



Left to right: BC-CfE Senior Medical Director Dr. Rolando Barrios, Federal Minister of Health Hon. Ginette Petitpas Taylor, BC-CfE Executive Director & Physician-in-Chief Dr. Julio Montaner, and Vancouver Centre MP Dr. Hedy Fry

Made-in-BC Treatment as Prevention® strategy recognized locally, nationally and globally

On April 24th, Federal Health Minister Hon. Ginette Petitpas Taylor visited the BC Centre for Excellence in HIV/AIDS (BC-CfE) to speak to Executive Director & Physician-in-Chief Dr. Julio Montaner about BC's leadership in HIV, hepatitis C (HCV) and opioid use disorder (OUD). The BC-CfE has long played an essential role in the testing, diagnosis, treatment and ongoing monitoring of people living with HIV in British Columbia, and is transferring that knowledge to HCV and OUD.

Dr. Montaner discussed how the made-in-BC **Treatment as Prevention® (TasP®)** strategy and **Targeted Disease Elimination® (TDE®)** platform are providing a framework for the treatment and prevention of other communicable diseases and diseases with a social contagion factor, such as hepatitis C. The TDE® strategy can also be applied to the opioid crisis. For example the **BOOST (Best practices in Oral Opioid agonist Therapy) Provincial Collaborative**, based on the BC-CfE's success from the **STOP HIV/AIDS® Structured Learning Collaborative**, was highlighted as a novel tool in bringing down the number of opioid-related deaths in BC through improved engagement in opioid agonist treatment.

In early April, Dr. Montaner, met with City of Vancouver Mayor Kennedy Stewart to discuss the BC-CfE's research and work in the area of public policy with a focus on **TasP®** and **TDE®**.

Recent findings confirm made-in-BC TasP® strategy is the path toward ending AIDS

These key meetings preceded a global scientific advance in **TasP®**. The latest findings from a major international

study support the already strong case that consistent and sustained HIV antiretroviral treatment prevents new HIV infections.

In findings released in *The Lancet*, the PARTNER study found no cases of HIV transmission through condomless sex among gay couples in which one partner was living with HIV on treatment and the other was HIV-negative. These results follow previous PARTNER study findings showing no cases of HIV transmission in more than 58,000 instances of condomless sex among serodiscordant homosexual and heterosexual couples.



City of Vancouver Mayor Kennedy Stewart with Dr. Julio Montaner

"The PARTNER study is bolstered by over a decade-long history of scientific research by the BC-CfE supporting access to HIV treatment as a means to control the epidemic," says Dr. Montaner. "These results show consistent and sustained HIV treatment absolutely eliminates the risk of HIV transmission to sexual partners, equally among heterosexual and homosexual couples."

The made-in-BC **TasP®** strategy, pioneered 13 years ago by the BC-CfE—providing earlier and free access to HIV testing and immediate, supported and sustained access

to HIV treatment—is key to curbing HIV and ending AIDS. **TasP®** forms the basis of the UNAIDS plan to end AIDS as a pandemic by 2030 by hitting ambitious—but reachable—targets for expanding access to HIV testing and sustained HIV treatment.

Through the implementation of **TasP®** with support from the BC Government, BC has successfully reduced HIV transmission—from a peak of more than 850 new cases per year to less than 200 per year in 2018. BC is the only Canadian province to implement **TasP®** and, as a result, has seen the largest decline in new HIV cases in Canada.

The study confirms the BC-CfE position, based on 13 years of successful implementation of the **TasP®** strategy in BC, and further bolsters Canada's continuing support for the Undetectable equals Untransmittable (U=U) campaign.

TasP® laid the foundation for U=U and the BC-CfE was an early signatory to the U=U statement. In order to reduce stigma for those living with HIV, it is critical for this message to reach a broad audience that includes the general public and leaders in government.

"One of the major hurdles we face in achieving the global goal of ending AIDS is ensuring international funding continues to address the ongoing HIV epidemic," says Dr. Montaner.

Globally, there are about 5,000 new HIV cases per day. The arrival of the latest results of the PARTNER study comes ahead of the next round of financing for the Global Fund. The BC-CfE encourages countries around the world to strengthen their financial contributions to the Global Fund, to deliver on the promise of the made-in-BC **TasP®** strategy.

» "Despite having the available tools to end AIDS, funding for HIV and AIDS has plateaued at a time when we urgently need to ramp up access to testing and treatment."

— Dr. Julio Montaner, BC-CfE Executive Director & Physician-in-Chief



HIV researcher turned “Superbug Slayer” Dr. Steffanie Strathdee visits the BC-CfE



Left to Right: Drs. Thomas Patterson, Steffanie Strathdee, and BC-CfE Director of Clinical Education Silvia Guillemi

In April, the BC-CfE was honoured to host Dr. Steffanie Strathdee, Associate Dean of Global Health Sciences at the University of California, San Diego, to share her enthralling account of saving her own husband from a superbug—a bacteria pan-resistant to antibiotic treatment.

Using her training as an epidemiologist, Dr. Strathdee identified a potential tool for treatment commonly known as phages. The microscopic limbed creatures live in bacteria-ridden environments (yes, that means sewers), and are technically viruses that can destroy bacteria.

Working with other researchers and health care providers, Dr. Strathdee garnered approval from the US Food and Drug Administration to provide the innovative, experimental treatment to her husband, Dr. Tom Patterson. At the time, he was in a coma and holding on to life “by a thread”, said Strathdee. The phage treatment was seen as a Hail Mary pass (from a blind quarterback, said one doctor); nonetheless, Tom recovered. He may be the first person in the US to be successfully cured of a systemic multi-drug-resistant bacterial infection with cocktails of intravenous bacteriophages.

Drs. Strathdee and Patterson wrote their story in a new book, *The Perfect Predator: A Scientist’s Race to Save Her Husband from a Deadly Superbug*. The case captured international attention in the scientific

community, with mentions in journals like *JAMA* and *The Lancet*. Intravenous phage treatment is now being used on a case-by-case basis to help others recover from bacterial infections, when antibiotics offer no recourse.

While Dr. Strathdee is now known as the “Superbug Slayer” due to her superhuman efforts to help her husband, the main focus of her impressive body of research has been HIV. It was at the BC-CfE that she got her start, working with researchers such as Drs. Julio Montaner and Robert Hogg. Her early work identified a major outbreak of HIV among injection drug users in Vancouver, despite the presence of one of North America’s largest needle exchange programs. In 1998, she published a study in *JAMA* showing only half of medically eligible drug users living with HIV in Vancouver were receiving antiretroviral therapy. Her work helped support advocacy for expanded access to both harm reduction services and HIV treatment.

In addition to her leadership role at UC San Diego, Dr. Strathdee continues to investigate HIV prevention in marginalized populations. For instance, alongside her husband, she leads several studies on HIV risk behaviours among drug users and sex workers in Tijuana, Mexico.

We are grateful to Dr. Strathdee for taking the time to recount her fascinating story to staff at the BC-CfE.

STUDY

Education key to PrEP and PEP awareness among youth

New study finds leadership programs help address knowledge gaps around HIV prevention among young gay and bisexual men

There is a generation gap when it comes to knowing and understanding HIV prevention. Young gay and bisexual men and other men who have sex with men (YGBM) in BC are less likely to be aware of some HIV prevention and treatment options compared to older men, according to a recently published BC-CfE study.

Importantly, youth who participated in leadership programs—the Vancouver-based Mpowerment and Totally Outright programs—were more likely to have a higher level of awareness of how HIV medications can be used. Specifically, youths in leadership programs had higher levels of awareness of PrEP (pre-exposure prophylaxis) and PEP (post-exposure prophylaxis), and held more treatment optimism (meaning they felt positively that HIV treatment could help prevent new HIV infections).

The recent BC-CfE study, published in *BMC Public Health*, adds to mounting evidence showing education’s important role in ensuring HIV prevention strategies are being broadly accessed. Previous studies, such as a BC-CfE study published in the *Journal AIDS and Behavior* found YGBM who had low levels of awareness of PrEP also had less access to condoms and preferred receptive anal sex. These factors increase overall likelihood of contracting HIV.

In order to encourage informed decisions about sexual health through education and training, a number of

leadership programs in BC are tailored to young people in the LGBTQ community.

“Spaces run by and for youth may be important avenues for effectively implementing sexual education that is often not discussed within the educational system. It is equally important to look at ways in which schools and community groups can bridge the generational gap in HIV knowledge through education,” said Kalysha Closson, PhD Student and lead author on the study. “It is critical to ensure the entire LGBTQ community is engaged and aware of the HIV prevention resources available to them today.”

There is still work to be done to empower YGBM to make informed decisions around their sexual health and wellbeing. Health service delivery should be implemented in spaces that are friendly to youth and LGBTQ individuals, supported by training for health care providers to serve as allies. The delivery of age-appropriate sexual health care and education could help reduce HIV transmission among youth.

“Sexual health education in schools, grounded in lived experiences, has the potential to improve attitudes and awareness towards HIV prevention and treatment,” added Closson. “If we are to continue to keep up momentum in reducing HIV transmission rates, we need to provide opportunities for YGBM to learn about the numerous HIV prevention strategies available to them.”

BC-CfE at CAHR: A Preview



BC-CfE researchers at the 28th Annual Canadian Conference on HIV/AIDS (CAHR 2019) are presenting exciting new findings relevant to policymakers, persons living with HIV and other individuals committed to ending AIDS worldwide.

A presentation with data from the BC-CfE Momentum Health Study, “What’s Race Got To Do With It?”, is looking at variations by race in anxiety and depression among gay, bisexual and men who have sex with men (gbMSM), particularly Indigenous gbMSM and gbMSM of colour in urban areas.

Using data from the BC-CfE-led CHIWOS study, a cross-sectional analysis of women living with HIV in Canada in the TasP® era suggests more studies could focus on peer leaders.

Research from the BC-CfE Laboratory Program examines risk factors associated with HIV transmission using the viral diversification rate among people living with HIV. These findings can help to better target treatment and prevention services to key groups.

New research on HIV and aging looks at the impacts of loneliness and stigma on cognition and mental among older people living with HIV.

See you in Saskatoon!

LECTURES & EVENTS

Forefront Lecture

Title: HIV Genetic Networks and Drug Resistance Surveillance in Mexico

Speaker: Dr. Santiago Avila-Rios

Wednesday, May 15, 2019, 12–1PM

Cullen Lecture Hall, Providence Level 1, St. Paul’s Hospital

HIV Care Rounds

Title: Cardiovascular Disease in People Living with HIV

Speaker: Dr. Matt Bennett

Wednesday, May 29, 2019, 12–1PM

Conference Room 7, 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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