



Countering complacency on path to an HIV cure An update from the desk of Dr. Julio Montaner

The BC-CfE applauds the news that emerged from CROI (Conference on Retroviruses and Opportunistic Infections) and captured global news headlines: an individual living with HIV has been in remission and off treatment for 18 months after receiving a bone-marrow transplant. The "London patient" is now the second individual to achieve HIV remission.

To briefly explain, as in the first case, this milestone was achieved through a bone-marrow transplant from a donor harbouring a rare mutation in the human CCR5 gene. Acting as a receptor, the CCR5 is necessary for HIV to enter cells in the human body.

It is important to note that HIV cure by bone-marrow transplantation is neither safe nor capable of being easily expanded. The reality is that we still don't know when an HIV cure will be achieved. There is currently no available solution for achieving a broadly applicable cure that could help those living with HIV worldwide.

News of the London patient does demonstrate the potential for eradicating HIV from the body, underlining the importance of continuing HIV cure and vaccine research.

Under the leadership of BC-CfE Laboratory Director Dr. Zabrina Brumme, the BC-CfE continues to seek to better understand dormant HIV cells that accumulate and persist in the body. While on sustained treatment, an individual can achieve a viral load that is undetectable by standard blood tests, at which point they cannot transmit to others. However, if treatment is stopped or interrupted, viral levels can rebound.

Grasping the diversity of HIV residing within an individual (known as the viral reservoir) is a key stepping stone to identifying a cure.

Unfortunately, good news of slow progress towards an HIV cure could contribute to misconceptions. Combined with impressive advances in HIV treatment, it could lead some to believe HIV is a resolved issue. Dr. Anthony Fauci, Director of the US National Institutes of Health, told attendees of CROI we have reached a point of "understandable but unacceptable complacency."

The bottom line is the HIV epidemic remains a public health concern. There are nearly 37 million people living with HIV in the world, including an estimated 13,000 in British Columbia and over 63,000 people in Canada. More than ever, health care providers, policymakers and the public must be on high alert for complacency. It is equally critical that we take every chance to implement the tools at our disposal to curb HIV and achieve an end to AIDS.

In the absence of a vaccine or a cure for HIV, providing early, widespread access to testing and sustained, universal treatment is the most effective means to stop HIV new infections. This is the concept supporting the proven successful, made-in-BC **Treatment as Prevention® (TasP®)** strategy that forms the foundation of the UNAIDS 90-90-90 Target to end AIDS by 2030. To meet this goal, by 2020, 90% of individuals living with HIV must be diagnosed, 90% of those diagnosed must be on treatment, and 90% of those on treatment must be virally suppressed.

In BC through the implementation of TasP®, we have seen a steady increase in individuals accessing HIV testing and antiretroviral treatment, leading to a consistent decline in new HIV cases. HIV treatment today improves longevity and quality of life. However, there is still more we can do.

For example, a recent BC-CfE study published in *PLOS-ONE* uncovered new opportunities in the health care system to diagnose individuals living with HIV. Our study found one in seven individuals living with HIV in BC could have been diagnosed earlier—if health care providers had recognized certain key clinical conditions as triggers for HIV screening. Individuals aged 40 years or older, heterosexuals, people living in remote areas and people who had ever injected drugs were more likely to have had a missed opportunity for an earlier HIV diagnosis.

This data provides critical clues on how we can close gaps in access to HIV testing and treatment. It is also a useful reminder HIV does not discriminate. In BC, all individuals are recommended to ask their health care providers for regular HIV tests. We can all get tested for HIV.

While scientists and researchers worldwide continue to make remarkable advances in our understanding of HIV, it is too early to celebrate. As we approach the 2020 milestone towards ending AIDS by 2030, we need to accelerate investments and efforts. There is still much more to be done to support the needs of those living with HIV today and to reach our goal of ending AIDS.

Dr. Julio Montaner is the Executive Director and Physician-in-Chief of the BC-CfE

» "HIV can affect people regardless of their age or sexual orientation. Anybody can ask their health care provider for an HIV test. When you get tested for HIV, you are taking care of your health and helping to protect the health of others."

— Dr. Bonnie Henry, BC Provincial Health Officer



PRAs bring expertise and passion to study on access to HIV care



Left to Right: SHAPE PRA Tim Wesseling, SHAPE Study Coordinator Andrea Bever, and SHAPE PRA Sean Grieve

Tim Wesseling and Sean Grieve are approachable, engaging and affable; more importantly, they are passionate and dedicated to making a difference in their communities. Both are peer research associates (PRAs) in the BC-CfE's STOP HIV/AIDS® Program Evaluation (SHAPE) study, which aims to uncover what factors influence individuals' access to HIV health care and how people can best be supported to stay engaged in care.

Wesseling and Grieve each faced their own challenges after their HIV diagnoses. Now, these experiences allow them to contribute to research as they reflect on their respective journeys that led them to become PRAs. Their process for forming research questions is founded in lived experiences. "It's not just a research question, it's about us as well. We know what gave us success in our lives," said Wesseling.

Grieve said that after his HIV diagnosis he had essentially stopped thinking about what he could do or be. He is now putting his years of experience to use, while building his resumé and acquiring skills he might not have otherwise—from better understanding PowerPoint and Excel to bringing research findings back to the community. "There is a pride. We are not only supporting others, we are supporting ourselves," added Grieve.

For Wesseling, being a PRA enables him to share with others the support and encouragement that he once received, which was instrumental in overcoming substance use and coming to terms with his HIV diagnosis. Until about five or six years ago, he had not engaged with peers or accessed social support through community organizations. "Meeting with peers and people who had gone through similar experiences was a way for me to connect. It was through the connection

with peers that I was able to resolve issues in my life, ask for help, get treatment, move forward and go from where I was to where I am now," said Wesseling.

SHAPE PRAs play an important role in achieving the SHAPE study's goals. They help with devising research questions, engaging participants and community partners, conducting interviews, presenting research and communicating research findings back to participants.

PRAs help to provide a more representative perspective on the challenges individuals living with HIV may face when trying to access care. According to Wesseling, the intuitiveness provided through lived experience is not something that can necessarily be picked up in a course or a textbook.

The SHAPE Study is looking to understand what affects individuals' transitions through the HIV cascade of care. By strengthening knowledge of the socio-structural factors that influence linkage and retention in HIV care, the SHAPE research team seeks to identify where specialized supports are needed. In doing so, the research will contribute to addressing health inequities among marginalized populations.

Importantly, the SHAPE Study is assessing the impact of exposure to the province-wide **Seek and Treat for Optimal Prevention of HIV/AIDS®**, or **STOP HIV/AIDS®** among people living with HIV in BC. **STOP HIV/AIDS®** aims to better engage people living with HIV/AIDS and at-risk populations in HIV testing, treatment and care. Outreach teams throughout the province are dedicated to engaging clients—sometimes even knocking on doors. They take steps to help individuals overcome barriers to accessing HIV care, such as homelessness, unemployment, mental health or substance use issues.

NEWS

ICYMI: Here's what happened at CROI

Top researchers from around the world gathered in Seattle last week to share the latest in the ongoing battle against HIV/AIDS and related infectious diseases.

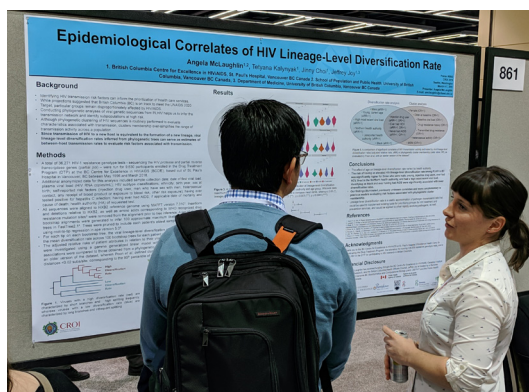
The annual Conference on Retroviruses and Opportunistic Infections (CROI) is the preeminent HIV research meeting and attracts more than 4,000 HIV/AIDS research leaders. Among them were scientists from the BC-CfE, who presented research on PrEP, HIV and aging, phylogenetics and more.

One significant study from the BC-CfE found no link between antiretroviral treatment for HIV and osteoporosis-related fractures, offering a counterpoint to concerns the HIV treatment tenofovir increases the likelihood of bone fractures. In fact, the research found earlier access to HIV treatment and healthy lifestyle habits may reduce the odds of fractures.

Another study observed HIV and aging in terms of conditions affecting overall health and wellbeing. BC-CfE researchers looked at a number of age-associated and mental-health-related comorbidities finding that individuals living with HIV experienced significantly earlier diagnoses. Studied comorbidities

included cardiovascular, kidney, lung and liver diseases, as well as mood, anxiety and personality disorders.

Highlighting the ongoing success of the made-in-BC **Treatment as Prevention®** strategy, the BC-CfE provided data demonstrating a strong uptake of HIV pre-exposure prophylaxis (PrEP) following the launch of a publicly-funded program in BC. In the first year of the program more than 3,300 people were prescribed the preventative treatment for HIV by 550 prescribers province-wide, largely at-risk men who have sex with men living in urban areas.



Researchers from the BC-CfE presented work on a number of other issues related to HIV cure research and phylogenetic data. Meanwhile at the conference, University College London researchers announced that an HIV-positive man remains in HIV remission 19 months after receiving a bone-marrow

transplant from a CCR5-negative donor for Hodgkin's lymphoma. This is the second case of a person being cleared of HIV after a bone-marrow transplant. The news made headlines around the world and was applauded by the scientific community.

Check out the posters BC-CfE researchers presented at CROI: <http://bit.ly/bccfecroi>

EVENT

Mark your calendars!



This year's BC-CfE Spring HIV/ARV update will be on May 6th at Vancouver's Sheraton Wall Centre Hotel.

Topics will include:

- Management of hepatitis B in people living with HIV
- HIV resistance testing and therapeutic drug monitoring
- HIV care & prevention among transgender individuals
- What's new in the prevention and management of HIV-related opportunistic infections
- The traveler with HIV
- An approach to feeding infants of women living with HIV

For more information visit: <http://www.cfenet.ubc.ca/events/spring-hivantiretroviral-update-2019>

LECTURES & EVENTS

Forefront Lecture

Title: Injection Drug Use and Food Insecurity Among People Living with HIV-HCV Co-Infection: Associations, Mechanisms, and Interventions

Speaker: Dr. Taylor McLinden

Wednesday, April 17, 2019, 12–1PM

Hurlburt Auditorium, Providence Level 2, St. Paul's Hospital

HIV Care Rounds

Title: TBA

Speaker: Dr. Melanie Murray

Wednesday, April 24, 2019, 12–1PM

Conference Room 6, Providence Level 1, St. Paul's Hospital

For more information, contact us at Education@cfenet.ubc.ca or visit our website at <http://education.cfenet.ubc.ca>

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 B.C. 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

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