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St. Paul's Hospital, Vancouver, B.C.



BC's success story shows strength of Treatment as Prevention®

n December 1st we celebrate World AIDS Day, an opportunity to reflect on our challenges and successes four decades into the battle against HIV/AIDS. Around the world there are nearly 38 million people living with HIV and about 1.5 million new infections per year. A recent report by the World Health Organization estimates the number of people with the virus being treated with antiretrovirals had risen to 27.5 million – an increase of almost 10% over the last year. Encouraging but not enough.

In BC, we have much to be proud of given the success of the BC Centre for Excellence in HIV/AIDS' (BC-CfE) Treatment as Prevention® (TasP®) strategy on the impact of HIV/AIDS, here and globally. On last year's World AIDS Day, we were proud to announce, alongside BC's Minister of Health Adrian Dix, that our province had surpassed the United Nations' 90-90-90 Target; with 92 per cent of people living with HIV in BC diagnosed, 91 per cent of them on highly active antiretroviral therapy (HAART), and 95 per cent of those on HAART (approximately 7,500 people) achieving virological suppression, meaning they have undetectable levels of HIV in their blood and bodily fluids. Reaching these thresholds has played a key role in reducing AIDS related morbidity and mortality in BC by over 90% since the peak of the epidemic in the early 90's. Furthermore, this success has also greatly reduced the likelihood of new HIV cases in BC, because people living with HIV who are virologically suppressed through HAART do not transmit the HIV virus.

Since January 2018, BC further expanded its HIV control efforts by adding fully subsidized pre-exposure prophylaxis (PrEP) to the TasP® strategy. PrEP involves one pill (containing two specific antiretroviral drugs) taken daily by individuals who are at increased risk of contracting HIV, based on a set of pre-defined criteria.

Daily use of PrEP reduces the risk of acquiring HIV by over 95%. Today, the BC-CfE's PrEP program has over 4,700 active participants across all of BC's health authorities, and is among the largest in Canada and, indeed, the world. As a result of the combined impact of HAART and PrEP, BC is on track to see its lowest number of new HIV infections over three decades in 2021, at approximately 120 cases (a 20% decrease from the previous year). This proves once again that sustained investments in TasP® (a strategy first proposed by the BC-CfE 15 years ago, and since widely adopted around the world) stops progression of HIV infection to AIDS, avoids premature deaths, and prevents HIV transmission, all within a cost-averting framework.

Continued fostering of BC's fully subsidized HAART and PrEP programs, with adequate support and full involvement of all relevant stakeholders, will be critical to ensuring the long-term success of BC's anti-HIV/AIDS strategy. The disruptions created by the COVID-19 pandemic illustrate this point. It has been widely reported that measures needed to address COVID-19, particularly lockdowns early in the epidemic, impacted nearly all aspects of everyday life as well as access to health care services. HIV care was no exception. The BC-CfE documented decreases in laboratory monitoring and access to HAART and PrEP in the first phase of the epidemic. These trends were confirmed with data from a survey of Vancouver's gay and bisexual men whereby 33 per cent of participants reported avoiding health services because of concerns about COVID-19 exposure. However, prompt implementation of corrective measures allowed for these trends to be reversed within weeks without ill effects

Earlier this year the United Nations called for a redoubling of the global efforts to "End AIDS as an

epidemic by 2030", defined as decreasing AIDS-related mortality and new HIV infections globally by 90%, using 2010 as the baseline. The campaign was launched in 2015 with a goal of reaching the BC-CfE-proposed 90-90-90 Target by 2020. However, by the end of 2020, most of the world had failed to meet the UN 90-90-90 Target for a variety of reasons, including weak political leadership, insufficient investments, and emerging challenges posed by COVID-19. As a result, UNAIDS estimates the failure to meet the 90-90-90 Target led to an additional one million AIDS-related deaths, and three million new HIV infections globally.

Despite these shortcomings, the United Nations successfully challenged the international community to expand the global effort by embracing the 95-95-95 by 2025 Target, as originally proposed by the BC-CfE. UNAIDS estimates that by meeting the 95-95-95 Target the number of people newly infected with HIV will fall from 1.7 million in 2019 to 370,000 by 2025, and the number of people dying from AIDS-related illnesses would be reduced from 690,000 in 2019 to 250,000 in 2025. "Ending AIDS as an epidemic by 2030" remains within reach. The question remains whether we have the political will and focus to deliver on the promise of the BC-CfE proven TasP® strategy at a global level.

On this World AIDS Day, we encourage every British Columbian to join the BC-CfE as we commit to do our part to motivate our political leaders find the courage and resources to deliver on this promise. To not do so would represent an inexcusable failure.

Julio Montaner, OC, OBC, MD Executive Director and Physician in Chief BC Centre for Excellence in HIV/AIDS Providence Health Care

"British Columbia has done much to establish itself as a global leader in addressing HIV and AIDS, thanks to the BC Centre for Excellence's **Treatment as Prevention**® Strategy, health authority partners, community-based organizations and people living with HIV working on the front lines. Working together we have made many gains, but there is still more work to be done."

BC-CfE staff reflect on World AIDS Day

Ahead of World AIDS Day we asked several BC-CfE staff members about their work and how it related to this year's World AIDS Day theme of "End Inequalities. End AIDS. End Pandemics."



Dr. Kate Salters, a BC-CfE research scientist, leads the Viral Hepatitis Research Program. She said, "While effective HIV treatment is free in BC, we know that important barriers to care still exist. Over the years, we have seen the overwhelming evidence around the effectiveness of modern antiretroviral therapy (ART) in reducing morbidity and mortality, but recognize that not everyone is equally able to realize the benefits of ART. Through the CIHR-funded SHARE study, we are hearing from people living with HIV just how critical patient-centred care is to them feeling supported and engaged in HIV treatment. We have heard really wonderful examples of how providing non-judgemental health care and meeting patients where they are at makes a difference in them feeling supported and ready to engage (or re-engage) in HIV care."

Dr. Jordan Sang is a BC-CfE Momentum Postdoctoral Research Fellow. He said, "The theme of World AIDS day this year is especially fitting to the work that I am doing and the populations I work with. When the AIDS epidemic first began in North America during the 1980s, it was centered around gay, bisexual, and men who have sex with men (gbMSM) and today these inequities still remain. In Canada, gbMSM remain disproportionately burdened by HIV representing only 3% to 4% of the male population, gbMSM have greater risk of HIV than their heterosexual peers and comprised 49.5% of new HIV infections in 2018. Disparities in HIV are associated with social and structural inequities faced by gbMSM including discrimination and stigma. In the Engage technical report, two thirds of participants indicated being called a derogatory name in the past year and being treated unfairly by strangers because of their sexual orientation. Thus, reducing barriers to care and social inequities which marginalize gbMSM is critical in ending HIV/AIDS."





Clara Tam, Tim Wesseling, and Sean Grieve are part of BC-CfE's SHAPE Team. Clara is a research coordinator and Tim and Sean are peer research associates.

Tim said, "I feel that inequalities in HIV care are most notable on the community level. In my experience as a gbMSM, who has lived with HIV for 30 years, I have seen how a community can rise and be there for their own out of necessity. I see the need for other HIV community groups that are facing more stigma and less social supports to have similar peer and community driven action to be empowered and to address those inequalities. At my workplace, and

on my team, we have been active in educating ourselves so that we can have a better understanding of those we serve, but still the direct involvement of those in the underserved communities of people living with HIV need to be included from A-Z in all aspects of HIV healthcare and research."

Clara said, "From a study perspective as Tim mentioned, we try to continuously educate ourselves on challenges our participants may face. Most recently, these challenges have been exacerbated through the COVID-19 pandemic as well as the poisoned drug supply. In response to these changes, and to ensure we accurately understand current participant experiences in our survey, we implemented a COVID-19 module to better capture how transitions to virtual health care services and impacts to the overall health care system affected their HIV care. In capturing these experiences alongside HIV care there is an opportunity to characterize and address inequalities that people living with HIV face today."

Niloufar Aran, a BC-CfE research coordinator for the Epidemiology and Population Health Program, said, "There always exists opportunities to address inequalities within the systems we occupy. The Building More Bridges project is one that started and ended with this aim in mind. This project went directly to community and did the research with Indigenous community experts in Saskatoon and people living with HIV. Through a series of in-person and virtual gatherings, the research team and allies supported community experts in identifying a question important to community that we wanted to explore. We honoured Indigenous ceremony throughout the gatherings and engaged in reciprocal learning. After identifying the research question, we met virtually to go over the results of the analysis, and together write up two manuscripts on the process and the results of the analyses. More information about this project can be found here and here. In this way, CANOC data was used to address community priorities identified by Indigenous peoples living with HIV and using research "in a good way" to support collaborations between community experts, researchers, and allies."





Dr. Surita Parashar, a BC-CfE research scientist for the Epidemiology and Population Health Program, said, "Advances in access to HIV care - including the universal availability of treatment and the widespread use of life-saving antiretroviral therapy - has resulted in incredible gains in life expectancy amongst people living with HIV (PLWH) in BC. Technically speaking, all PLWH have equal opportunity to access and benefit from treatment, so the main issue is not inequalities in HIV care. What persists and undermines these gains are health inequities - systematic differences in the opportunities PLWH have to achieve optimal health, which leads to unjust and avoidable differences in health outcomes between different people and sub groups of PLWH. Thus, despite incredible advances in HIV treatment and prevention, PLWH who are marginalized by social-structural inequities disproportionately experience poor health outcomes. We see that amongst members of our communities who use substances, for example.

In regards to learnings from the Thrive study specifically, home and community care is a service available to anyone who is experiencing acute, chronic, or rehabilitative health-care needs. However, many of our study participants who are in need of this service face barriers to accessing it - lack of information, lack of support, stigma, competing needs relating to mental health and substance use disorders. So once again, the main challenge with access to this kind of care is not inequality, it's inequity.

We have heard many disheartening stories of the stigma, discrimination, and biases of providers that prevent people marginalized by social structural inequity from accessing the care they need. We have also heard incredible stories of resiliency, people taking care of one another, and providers going the extra mile to support their clients in getting the care they need.

We hope through communicating our findings to those who design and operate the home and community care system, we will be able to convey the barriers many people face in accessing this care, as well as the factors that have helped people along in their journey to accessing care - peer support; and patient-centred, culturally safe, tailored supports for people with urgent health needs who experience social-structural inequities.

The full responses from each Q&A can be found on our blog at http://bccfe.ca/blog.

HIV CURE RESEARCH

International AIDS Society releases research priorities for an HIV cure



The BC-CfE's Laboratory Director Dr. Zabrina Brumme was a member of the international working group that published a review in - on World AIDS Day. The review outlined knowledge gaps and identified priority areas for HIV cure research for the next five years.

The paper, titled "Research Priorities for an HIV Cure: International AIDS Society (IAS) Global Scientific Strategy 2021", is the third such paper of its kind, with the previous two versions published in 2012 and 2016.

The series is a result of the IAS convening expert working groups to outline a strategy for developing an effective and scalable HIV cure. Since the series' inception, significant progress towards a cure has been made. The latest iteration is thanks to a group of experts from academia, industry, and the community coming together to evaluate recent progress and to outline cure-related research priorities for the next five years.

To ensure diverse voices were represented, the steering committee for the research paper included the co-chairs of the IAS cure strategy, Drs. Sharon Lewin and Steven Deeks, the chairs of each working group, and a community expert, selected for diversity in geographic background, gender, age, and expertise. Each working group also brought together senior scientists, a junior scientist, an industry representative and a community expert. Organizers also engaged people living with HIV at all levels as well as a wide range of scientific and non-scientific stakeholders. The BC-CfE is proud to be a part of this effort to find a cure for HIV and will continue to lend its expertise, resources, and researchers towards the crucial work of the International AIDS society and its global network of scientists.

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

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