



Dr. Thomas Kerr, third from top left, co-director of the Urban Health Research Initiative, a program of the BC-CfE, and members of Thai AIDS Treatment Action Group and Mitsampan Community Research Project.

Thai drug user study calls for greater investment in evidence-based healthcare

Latest research from BC-CfE's international program highlights failure of country's "war on drugs"

A new study from researchers at the BC Centre for Excellence in HIV/AIDS (BC-CfE) adds to the growing mountain of evidence pointing to the international war on drugs as a failed policy.

The latest study, co-authored with researchers from the Thai AIDS Treatment Action Group and Thailand's Mitsampan Community Research Project (MSCRP), found the Thai government's longstanding war on drugs, involving the mass incarceration of drug users, has failed to suppress the availability and use of illegal drugs in the country. In fact, the availability of illicit drugs has actually increased in Bangkok despite these aggressive drug policies.

The study, soon to be published in the peer-reviewed journal *Drug and Alcohol Dependence*, calls for greater investment in evidence-based healthcare and harm-reduction initiatives for injection drug users (IDU) in Thailand, both to save lives and prevent HIV infections.

"Drug addiction is a chronic, relapsing health condition and research shows that it is best addressed through evidence-based drug treatment," said Dr. Thomas Kerr, senior author of the study and co-director of the Urban Health Research Initiative, a program of the BC-CfE. "The findings of this study and various prior reports provide significant evidence that simply incarcerating people who use drugs will not help achieve the objective of reducing the demand and supply of illegal drugs.

"In fact, this approach has led to unintended negative consequences such as strengthening the link between users and drug dealers, and health risks such as HIV/HCV transmission."

The study is the latest research to come from MSCRP. For decades, Thailand had experienced high rates of illicit drug use and HIV/AIDS among IDU. However, as highlighted in the study, the Thai government's response has been to rely on criminal justice approaches such as policing, incarceration and compulsory drug detention centres.

MSCRP was launched in 2008 under the leadership of Dr. Kerr with the goal of reducing these drug-related harms. MSCRP is a collaboration among the BC-CfE, the Thai AIDS Treatment Action Group, the Mitsampan Harm Reduction Center and Chulalongkorn University in Bangkok.

The project has since published 18 peer-reviewed studies that have provided insight on previously undocumented social and structural vulnerabilities to HIV/AIDS and other drug-related harm among IDU in Bangkok.

The work has also garnered broad media attention in Thailand, including stories in some of the country's highest circulation daily newspapers. The new study was covered in publications across Thailand. However, the outreach goes beyond media coverage. The project has been successful in developing important

relationships with community groups, local politicians and public health officials.

"Our project has been favourably received by local IDU communities, as well as other civil society organizations engaged in harm reduction programs in Thailand," said Kanna Hayashi, research coordinator for MSCRP.

In September 2011, MSCRP published a research summary report that included a series of recommendations for the Royal Thai Government and United Nations (UN). Following its publication, they assembled a panel of high-level officials from various Thai authorities and UN agencies to present the recommendations, which included exploring models for the decriminalization of illicit drug use, providing evidence-based harm reduction services and phasing out compulsory drug detention centres.

The message has been received. "For far too long, we have focused on compulsory drug detention as a way to address the rampant issue of illicit drug use, but this study and reports before it have showed that this approach has failed," said former Thai senator Jon Ungphakorn following the publication of the MSCRP's recent research. "The time has come to move away from incarcerating people who use drugs and instead invest in proven addiction treatment and harm reduction programs to meaningfully address their treatment and care needs."

» We have the tools to dramatically change the course of the epidemic in Canada, in North America and in the rest of the world."

– Dr. Julio Montaner, Director of the BC-CfE, calls for a national strategy to fight HIV/AIDS in an exclusive interview with Yahoo! News



Harrigan wins Innovation and Achievement Award

Dr. Richard Harrigan, Director of the Laboratory Program at the BC Centre for Excellence in HIV/AIDS, has been awarded the Innovation and Achievement Award for his industry-leading work in clinical research.

Presented by LifeSciences BC, the Innovation and Achievement Award is given annually to individuals who have made a significant contribution to the development of British Columbia's life sciences industry.

"Dr. Harrigan has led groundbreaking research in the field of HIV research that has not only improved the lives of British Columbians and Canadians, but influenced HIV clinical care around the world," said Don Enns, President of LifeSciences BC. "He is an ideal representative of the innovation occurring here in B.C."

For more than a decade, Dr. Harrigan has been a local, national and international leader in the development of cutting-edge translational laboratory research with important implications for the clinical management of HIV. He has contributed extensively to the field of HIV drug efficacy and resistance, as well as the human and viral parameters that influence HIV disease progression.



Dr. Richard Harrigan

Dr. Harrigan's research in these areas has played a key role in enabling significant improvements in the quality and duration of life afforded patients by highly active antiretroviral therapy.

Most recently, Dr. Harrigan has developed a "next-generation" sequencing method to identify HIV-positive individuals who respond to maraviroc, the first approved "CCR5 antagonist" drug, as well as "ReCall" software for automated analysis of HIV drug resistance. The test and software have been adopted as the standard test across Canada and in more than 30 countries.

Cascade of care blazes the trail for Treatment as Prevention at CROI

The evolution of the "cascade of HIV care" in B.C. demonstrates the effectiveness of Treatment as Prevention™, according to findings presented by Dr. Julio Montaner and B.C. Centre for Excellence in HIV/AIDS (BC-CfE) researchers at the 20th Conference on Retroviruses and Opportunistic Infections (CROI).

British Columbians with HIV are living longer and living healthier, and study findings show that meaningful progress has been made in controlling the epidemic.

"The HIV cascade of care" presented by BC-CfE researchers represents a focused approach for implementing Treatment as Prevention™, illustrating the steps in care and support for those living with HIV/AIDS. The approach categorizes eight stages in the cascade of care: the portion of people HIV-infected; HIV-diagnosed; linked to HIV care; retained in HIV care; in need of antiretroviral therapy; receiving antiretroviral therapy; adherent to therapy; and having a suppressed viral load.

The annual data showed significant improvement from 1996 to 2009 in every stage, including a greater than 60% decrease in new HIV infections. The greatest gains were realized in viral suppression: people adherent to therapy, but not having undetectable viral loads,

decreased from 95% in 1996 to 20% in 2009. Other research presented by BC-CfE researchers at CROI included the latest findings from the Laboratory Program, which continues to develop innovative applications of next-generation sequencing technology to obtain new insights into HIV.

One such study from Dr. Art Poon found that deep sequencing only one region of the HIV genome may be sufficient for accurate estimation of infection dates – information that could have significant implications for vaccine development and drug treatment.

Research presented by BC-CfE's Dr. Viviane Lima demonstrated a proactive strategy aimed at seeking, testing, treating and retaining hepatitis-C (HCV) infected injection drug users into harm-reduction programs following treatment could have a marked impact on HCV incidence, prevalence and mortality.

CROI gathers the world's leading HIV/AIDS researchers working to understand, prevent and treat the disease, providing a forum for translating laboratory and clinical research into progress against the epidemic. More than 4,000 leading researchers and clinicians convened early in March in Atlanta, Georgia, for this year's meeting.

New tool for managing HIV patients

A metric developed by researchers at the BC Centre for Excellence in HIV/AIDS provides physicians with a new tool for ensuring the health of their HIV patients, while also lending important insight on how to develop effective strategies to improve HIV-associated health outcomes.

The Programmatic Compliance Score (PCS) assesses the impact of non-compliance with HIV treatment guidelines on mortality among HIV-positive individuals on therapy and helps identify gaps in HIV patient care. More recently, PCS was applied to other outcomes including the risk of future virologic and immunologic failure and of the emergence of resistance.

"Our hope is that physicians will use the PCS metric to identify individuals who are at a high risk of adverse HAART outcomes as a result of sub-optimal disease management in the beginning of treatment," said Dr. Viviane Lima, senior statistician at the BC-CfE whose research validated the metric.

The first year on antiretroviral therapy is very important in a patient's treatment history, as it often dictates the trajectory the disease will follow. This is particularly critical with regards to HIV, which is able to mutate into harder to treat variants when it is exposed to suboptimal regimens or if there is incomplete adherence to the treatment.

The PCS allows physicians to look at trends and identify

which indicators have improved and those that have not, and adjust treatment accordingly by referring to HIV therapeutic guidelines. HIV-positive individuals who strictly adhere to these guidelines have a significantly lower probability of premature morbidity and mortality.

The metric is composed of six non-performance indicators: having less than three CD4 (immunity affected by HIV) count tests in the first year after starting antiretroviral therapy; having less than three plasma viral load (viral replication) tests in the first year after starting a antiretroviral therapy; no drug resistance testing prior to starting treatment; starting on a non-recommended antiretroviral therapy regimen; starting therapy with CD4 <200 cells/mm³; and not achieving HIV viral load suppression within six months since starting treatment. The sum of these six indicators was used to develop the PCS score with zero indicating full compliance and six indicating most non-compliance.

BC-CfE research has found that each PCS component was highly associated with mortality. Individuals with a PCS score of four or higher were 22 times more likely to die than those with a PCS score of zero. They also found that individuals with a PCS score of four or higher were 10 times more likely to experience future immunologic failure and four times more likely to experience future virologic failure and develop drug resistance.

RESEARCH

Housing status a major determinant to HAART access and treatment outcomes

HIV prevalence, access to highly active antiretroviral therapy (HAART) and treatment outcomes are all negatively impacted by being homeless or living in marginal conditions, says a BC Centre for Excellence in HIV/AIDS (BC-CfE) study.

Among the highlights from a comprehensive review of scientific evidence, the study noted that HIV prevalence in homeless/marginally-housed populations is estimated to range up to 10 times higher than among those housed. Elevated HIV rates in this population were driven by engagement in the survival sex trade, incarceration, and poor access to health and HIV preventive services. Evidence also indicates homelessness and marginally-housed HIV-positive individuals experience lower levels of HAART access and greater rates of sub-optimal treatment outcomes. Associated determinants include depression, illicit drug use and medication insurance status. One U.S. study found a significantly larger portion of homeless individuals had CD4 cell counts below 200 cells/mL (43% vs 32%) and detectable viral loads (65% vs 51%) compared to their counterparts with stable housing. As well, in an analysis of 129 deceased patients and 240 randomly selected patients at a public health HIV clinic in Florida, homeless individuals had almost 10 times higher odds of death compared with those who were stably housed.

While previous interventions among homeless/marginally-housed individuals have demonstrated modest effects on HAART adherence and HIV treatment outcomes, comprehensive programs including directly observed treatment delivered free of charge within a housing-first and harm-reduction environment may be most effective, the study concluded.

The study, *Housing Status and the Health of People Living with HIV/AIDS*, was published in *Current HIV/AIDS Reports* and co-authored by BC-CfE's M. J. Milloy, Evan Wood and Julio Montaner, along with Brown University's Brandon Marshall.

WHAT'S NEW

TasP International Workshop

Date: April 22-25,

Location: Sheraton Wall Centre Hotel, Vancouver

What: The International HIV Treatment as Prevention (TasP) Workshop is an annual meeting that brings together academic, policy, industry, and community representatives to review and discuss research and policy progress in the field of HIV treatment as prevention. First held in 2011, the workshop is hosted by the BC Centre for Excellence in HIV/AIDS, and co-hosted by the International AIDS Society, Joint United Nations Program on HIV/AIDS, World Health Organization, and National Institute on Drug Abuse.

Details/registration: kellyhsu@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.

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