



Dr. Viviane Dias Lima (PhD.), lead author of the study and BC-CfE Research Scientist and Senior Statistician

The end of AIDS? New BC-CfE study says it's possible

Is talk of "ending AIDS" just hyperbole, or is this a realistic goal for the research and medical communities?

A recent study in *The Lancet HIV* journal, authored by researchers at the BC Centre for Excellence in HIV/AIDS (BC-CfE), is adding valuable evidence to a concept long-held by researchers in B.C. The research indicates AIDS and related deaths could not only be controlled, but virtually eliminated, through expanded access to highly active antiretroviral therapy (HAART), evidence-based treatment guidelines, and systems to ensure timely HIV diagnosis and HAART initiation. This is an approach that could be applied internationally.

The study called *AIDS incidence and AIDS-related mortality in British Columbia, Canada, between 1981 and 2013: a retrospective study* points to steep declines in rates of AIDS-related mortality in B.C. since the mid 90s with the introduction of HAART. There was a further decline in 2006 when the concept of Treatment as Prevention® was pioneered and implemented. At the peak of the epidemic in 1994, 696 cases of AIDS were reported. By 2013, the number had fallen to 84 – nearly an 88 per cent decline!

"The research indicates that timely and expanded access to HAART treatment can transform AIDS from an epidemic to an endemic disease," says Dr. Viviane Dias Lima (PhD.), lead author of the study and BC-CfE Research Scientist and Senior Statistician. "Having the study published in the *The Lancet HIV* journal gives further weight to the case for the expansion of HAART treatment and TasP® initiatives, both within Canada and worldwide."

As Treatments Evolve, Numbers Drop

The study analyzed data from individuals living with HIV aged 19 years or older, who have ever accessed HAART in B.C. Researchers saw significant downward trends in AIDS deaths as treatment guidelines evolved towards more immediate and sustained initiation of HAART. Among people living with HIV in British Columbia, the study finds:

- A decrease of 67 per cent in the number of new AIDS cases between 1997 and 2013
- A drop of 77 per cent in the percentage of deaths attributed to AIDS between 1997 and 2013
- Decreases in the number of deaths attributed to AIDS of 65 per cent between 1997 and 2013, and 71 per cent between 2005 and 2013

Researchers also found, since the introduction of HAART, vertical transmission of HIV – from a mother to an infant – has been virtually eliminated in B.C. In addition, HIV-positive individuals are now living longer and healthier lives, and becoming part of an aging population.

"They are no longer dying of illnesses due to AIDS, but of heart disease, cancer and respiratory illnesses, just like everyone else," Dr. Lima says in an article published in *The Globe and Mail* on the study's findings. She continued, "These data warrant further exploration into the other

causes of illness and death in individuals living with HIV/AIDS. As these individuals age, we are faced with today's challenge of better understanding how to improve their overall health outcomes."

The Role of Treatment as Prevention®

BC-CfE Director Dr. Julio Montaner considers TasP® the key to eliminating the pandemic. "Treatment as Prevention® provides a road map for global HIV/AIDS control, and is based on the concept that early diagnosis and antiretroviral treatment improves patient longevity and quality of life, while dramatically decreasing the likelihood of spread of HIV," he says.

The proposed UNAIDS 90-90-90 target calls for 90% of people living with HIV knowing their HIV status by 2020, 90% of them receiving sustained HAART, and 90% of them maintaining an undetectable viral load. Meeting the proposed target by 2020 will maximize the effectiveness of existing tools to virtually eliminate progression to AIDS, premature death and HIV transmission, and thereby transform the HIV/AIDS pandemic into a low level sporadic endemic by 2030.

The study was co-authored by Lillian Lourenço, Benita Yip, Dr. Robert S. Hogg, Dr. Peter Phillips, and Dr. Julio S.G. Montaner, and appears in the February Edition of *The Lancet HIV*.



» The number of AIDS-related deaths in British Columbia has decreased dramatically – to its lowest level in 2013."

- Dr. Viviane Dias Lima (PhD.), lead author of the study



BC-CfE Magnate for Brain Gain

A global leader with an international team

According to research by Harvard Business School professor Roy Y.J. Chua, "The more your network includes individuals from different cultural backgrounds, the more you will be creatively stimulated by different ideas and perspectives."

And that's good news for the BC-CfE, because researchers from around the globe have come to the BC-CfE to be part of the groundbreaking and innovative HIV/AIDS research.

Researchers like Ignacio Rozada, PhD, an applied mathematician from Mexico City, who came to Vancouver in 2013 after hearing the BC-CfE was pushing the agenda on new treatment strategies. Ignacio knew he was part of an innovative team, but after meeting with some Mexican colleagues at an International AIDS Society conference in Australia last year, he appreciated his station even more. "When I told them I was working with Dr. Julio Montaner at the BC-CfE, their jaws literally dropped – this is an organization that is known world-wide for its research."

Lianping Ti from Bangkok spends her days examining the intersecting areas between illicit drug services, infectious diseases, and the delivery and efficacy of health care. Where her colleagues come from isn't something Lianping thinks about. It's more about where they are going with their work. "The international aspect of this job goes without saying – the BC-CfE attracts the brightest researchers from around the world," she says.

As a lead data analyst, Guillaume Colley from France wants his work to be impactful. Guillaume says the BC-CfE's flat organizational structure means he gets to see the results of his efforts – quickly. "My director



Huiru Dong – Urban Health Research Initiative,
Lianping Ti, PhD (Candidate), MPH – Urban Health Research Initiative,
Ignacio Rozada, PhD – Epidemiology and Population Health,
Guillaume Colley, MSc – Epidemiology and Population Health

might come to me and say, 'We are presenting this study at UNAIDS in Geneva next week,' and we immediately get to see the impact of our work applied at an international level."

The best part about working internationally, however, may be knowing the work you're doing is making a difference at home. Huiru Dong, a statistician from China, says last year the BC-CfE hosted a delegation of researchers from China who applied their learnings for the BC-CfE to populations back in China. "As an employee of the BC-CfE, I am proud to be contributing to this type of knowledge translation, and the advancement of public health in my homeland," Huiru says.

The BC-CfE comprises a dedicated and professional team of about 260, including physicians, health care providers, researchers, operational and administrative staff – with diverse cultural and linguistic backgrounds that span the globe.

Dr. Rolando Barrios, Medical Director to the HIV Continuum of Care Collaborative and Assistant Director, BC-CfE.

Working with the BC-CfE since 2005, Dr. Barrios leads important programs in the areas of patient safety, pharmacovigilance and continuous quality improvement.

Dr. Barrios combines his clinical area of specialty in Family Medicine, specializing in HIV care and treatment, with a strong understanding of the health system and improvement strategies to contribute to better individual and population health outcomes at the BC-CfE.

"My role is to focus on improving health systems and putting evidence into practice to close gaps in care and outcomes. We have strong evidence that can stop the spread of HIV infection and substantially improve the health and longevity of citizens living with HIV. Our work is to innovate and adapt evidence for everyday practice to ensure all people with HIV/AIDS are getting the appropriate medication and the right level of care, support, and access to the latest research and education."



A Test of Will: one man's story of overcoming adversity inspires BC-CfE staff and clinicians

An avid outdoorsman and climbing enthusiast, Warren MacDonald has always thrived on challenges and the promise of adventure.

He faced the ultimate challenge in April 1997. During a climbing trek in remote North Queensland, Australia, a freak rock fall pinned him under a one-ton boulder for two days. The accident necessitated the amputation of both his legs at mid-thigh, and set him on a journey of self-discovery that redefined his life.

Today, Warren is an author and keynote speaker who tours the world inspiring thousands to "navigate uncertainty and build resilience." He recently spoke to HIV/AIDS health care professionals and supporters at a BC-CfE's HIV Continuum of Care Collaborative Learning Session. He spoke candidly about his personal battles with acceptance, adversity, and stigma following the amputation.

When asked how he was able to embrace life after a devastating accident, he replied, "I recall crying myself to sleep when I was told my legs would be amputated. Then one day, it was like a switch was flipped in my mind and I saw myself through the eyes of an explorer rather than be depressed and ruined by my situation." Ten months later, he was climbing Tasmania's Cradle Mountain using a modified wheelchair and the seat of his pants. In February 2003, he became the first double above-knee amputee to reach the summit of Africa's tallest peak, Mount Kilimanjaro (5,895 m), and has since climbed many more mountains, defying odds.

Warren's themes resonated deeply with the crowd who work every day to help people combat stigma and adversity. "Improvement is a journey, and it's not an easy one. It would be easy to give up and accept the status quo," says Dr. Rolando Barrios, Collaborative Medical Director and Assistant Director, BC-CfE. "Yet, together, we've made important progress to improve both health outcomes and acceptance for British Columbians living with HIV. As system improvers, we must continue to overcome barriers and to reach for changes that will realize positive impacts for those living with HIV and AIDS.

To learn more about Warren MacDonald or to order his book *A Test of Will*, go to www.warren-macdonald.com

To learn more about the HIV Continuum of Care Collaborative, go to www.stophivaid.ca

LECTURES & EVENTS

Forefront Lecture

Can HCV Be Eradicated in Persons Who Inject Drugs?

Speaker: Dr. Jason Grebely (Viral Hepatitis Clinical Program, UNSW, Australia)

Wednesday, March 4, 2015, 12-1PM

Large Lecture Theatre (Providence Level 1),
St. Paul's Hospital

UNSW Hepatitis C Vaccine Preparedness Studies

Speaker: Dr. Lisa Maher (Kirby Institute for Infection & Immunity, UNSW, Australia)

Wednesday, March 18, 2015, 12-1PM

Hurlburt Auditorium (2nd floor), St. Paul's Hospital

For more information, contact us at

Education@cfenet.ubc.ca or visit our website at www.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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