly powerful approach and we're proud it's been adopted by the UN for the worldwide control of HIV/AIDS. We're even prouder that the target has been surpassed in British Columbia, and as a result we are seeing a dramatic decrease in AIDS-related morbidity and mortality, as well as HIV transmission.”

The virtual press conference also showcased how the BC-CfE is applying **Treatment as Prevention**[®] to therapeutic areas beyond HIV/AIDS, including viral hepatitis and addiction, promoting targeted disease elimination as a means to contribute to health-care sustainability. As part of this effort, Minister Dix and Dr. Montaner formally announced the opening of the Hope to Health Research and Innovation Centre clinic in Vancouver's Downtown Eastside.

The clinic supports people living with HIV, opioid addictions, mental health and other health issues, including hepatitis C. People can walk into the clinic without an appointment to see a nurse, social worker or a doctor, as needed. It provides support to people accessing medication for HIV and hepatitis C, as well as methadone and suboxone for opioid addictions. Take-home naloxone kits for treating overdoses from opioids such as fentanyl are also available. Additional services include referral for treatment, counselling and other health services.

The Hope to Health Research and Innovation Centre is just one of the BC-CfE-led and supported initiatives to further prevent the transmission of HIV in BC. Other examples include expanded public funding for pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP).

Provincial Health Officer Dr. Bonnie Henry said, “British Columbia has been at the forefront of response to the HIV/AIDS epidemic from the very beginning with the key collaborations between the health authorities and Dr. Julio Montaner and his team at the BC-CfE. This has led us to markedly reduce the impacts of what was once a death sentence not only here in BC, but also around the world.”

» “As we commemorate World AIDS Day, I want to remember all those we have lost to the AIDS epidemic and celebrate the progress we have made against this formidable disease. We can be proud of what the province, with the BC Centre for Excellence in HIV/AIDS, has achieved. The world looks to us as a leader, and we constantly strive to provide the best care possible.”

— BC Minister of Health, Hon. Adrian Dix



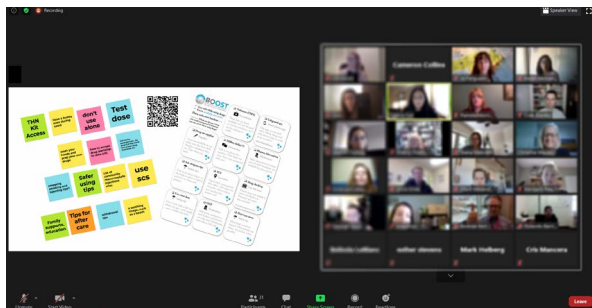
Teams from across BC join the BOOST QI Network Annual Congress virtually

» The Best-practices in Oral Opioid Agonist Therapy (BOOST) Annual Congress was held last month amidst the dual public health emergencies of the COVID-19 pandemic and the opioid overdose crisis. Presenters at the congress shared how their teams are adapting their practices for the pandemic, how healthcare teams can better integrate the voices of families of those with opioid use disorder (OUD), and also shared ideas on how to support and improve retention for clients on opioid agonist therapy (OAT).

The most recent data from the BC Coroners Service shows 1,386 overdose deaths in BC between January and October of this year. Fentanyl was detected in 1,146 of these victims. As multiple health officials have noted, COVID-19 is contributing to an increasingly toxic drug supply and creating barriers for those who need to access harm-reduction services.

In response to these dangers, Provincial Health Officer Dr. Bonnie Henry signed an order in September giving more health professionals the ability to prescribe safer pharmaceutical alternatives.

In light of these changes, two mothers of young adults living with OUD shared their personal stories about helping their loved ones. Throughout her testimony one mother was emphatic about the importance of safe housing to those living with OUD. She told the congress about how much of a difference safe housing made to the life of her child and went on to talk about how mentoring and finding a purpose for people living with OUD were also critical to improving the day-to-day life of those with chronic substance use. Both moms spoke about how healthcare teams can include the families of those living with OUD in supporting their clients by creating a space for them to share information.



BOOST QI Network member Dr. Chris Kriek, with the Cornerstone Clinic serving BC's Cariboo region, spoke of the challenges in promoting and educating people about OUD and OAT in such a remote area. With help from BOOST QI resources, Kriek has been able to educate emergency departments in his region, and says his goal is to reduce barriers for patients with OUD. Kriek said, "With BOOST, it's really helped me as a family physician to improve the care I can give to my patients."

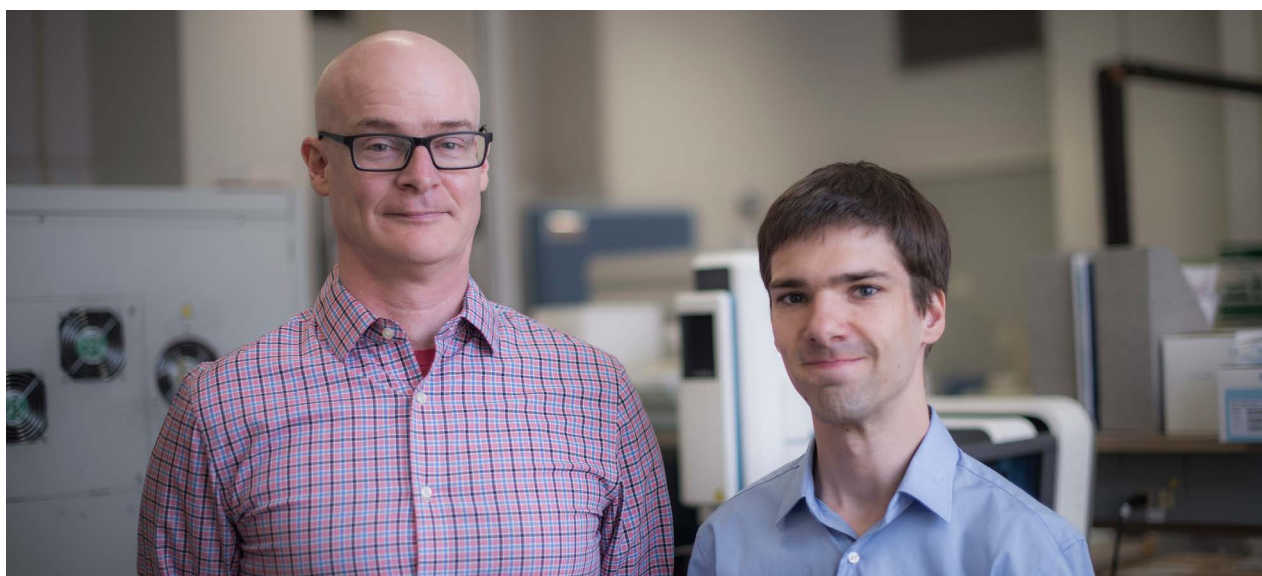
Christine Massey, the newly appointed Deputy Minister of the Ministry of Mental Health and Addictions, also joined the congress. She praised the combined efforts of the BOOST QI Network and its participating teams other harm reduction teams, and said that by connecting people with OUD to OAT, expanding access to naloxone, and expanding overdose prevention services, BC has averted more than 6,000 deaths since April 2016, when the opioid overdose crisis was first declared a public health emergency.

Massey cited BC-CfE data and shared with the congress that about 83,000 people in BC likely meet the criteria for OUD with about 66,000 of those diagnosed. BC-CfE data also shows there are only about 22,000 patients on OAT at any given time, meaning only a quarter of people with OUD are engaged in treatment.

Massey said, "In the context of the dual health emergencies of COVID-19 and the illicit drug toxicity deaths across the province, the work of the BOOST QI Network is more important now than ever. Retention of patients on opioid agonist treatment plays a critical role in the province's overdose response by providing treatment alternatives to the highly toxic, unpredictable, and unregulated drug supply. Opioid agonist treatment is saving lives, and we have the research to back it up."

RESEARCH

New BC-CfE research improves our knowledge and validation of the HIV reservoir



Co-authors Dr. Jeffrey Joy and Brad Jones (photograph taken in 2018)

» A recently published paper, in the scientific journal *Virus Evolution*, by a BC-CfE doctoral student provides a way for phylogenetic and other molecular studies of HIV reservoirs to be validated. This vital research will help in the understanding of the dynamics of the HIV-1 reservoir, thus bringing us closer to a durable HIV-1 cure

Brad Jones, the PhD candidate in the BC-CfE's Molecular Epidemiology and Evolutionary Genetics Group who wrote the paper, created software that is an extension of SANTA-SIM, a software package which simulates the evolution of a population of gene sequences forwards through time. Jones's software extension of SANTA-SIM includes multiple compartments of viral populations. Jones then created a model of HIV-1 within host evolution that incorporated a persistent HIV-1 reservoir.

Jones's work, titled "Simulating within host human immunodeficiency virus 1 genome evolution in the persistent reservoir", provides a case study revealing which methods of dating reservoir integration dates

most accurately estimate how long HIV proviruses persist in the reservoir.

As Jones says in his research abstract, among the top reasons there is no durable HIV cure yet is due to the virus' ability to integrate into the genome of host cells, where it can remain in a "transcriptionally latent state". Jones says, "An effective cure strategy must eliminate or suppress every copy of HIV in this persistent reservoir because proviruses can reactivate, even after decades, to restart the infection."

Many features of the persistent reservoir remain unclear, which makes software which simulates viral evolution an incredibly powerful tool for exploring hypotheses of viral systems.

This work was supported by research grant provided by the Canadian Institutes of Health Research and the National Institutes of Health. Jones recognises that this research would not be possible without the support of the BC-CfE, especially the IT staff who facilitated remote access to onsite research servers.

DR. PETER DIARIES

BC-CfE Honours Legacy of Dr. Peter Jepson-Young



Drs. Silvia Guillemi and Julio Montaner

BC-CfE staff who were involved in the early days of the HIV/AIDS pandemic recently took part in a look back at the groundbreaking *The Dr. Peter Diaries*.

Peter Jepson-Young was a local doctor and person living with HIV/AIDS who promoted awareness of the disease in the early 1990s through his deeply personal regular segment on CBC. The series, called *The Dr. Peter Diaries*, educated many about the new virus killing marginalized people.

Shortly before his death in 1992, Dr. Jepson-Young established the Dr. Peter AIDS Foundation which went on to create the Dr. Peter Centre that continues to provide housing, meals, and counselling for people living with HIV.

Marking 30 years since the original broadcast of the *Dr. Peter AIDS Diaries*, CBC journalists Jodie Martinson and Stephen Quinn spoke with the BC-CfE's Dr. Silvia Guillemi who witnessed the tragedies of the early days of HIV/AIDS and knew Dr. Jepson-Young personally.

"We were going through a devastating time," said Guillemi, a resident doctor at St. Paul's Hospital in the early 1990s, who is now the director of the BC-CfE's Clinical Education and Training program.

"Eventually we managed to have treatments for it that have been very successful. And I'm hoping with COVID we'll get to that point pretty soon, much sooner than we did with HIV," she added.

The BC-CfE's Executive Director & Physician-in-Chief Dr. Julio Montaner also spoke with the CBC about Dr. Jepson-Young, the medical advances since his death, and the threat posed by COVID-19.

Montaner, through the discovery of antiretroviral therapy and the creation of the **Treatment as Prevention**® strategy, was pivotal in ending BC's HIV/AIDS epidemic.

The full series of interviews can be found at: <https://www.drpeter.org/hiv-today/latest-news/dr-peter-diaries-30-years-later>.

BC Centre for Excellence in HIV/AIDS

- > Improve the health of British Columbians with HIV through comprehensive research and treatment programs;
- > Develop cost-effective research and therapeutic protocols;
- > Provide educational support programs to health-care professionals;
- > Monitor the impact of HIV/AIDS on BC and conduct analyses of the effectiveness of HIV-related programs.

Physician Drug Hotline
1.800.665.7677

St. Paul's Hospital Pharmacy Hotline
1.888.511.6222

Website
www.bccfe.ca
E-mail
info@bccfe.ca

Funding for the BC Centre for Excellence in HIV/AIDS is provided by the BC Ministry of Health.

