



Dr. Julio Montaner addresses the media at the IAS 2009 Conference.

## Fifth IAS Conference Gathers Leading AIDS Scientists and Global Delegates

Failure of the G8 leadership to fulfill their commitments and “treatment as prevention” approach were the main topics of discussion at this year’s conference

More than 7,000 top AIDS scientists, public health experts and community leaders from around the world convened at the recently concluded fifth International AIDS Society (IAS) Conference on HIV Pathogenesis, Treatment and Prevention held in July in Cape Town, South Africa. The objectives of the conference were to present the latest developments in HIV/AIDS research, promote global dialogue, and examine the steps moving forward to continue the fight against HIV/AIDS.

Among the topics discussed at the conference, the G8 leadership’s failure to meet their HIV/AIDS funding commitments and the “treatment as prevention” approach topped the agenda.

Renowned HIV/AIDS representatives unanimously criticized G8 countries for ignoring HIV/AIDS during the 2009 G8 Summit in Italy and failing to fulfill their promises to provide “universal access” to prevention and treatment for HIV/AIDS by 2010. They warned of a looming health disaster if governments abandoned their pledge to fight the disease. Dr. Julio Montaner, president of the IAS and director of the BC Centre for Excellence in HIV/AIDS said, “The silence of the G8 leaders is not just pathetic, it is criminal.”

He noted that due to lack of funding, 12 million people in poorer countries are unable to get the antiretrovirals (ARVs) they desperately need to save their lives.

In his speech to inaugurate the conference, Dr. Montaner started by praising the dramatic progress made in the past few years to increase access to HIV/AIDS treatment, care and prevention services, especially in resource-limited countries. “We have gone from virtually no access to well over three million people on antiretrovirals in low and middle-income countries. This is a tremendous success,” said Dr. Montaner.

However, Dr. Montaner cautioned the gathering of the challenges ahead in the face of an unprecedented economic downturn. He said the global recession “represents an immediate threat to the progress we have witnessed over the last decade. A retrenchment now would be catastrophic... We know what needs to be done, yet implementation flounders, costing thousands of lives each day.”

### Widespread support for treatment as prevention

Also grabbing attention at this year’s conference was the proven concept of treatment as prevention. In 2006, Dr. Montaner introduced the idea that universal voluntary testing combined with immediate antiretroviral drug treatment provided to every infected person could potentially eliminate the AIDS epidemic. At the time, the controversial idea did not find any support from the medical community. But, at this year’s conference, the treatment as prevention approach

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Reuben Granich (left) of WHO was a guest speaker at the IAS conference plenary. In his speech, he supported treatment as prevention.

enjoyed widespread endorsement by experts from around the world.

"Treatment as prevention is the topic of the year," Swiss scientist Bernard Hirschel told the conference. Dr. Willy Rozenbaum, one of the early discoverers of the HIV virus and the current president of France's National AIDS Council, said providing proper treatment to those who have the HIV virus "sharply reduces the chances that they will transmit the virus."

Dr. Rozenbaum added that the traditional prescription of condoms and monogamy as strategies to reduce HIV/AIDS had initial success in the developed world, but have failed to make any significant progress in recent years.

An important boost for the treatment as prevention approach came from the World Health Organization (WHO), which had resisted this concept for years. A model by WHO researchers recently predicted a 95 per cent reduction in new HIV cases within 10 years (saving more than seven million lives by 2050) if the treatment as prevention approach is adopted. Reuben Granich, a medical officer for HIV/TB (tuberculosis) in the HIV/AIDS department of WHO, told the conference that the treatment strategy would increase costs initially, but may provide cost savings in the long run as it increasingly prevents new HIV cases.

With growing recognition of the value of antiretrovirals in the treatment and prevention of HIV, Dr. Montaner noted in his opening remarks that antiretroviral therapy (ART) "is no longer viewed as a cost-effective intervention to prolong the life of a person living with HIV or AIDS, but is now viewed as an essential tool to curb the growth of the epidemic, which makes it a cost-averting intervention."

Stressing the importance and urgency of continued funding for HIV/AIDS programs, Dr. Montaner cited a recent report released by the UK All-Party Parliamentary Group on AIDS indicating that by 2030, 50 million people living with HIV will need new drugs to keep them alive.

Quoting the report, he said: "Political activism is needed once more to ensure that the next generation of drugs is available to the world's poorest in future... The only way to end the HIV/AIDS epidemic is to prevent infection because the drugs suppress the virus, and those receiving treatment are much less likely to pass it on."

### Science must speak, forcefully

Stephen Lewis, former UN special envoy for HIV/AIDS in Africa and current co-director of AIDS-Free World, provided a second keynote, titled "Scientists as Activists", to open the conference. Mr. Lewis congratulated the scientists gathered at the conference for their significant contributions towards advancing the science of prevention and treatment for HIV/AIDS. However, he urged them not to limit their work to science alone, but to also get involved in the political struggle to ensure that HIV/AIDS receives the funding and attention it deserves from the world's leaders.

"When the G8 won't renew its 2005 commitment to universal access, when the G8 cynically uses the financial crisis to threaten cutbacks to AIDS funding... then it's time for science to speak with one powerful voice of accusation," said Mr. Lewis. "You spend everyday of your working lives to make life possible, and the power brokers devalue your work with the fraudulent plea of destitution," he told the scientists. "Don't let them get away with it."



Dr. Nora Volkow, director of NIDA, discussed treatment as prevention with Dr. Julio Montaner.



IAS 2009 Conference opening ceremony

Mr. Lewis stressed that although funding was a critical issue, it wasn't the only one. Issues such as jailing due to government homophobia, laws criminalizing homosexuality, needless deaths of mothers and their infants due to a failure to administer the necessary drugs, and the epidemic of domestic social violence also require strong condemnation from scientists. He argued that determined and informed voices of advocacy from the scientific community were the need of the hour.

Both Dr. Montaner and Mr. Lewis concluded that all efforts must be made to end the HIV epidemic and nothing short of that result would be acceptable for the future health of our society and our children.

Among the organizations represented at the conference were WHO (World Health Organization), UNAIDS (the Joint United



Stephen Lewis (left), co-director of AIDS-Free World, with Dr. Julio Montaner at the IAS 2009 Conference. Mr. Lewis was one of the keynote speakers at the opening ceremony.

Nations Programme on HIV/AIDS), World Bank, Gates Foundation, Clinton Foundation, South African government, PEPFAR (the U.S. President's Emergency Plan for AIDS Relief), NIDA (National Institute on Drug Abuse), NIAID (National Institute of Allergy and Infectious Diseases) and NIH (National Institutes of Health).

The event, one of the world's largest scientific conferences on HIV/AIDS and held every two years, was organized by the IAS in partnership with Dira Sengwe, a South African NGO (non-governmental organization). Over 2,400 scientific abstracts were submitted and more than 1,550 were accepted for presentation. About 360 individuals volunteered at the conference.

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## BC-CfE Staff Presentations at the IAS 2009 Conference

The BC-CfE staff members delivered a total of 38 oral and 13 poster presentations at the IAS 2009 Conference in Cape Town, South Africa. Congratulations to everyone from the BC-CfE who presented research findings at the conference and provided research and other support from Canada on the presentations.

Space does not allow us to summarize all the presentations. However, four have been selected for review here, and a list of all presenters has been included below.

### Screening for HIV tropism using population-based V3 genotypic analysis: a retrospective virological outcome analysis using stored plasma screening samples from MOTIVATE-1

*Presented by Dr. Richard Harrigan*

Dr. Richard Harrigan, lead investigator and director of Research Laboratories, BC Centre for Excellence in HIV/AIDS, presented new data that may allow patients with HIV to obtain easier, quicker and less expensive access to optimum treatment for HIV.

The data show that a genetic approach to determine HIV tropism can be used to effectively identify patients who will respond positively to treatment with the CCR5 antagonist maraviroc, which prevents the HIV virus from entering cells. The genetic testing was shown to be just as accurate as the current test.

Widespread use of the current test has been hindered by costs in the thousands of dollars per test, and the fact that only one lab in the world – in San Francisco – can process and analyze the results. Because the genotypic test is much less expensive and can be processed and analyzed in labs that currently provide HIV drug-resistance testing, the genetic approach could become broadly available and conducted at the same time as resistance testing to determine susceptibility to all drugs, including maraviroc.

### Hunger and food insufficiency are independently correlated with unprotected sex among HIV-positive injection drug users both on and not on HAART

*Presented by Dr. Kate Shannon*

Despite emerging evidence to suggest that hunger and food insufficiency may have a significant adverse relationship with risk taking, data have been primarily derived from resource-constrained settings. Therefore, this study aimed to examine

longitudinally the relationship between food insufficiency and unprotected sex among HIV-positive injection drug users (IDU) both on and not on highly active antiretroviral therapy (HAART) in a Canadian setting.

Analyses were restricted to HIV-positive individuals who completed baseline and at least one follow-up visit in the AIDS Care Cohort Evaluating Access to Survival Services (ACCESS) between 2005 and 2008, supported by linkages to the BC-CfE Drug Treatment Program database. The majority were marginally housed and rely on food banks and shelters to obtain food. A multivariate logistic model was constructed using generalized estimating equations (GEE) to assess an independent relationship between food insufficiency (e.g. going hungry due to insufficient access to food or means to acquire food) and unprotected sex (inconsistent condom use for vaginal/anal sex).

#### **The model provided the following results:**

- Among 436 HIV+ IDU, the median age was 42 years with 58 per cent male and 42 per cent female.
- 68 per cent were on HAART and 69 per cent reported hunger/food insufficiency over the follow up.
- In multivariate GEE analyses, being younger, female, married/cohabitating, hunger/food sufficiency, and binge drug use remained independently correlated with elevated likelihood of unprotected sex among HIV+ IDU, adjusting for HAART, viral load suppression and other potential confounders.

The results of this study suggest a desperate need for improved access to free and low-cost food among HIV+ IDU as a secondary prevention strategy, including interventions that account for the potential of competing resource demands of acquiring drugs and food. Importantly, given recent evidence of poor virological responses among food insecure individuals on HAART, innovative treatment models that counter hunger and food insufficiency will be crucial to realizing the positive prevention and treatment benefits of HAART.

### Sites and kinetics of HLA-associated immune escape in HIV-1 integrase

*Presented by Dr. Zabrina Brumme*

This presentation was selected by the Scientific Programme Committee for distinction. Dr. Brumme has been doing postgraduate work at Harvard, but is expected to return to the BC-CfE as a research scientist in the near future.

## The combined impact of male circumcision, condom use and HAART coverage on the HIV-1 epidemic in South Africa: a mathematical model

Presented by Dr. Viviane Dias Lima

In South Africa, HIV is transmitted in various ways: mother-to-child, heterosexual contacts, men-who-have-sex-with-men, injection drug users, and nosocomial (hospital acquired) sources. Given the multiplicity of transmission sources, there is a need to understand which prevention strategies will most effectively mitigate the spread of the epidemic at the population level. Dr. Lima presented the preliminary results of a large simulation study that was conducted to estimate the concurrent impact of different prevention strategies on the HIV epidemic in South Africa.

The method used for this study was a dynamic mathematical model to simultaneously assess the impact of the varying scenarios of circumcision, condom use and HAART coverage on the heterosexual male population aged 15 to 49 years.

### The model provided the following results:

- Increased condom use and HAART coverage (alone or in combination) were the most effective interventions to reduce new HIV infections between 65 to 95 per cent and AIDS deaths between 10 to 34 per cent.
- Circumcision had a limited impact of three to 13 per cent in reducing new HIV infections and only two to four per cent in reducing AIDS deaths.
- Circumcision's impact was overshadowed when combined with other interventions.

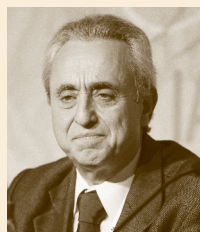
Dr. Lima concluded that the results show that giving priority to increased HAART coverage and condom use, both previously shown to be cost effective, even in resource-limited settings, can have an immediate and significant impact on curbing the HIV epidemic in South Africa.

### BC-CfE staff members who also made presentations at the conference were:

- Dr. Mark Tyndall
- Dr. Rolando Barrios
- Dr. David Moore
- Dr. Silvia Guillemi
- Ms. Angela Kaida

## Antiretroviral Therapy in 2009: Successes and Challenges

### Dr. Pedro Cahn believes "treatment IS prevention"



Dr. Pedro Cahn

Dr. Pedro Cahn, president and co-founder of Huésped Foundation in Argentina and immediate past president of the IAS, detailed the successes, reinforced the opportunities and discussed the challenges presented by ART in 2009.

Speaking to more than 7,000 IAS conference attendees, he noted the tremendous impact that ART has had on HIV-associated morbidity and mortality rates while improving the quality of life and increasing the life expectancy of HIV-infected persons in developed and developing countries.

Considering the remarkable success of AIDS medicines so far, Dr. Cahn emphasized that the concept of HAART as prevention has to be redefined as HAART **IS** prevention.

"It's prevention of avoidable disease, it's prevention of unnecessary death and it's prevention of new infections. To make it happen, we need to reach our patients in time and retain them in the healthcare

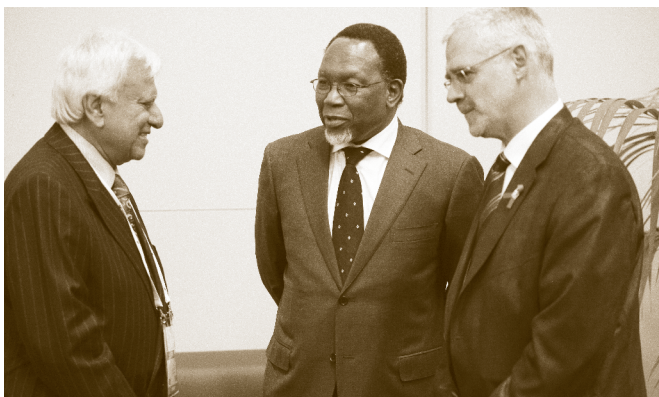
system, which needs to be strengthened, not against an HIV program, but in synergy with it," said Dr. Cahn.

Many scientists at the conference denounced the G8's failure to fulfill their promises, and Dr. Cahn also referred to the G8 during his speech. He said the millennium development goals (MDG) from the United Nations include MDG #6, which implies combating HIV/AIDS and other diseases. But to achieve this goal, noted Dr. Cahn, "we need the G8 to fulfill their commitments because as MSF [Médecins Sans Frontières] has said, 'the economy is in a recession; HIV is not.'"

He also addressed the need to expand HIV testing and the timely, safe administration of ART, including avoiding toxic drugs such as d4T. According to Dr. Cahn, other public health challenges include the need for inexpensive monitoring; adherence to support tools; simple, low-cost, second-and-third-line strategies; and training and retaining health care workers.

Dr. Cahn concluded his speech by outlining the landscape for new drugs and new treatment strategies, as well as drugs currently being developed.

## US, South Africa advance fight against HIV/AIDS while Canada retreats



From left: Prof. Hoosen Coovadia, IAS 2009 Conference co-chair; Kgalema Motlanthe, deputy president of South Africa; and Dr. Julio Montaner

In an unprecedented show of unity, experts at the IAS conference warned that cutting HIV/AIDS funding due to today's recessionary environment could lead to a host of damaging outcomes – lost momentum on the progress made against HIV/AIDS, countless deaths and preventable infections, and billions or even trillions of dollars in additional costs over the long run.

"G8 nations have committed billions of dollars in economic stimulus packages and bailouts for the very institutions that triggered this recession, while AIDS and other health-care priorities have diminished on the political agenda," said Dr. Julio Montaner, president of the IAS and director, BC Centre for Excellence in HIV/AIDS. "HIV is not in recession, and greater investments in HIV and other public health priorities are required from the international community, particularly given that antiretroviral therapy is now known to have preventive as well as therapeutic benefits."

The battle against HIV/AIDS is at a critical juncture, with 33 million people worldwide living with HIV and nearly five new HIV infections occurring for every two people placed on treatment. The response from the global community and individual nations today will decide the health and well-being of future generations.

### South Africa scales up HIV/AIDS programs

South Africa has the highest number of people in the world infected with HIV – 5.7 million people. One in every five adults is HIV-positive. During the 10 years when former president Thabo Mbeki and his health minister Manto Tshabalala-Msimang were in charge, South Africa developed a staggering AIDS crisis, fuelled by the government's denial to recognize the link between HIV and AIDS and a blatant mistrust of conventional anti-AIDS drugs. But some recent initiatives by the South African government may help in turning the tide.

Current health minister Aaron Motsoaledi is considering a more aggressive AIDS policy that could see South Africa provide ARVs to patients at an earlier stage of their illness, supply drugs to all HIV-positive babies at diagnosis, and dispense ARVs to every HIV-infected person. South Africa's HIV/AIDS National Strategic Plan has set targets to:

- treat 80 per cent of people who need ART by 2011
- provide 95 per cent of women with access to services to prevent mother-to-child transmission by 2011
- reduce new infections by 50 per cent by 2011

The IAS has applauded the efforts of the South African government. An editorial in the Cape Times also praised the efforts of the government, saying "Motsoaledi's urgent and decisive intervention to tackle the AIDS epidemic must be applauded and supported."

### U.S. keeps its promise

Another noteworthy contribution in the fight against HIV/AIDS comes from the United States. In his opening speech at the conference, Dr. Montaner said, "it is incredible that the USA, the country saddled with the worst of the fiscal crisis, remains the only one of the G8 that has met their stated fiscal commitments."

He further mentioned that PEPFAR (the U.S. President's Emergency Plan for AIDS Relief), which was introduced by the Bush government and focused on the worst-hit African countries, is reducing the incidence of HIV and saving millions of lives. "My research team was able to document a decrease in HIV incidence among PEPFAR-focus countries, when compared with non-focus countries, in Africa," said Dr. Montaner.



Dr. Julio Montaner discusses treatment as prevention with Dr. Eric Goosby, U.S. Global AIDS Co-ordinator for PEPFAR.

According to a recent study by a public health expert at the Stanford University School of Medicine, African countries that received the most PEPFAR support saw 10.5 per cent fewer AIDS deaths per year compared with their neighbours.

Since its inception in 2003, PEPFAR has spent \$18.8 billion dollars to provide antiretroviral drugs to more than 2.1 million people in developing countries. Earlier this year, President Obama announced a six-year commitment of \$51 billion for PEPFAR and appointed Dr. Eric Goosby, a physician and former chief executive officer of Pangaea Global AIDS Foundation, as the new leader for the program.

Under this new administrative umbrella, PEPFAR is shifting its focus from treatment to prevention. "Prevention is an essential component of PEPFAR and is becoming an increasingly critical priority in the absence of an HIV vaccine or cure," Dr. Goosby told *Nature Medicine*.

South Africa and the U.S. have made commendable efforts to arrest the HIV/AIDS epidemic, but Canada continues to play a less certain role.

## B.C. leads, Canada lags

Dr. Julio Montaner recently told CBC's *The Current* that he is proud of the support he has received from B.C. Premier Gordon Campbell and his administration. Earlier this year, Premier Campbell announced a commitment to a pilot project that will expand access to antiretroviral drugs to the street-involved population in downtown Prince George and Vancouver's Downtown Eastside. It's crucial to reach out to at-risk populations whose access to medical services is inadequate and their conditions often go undiagnosed.

While B.C.'s provincial government has made efforts to embrace the treatment as prevention approach, the federal government is still resisting this proven strategy. Talking on CBC's *The Current*, Dr. Montaner described his relationship with the federal government as "incommunicado".

However, he stressed that he and his team remain open to re-initiating dialogue with Harper's government to facilitate an HIV/AIDS strategy that would serve Canada well.

"Canada is intellectually leading the fight against HIV/AIDS, but we also need to bring our weight, our funding and our support to make a difference nationally and internationally," noted Dr. Montaner. He referred to posters in the U.S. showing President Obama getting tested for HIV to encourage widespread testing in promotion of the National HIV Testing Day campaign. Dr. Montaner said it is important for a similar day to occur in Canada. The Canadian Prime Minister standing beside the president of the International AIDS Society, and both being tested for HIV, sends an important message to the people of Canada that by testing for HIV, you are not only protecting yourself, but others too.



Dr. Anthony Fauci, NIAID director, Dr. Julio Montaner and others discuss treatment as prevention.

## IAS Praises Outgoing Executive Director Craig McClure



After six busy years at the helm of the IAS, outgoing executive director Craig McClure leaves behind a stronger, bolder organization that is well positioned to succeed in meeting the considerable challenges ahead in HIV/AIDS.

McClure built an outstanding legacy of increased stakeholder co-operation, improved and expanded HIV/AIDS education programming, innovation and achievement that has helped advance the interests of those suffering from HIV/AIDS.

"The IAS was extremely fortunate to have a leader of McClure's standing and expertise," said IAS president Dr. Montaner. "He will be remembered as a fearless and thoughtful leader who pushed both friends and critics to find common ground and a more effective response to the HIV/AIDS pandemic, regardless of how difficult the path."

During his tenure, Mr. McClure brought about changes that were nothing short of transformational. Among his many contributions were:

- increased IAS membership (membership more than doubled from 5,800 in 2004 to over 13,000 in 2009)
- noticeable increases in the membership's regional diversity
- better attendance and outcomes from regional conferences
- an enhanced online presence to engage a broader group of stakeholders, and
- expansion of the organization's educational programs emphasizing the important connection between professional development and an effective response to HIV

Under McClure's leadership, the IAS also assumed a bolder advocacy role. It prioritized the elimination of stigmas and discriminatory policies such as HIV-related travel restrictions; encouraged access to scientifically proven prevention strategies and universal access to HIV treatment in low-and-higher-income countries; advanced the strengthening of all health-care systems; and, most recently, supported the preventive benefits of antiretroviral treatment.

### IAS Welcomes New Executive Director Robin Gorna

Robin Gorna, a 20-year veteran in the field of HIV/AIDS will succeed Craig McClure as the new head of the IAS. Watch out for an article on her new role in the September issue of *Forecast*.

## what's new

### HIV/Antiretroviral Update: A Special International AIDS Society Symposium

Monday, November 16, 2009  
St. Paul's Hospital, Vancouver

The Fall HIV/Antiretroviral Update features members from the Governing Council of the International AIDS Society. These international experts including Nobel Prize winner Prof. Françoise Barré-Sinoussi will present the latest information on state-of-the-art global

developments in antiretroviral treatment, discuss all aspects of HIV research, as well as everyday management of the disease.

This open educational event offers an opportunity to learn about the most recent developments in the treatment, care, and prevention of HIV/AIDS.

Registration is limited for this popular event.

**For more information or to register, please e-mail [pwhite@cfenet.ubc.ca](mailto:pwhite@cfenet.ubc.ca).**

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Funding for the BC Centre for Excellence in HIV/AIDS is provided by the B.C. Ministry of Health through Pharmacare and the Provincial Health Services Authority.