

Studies by Dr. Kora DeBeck, post-doctoral fellow at BC-CfE and UBC; and Dr. Scott Hadland, chief resident in pediatrics at Harvard University-affiliated Boston Children's Hospital, were aimed at identifying why some high-risk youth initiate injection drug use while others do not.

Homelessness and childhood sexual abuse lead youth to experiment with injection drug use

Two first-of-a-kind studies from the BC Centre for Excellence in HIV/AIDS reinforce need for addiction treatment and prevention for homeless youth

The uncertainty that comes with not knowing where you're going to spend your next night—sleeping on a friend's couch, in a shelter, or on the street—can be harrowing enough, but new research shows that the harms associated with youth homelessness extend far beyond the stress of dealing with this daily anxiety.

According to a pair of new studies from researchers at the BC Centre for Excellence in HIV/AIDS (BC-CfE) and the University of British Columbia (UBC), homelessness and a history of childhood sexual abuse place Vancouver street-involved youth at great risk of intravenous injection drug use and potential transmission of HIV and hepatitis C.

The landmark studies, funded by the US National Institute on Drug Abuse and the Canadian Institutes of Health Research, were aimed at identifying why some high-risk youth initiate injection drug use while others do not.

Results published in the peer-reviewed *Journal of Adolescent Health* showed that youth who were homeless were almost twice as likely to start injecting drugs as youth who were not homeless.

In a separate study published in the peer-reviewed journal *Preventive Medicine*, researchers found that youth reporting childhood sexual abuse were more than two-and-a-half times as likely to start injecting drugs as those who had no history of such abuse.

"There are serious medical harms associated with injection drug use, including the transmission of HIV and hepatitis C," said Dr. Kora DeBeck, co-author of the *Journal of Adolescent Health* study and a post-doctoral fellow at BC-CfE and UBC. "While overall rates of injection drug use are down in Vancouver, there is increasing evidence that expanding addiction treatment interventions and providing other tools like supportive housing can intervene to further reduce rates of injection drug use among street youth."

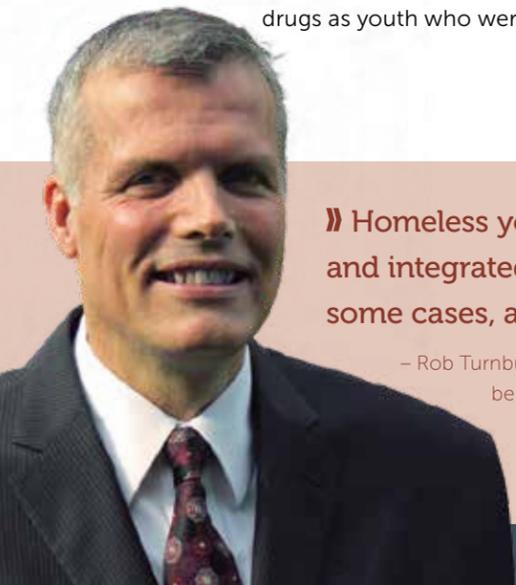
Dr. Scott Hadland, lead author of the *Preventive Medicine* study and chief resident in pediatrics at Harvard University-affiliated Boston Children's Hospital, added: "The high prevalence of childhood sexual abuse and subsequent injection drug use among homeless and street youth highlights the need to develop addiction and treatment strategies based on the traumatic situations they often face."

Data for both studies was derived from the BC-CfE's At-Risk Youth Study (ARYS), a prospective cohort of street-involved youth in Vancouver aged 14 to 26 years old, in an effort to untangle the mystery of why some youth choose to begin injecting drugs while others do not.

Investigators for the *Journal of Adolescent Health* study interviewed 422 street-involved youth between September 2005 and November 2011. For *Preventive Medicine*, researchers studied 395 street-involved youth from October 2005 to November 2010. As part of their research, they also identified key risk factors that can be targeted for implementing treatment and prevention programs.

"These are among the first studies to identify early life experiences and subsequent environments that clearly contribute to initiation of injecting drug use," said Dr. Evan Wood, Canada Research Chair in Inner City Medicine at UBC and senior author of both studies. "This research underscores the urgent need for evidence-based interventions to address homelessness and child abuse, as well as the immediate expansion of evidence-based addiction treatment services for high-risk youth."

The BC-CfE is actively working to support expanded addiction treatment in B.C.



» Homeless youth and youth at risk need housing and access to youth-focused and integrated services including education, employment training and in some cases, addictions, mental health and life skills."

— Rob Turnbull, president and CEO of Streethome Foundation, on BC-CfE studies showing youth may be particularly vulnerable to the harms associated with homelessness



HIV Primary Care Guidelines go mobile

The BC Centre for Excellence in HIV/AIDS (BC-CfE) has launched a web-friendly version of the *Primary Care Guidelines for the Management of HIV/AIDS in British Columbia* designed for use on smartphones and other mobile devices.

The BC-CfE's Primary Care Guidelines were first developed in 2011 by an expert panel in response to the need to expand the treatment of HIV-positive individuals. The guidelines are intended to support the management of HIV-positive individuals in the primary care setting. With the newly launched mobile version, the guidelines can now travel with primary care providers on their smartphones as they engage with patients. The information can alternatively be accessed in a user-friendly format on their office computers.

As a result, primary care providers now have immediate access to the most current recommendations for the assessment and management of their HIV-positive patients. Topics covered include recommended schedules for immunizations, HIV-specific laboratory tests, and screening for important coinfections such as hepatitis C. Separate sections are devoted to special issues in the management of women with HIV, dealing with addictions, acute HIV infection and lifestyle issues.



The guidelines will also include basic information for patients to help them manage their disease, and contact information for referrals to health authorities and service providers.

The guidelines reflect a consensus of the BC-CfE's Primary Care Guidelines Panel, which is made up of HIV-specialist and primary care physicians, a pharmacist, a nurse practitioner, and a community member from Positive Living Society of BC. The guidelines represent the committee's interpretation of current best practices in the management of HIV/AIDS and related conditions in B.C.

The primary care guidelines can be accessed on mobile devices and desktop browsers by visiting www.cfenet.ubc.ca/guidelines.

Cannabis market could generate billions in tax revenue for province

A recent study by a coalition of researchers led by the BC Centre for Excellence in HIV/AIDS (BC-CfE) found that British Columbia's domestic cannabis market could be worth more than \$500 million annually.

The study, published in the peer-reviewed *International Journal of Drug Policy*, is the first to estimate the size of B.C.'s domestically consumed cannabis market using provincial surveillance data. It found the estimated retail expenditure on cannabis by British Columbians was approximately \$443-million to \$564-million annually. Researchers concluded that regulating the provincial cannabis market could provide government with approximately \$2.5 billion in tax and licensing revenues over the next five years.

Dan Werb, lead author of the study and co-founder of the International Centre for Science in Drug Policy at the BC-CfE, noted the findings demonstrate that cannabis is

a highly lucrative and reliable source of income for organized crime. He suggested a regulated system in B.C. could generate significant tax revenue for services that actually address community health and safety.

"We now know the degree to which prohibition has made the cannabis trade lucrative for gangs and, in turn, made our communities less safe," said Werb. "From a public health perspective, we also know that making cannabis illegal has not achieved its stated objectives of limiting supply or impacting the level of cannabis use, particularly among young people. The sheer volume of the cannabis industry in B.C. suggests that our system of cannabis control has failed and that alternatives should be explored."

The paper is titled: *Estimating the economic value of British Columbia's domestic cannabis market: Implications for provincial cannabis policy.*

HAARTBEATS

Evidence and opinion grow in support of Treatment as Prevention

Mounting clinical data and public opinion continue to advance the BC Centre for Excellence in HIV/AIDS' (BC-CfE) model of Treatment as Prevention as both a national and global strategy in the fight against HIV/AIDS.

A recent study conducted in China has provided further evidence of the impact of antiretroviral therapy on the risk of HIV transmission in heterosexual couples. Published in *The Lancet*, the study showed the risk of HIV transmission was reduced by 26% in sero-discordant couples where the HIV-infected partner was taking antiretroviral therapy, when compared to couples where the HIV-positive partner remained treatment naive.

Under the leadership of Dr. Julio Montaner, the BC-CfE pioneered the concept of Treatment as Prevention (TasP). B.C. has since become the sole Canadian province to implement the strategy. In addition, the B.C. government recently announced the province-wide expansion of the Seek and Treat to Prevent HIV/AIDS pilot project (a component of TasP), which aims to expand HIV testing and treatment for hard-to-reach, at-risk individuals. As a result, as found in a recent BC-CfE study, B.C. is the only province in Canada showing a consistent decline in new HIV diagnoses, in part due to the widespread availability of free antiretroviral treatment for HIV-infected individuals in the province.

Saskatchewan, for instance, has seen an increase in new HIV infections in recent years. *Saskatoon Star-Phoenix*

columnist Dr. Mark Lemstra called on the province to adopt the BC-CfE's model.

"B.C. does so many more things right than Saskatchewan. We should send someone over to the BC Centre for Excellence in HIV/AIDS and ask them to help us set up an evidence-based strategy. At the very least, someone should read their website and get some ideas on how to prevent HIV," wrote Lemstra in the December column, titled "Let's adopt British Columbia's strategy."

Lemstra noted that highly active antiretroviral therapy (HAART) has reduced morbidity, mortality, and transmission of HIV; and eliminated positive HIV diagnoses among infants from HIV-positive mothers in B.C. Lemstra also highlighted B.C.'s success in reaching high-risk, marginalized populations.

"Despite (Saskatchewan and B.C.) having similar demographics and problems with injection drug use, B.C. used science to lower its HIV rates," wrote Lemstra.



Dr. Julio Montaner

Holistic care needed for harder-to-reach HIV-infected women

Women's health care (WHC) should be streamlined with HIV-specific care to improve health outcomes for harder-to-reach HIV-infected women in B.C., suggests a recent study from researchers at the BC Centre for Excellence in HIV/AIDS (BC-CfE), Simon Fraser University, and the University of British Columbia.

HIV infection is associated with many women's health issues that may not be adequately addressed in gender, nonspecific HIV care. HIV-infected women are more likely than their HIV-negative counterparts to have abnormal gynaecological conditions, cervical cancer, and both bacterial and viral sexually transmitted infections. Psychological disorders such as depression are also more prevalent among HIV-infected women.

To determine the uptake of WHC, including regular gynaecological care and counseling, among HIV-infected women, researchers used survey data from 231 HIV-infected, treatment-experienced women enrolled in the BC-CfE's LISA (Longitudinal Investigations into Supportive and Ancillary Health Services) study.

Overall, 77% of women reported regularly utilizing WHC. Women who did not utilize WHC were likely to be lower income (less than \$15,000 per year) and use illicit drugs. Women who used WHC were more likely to live in larger urban rather than rural areas, where health service provision may be less comprehensive and accessible. Importantly, lower trust in health providers was associated with a lack of WHC. However, HIV-care physicians had a high score of provider trust among both sets of women. HIV-related clinical data did not vary by WHC utilization status, suggesting that all women in this study responded similarly to HIV-specific treatment.

Researchers concluded that women-centred WHC and HIV-specific care should be streamlined and integrated to better address women's holistic health and avoid unnecessary shuffling of patients within the health care system.

As an example, the study highlighted the holistic care provided by Oak Tree Clinic (OTC). The Vancouver-based facility provides women-centred HIV care, obstetrical and gynaecological care, dietary care, and social support all amalgamated within one facility. Researchers suggest health-care providers at the OTC are highly sensitized to the importance of WHC and incorporate it into routine HIV care. The outreach social workers and nurses, as well as free food and childcare at the OTC, also help bring in harder-to-reach women, such as women who inject drugs and who have low income. Furthermore, OTC provides a safe women's majority environment to help build trust, and the clinicians have developed a long-term relationship with the patients. The multidisciplinary team works to increase women's engagement and ability to deal with the HIV challenges. As a next step, studies could be designed to more thoroughly evaluate OTC's model of care.

The BC-CfE's Kate Salters, Wen Zhang, Julio Montaner, and Robert Hogg were among the authors of the study published in *AIDS Research and Treatment*.

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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