

WESTERN NEWS

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ILLUSTRATION BY FRANK NEUFELD

Board takes 'important step,' OKs Indigenous plan

BY ADELA TALBOT

Today, Candace Brunette is thinking of her great-grandmother who lived on a trap line. She is thinking of her grandmother who didn't have the right to vote in Canada. She is thinking of her mother who had a Grade 10 education.

And, as she looks back on challenges she faced as a Mushkego Cree university student, she looks to her young sons and sees a hopeful future.

"I think of all of that, and I can see the change, and I can see the work that was collectively done and the direction we're moving in. It's overwhelming at times. We've come so far," Brunette, Western's Indigenous Services Coordinator, said following the approval of the *Indigenous Strategic Plan* by Western's Board of Governors last week.

"When universities were being shaped and molded, Indigenous people were not included. And now we are trying to catch up. In the future, Indigenous people can come into an institution and our ways of knowing will be welcomed. It's not about an assimilatory model anymore," she continued.

"Western stands among many postsecondary institutions across the country that are focusing greater attention on issues related to Indigenous education."

- Janice Deakin
Western's Provost and
Vice-President (Academic)

"We can bring who we are to the institution; our ways of knowing will be welcomed; it will be a safer place for my kids. It's not that it wasn't a safe place before. It's that there literally wasn't a place for some of my relatives in the past. We're in a different time."

The approval of the *Indigenous Strategic Plan* is an historic occasion for Western, one that has been a long time coming, noted Janice Deakin, Western's Provost and Vice-President (Academic).

Next up, a task force will be formed with the mandate, in the New Year, to recommend ways to implement the goals outlined within the plan, she said.

"It's an important step toward fulfilling a commitment made in the university's overarching strategic plan (*Achieving Excellence on the World Stage*) to improve accessibility and success in higher education for Indigenous peoples. It also provides some direction for how we will respond to the calls to action outlined in the 2015 report issued by the Truth and Reconciliation Commission of Canada," Deakin said.

"Western stands among many postsecondary institutions across the country that are focusing greater attention on issues related to Indigenous education – something that's profoundly overdue, and something to

which we are strongly committed to achieving tangible results."

"We owe a tremendous debt of gratitude to the members of the Indigenous Strategic Initiatives Committee who consulted with close to 700 campus and Indigenous community members over the course of the last three years to develop the plan," she continued.

Western's first-ever *Indigenous Strategic Plan* seeks to remedy the under-representation of Indigenous peoples as students, professors, staff and administrators in Canada's postsecondary education system, according to university officials.

In consultation with the Indigenous Postsecondary Education Council, Western formed an Indigenous Strategic Initiatives Committee, which has been engaging and consulting members of the campus community and local/regional First Nations communities over the past two years to develop the draft strategic plan. Western has three local First Nations communities in close proximity – Chippewas of the Thames First Nation, Oneida Nation of the Thames and Munsee Delaware Nation.

The document sets down eight strategic directions

➔ **INDIGENOUS PLAN // CONTINUED ON PAGE 6**



On World AIDS Day, Western researchers outline the global HIV/AIDS fight.

Western researchers are trying to understand the complexities of the human immunodeficiency virus (HIV) with the aim of eventually finding a cure. To commemorate World AIDS Day 2016 today, *Western News* contributor Crystal Mackay sat down with five of the top HIV/AIDS researchers at the Schulich School of Medicine & Dentistry to find out what they think is the key to eradicating the epidemic and to learn what their idea of a 'perfect world' would look like with respect to HIV/AIDS in the next decade.

It no longer makes the headlines it once did. But HIV/AIDS remains a stark reality for millions of people around the world.

HIV – or human immunodeficiency virus – attacks and destroys infection-fighting cells of the immune system. Without treatment, HIV gradually destroys the immune system and advances to AIDS – or acquired immunodeficiency syndrome. AIDS is the most advanced stage of HIV infection.

Since the virus was first identified in 1983, 78 million people have become infected. Of those, 35 million – or six times the population of the Greater Toronto Area – have died from AIDS-related illnesses.

According to the United Nations, there were approximately 35 million people worldwide living with HIV/AIDS at the end of 2015. Of these, 1.8 million were children under the age of 15 years old. An estimated 2.1 million individuals worldwide became newly infected with HIV last year – a number that has remained stubbornly consistent since 2005.

Yet, positive news exists.

AIDS-related deaths have fallen by 45 per cent since a peak in 2005; new infections among children have declined by 50 per cent since 2010. As of June 2016, more than 18 million people living with HIV were accessing antiretroviral therapy, up from 15.8 million in June 2015 and 7.5 million in June 2010. That means 45 per cent of all people living with HIV had access to treatment.

On World AIDS Day, Dec. 1, we reflect on the fight against HIV/AIDS and Western's role in it.

Here are the researchers' stories in their own words.




Silverman

Michael Silverman, Division Chair-Chief of Infectious Diseases, is focused on prevention of mother-to-child transmission of HIV in Africa, and explores the transmission of HIV among intravenous drug users in the Canadian population.

In the near future, the focus is going to have to be on making it easier for those infected with HIV to take their medication in order to reduce the difficulties we see now with adherence. If we can find a way to make these medication preparations, so they can be given every month or every two weeks, this would enable adherence even in people whose lifestyles make their daily dosing difficult.

If we can encourage adherence, we can shut off the epidemic by reducing the viral load in individuals to a point where they are no longer infectious to others through sex or sharing of injection equipment. This would enable us to not only protect their health, but to prevent the next generation from acquiring infection.

In a perfect world, we would be able to shut down the clinics because we would have a vaccine to both prevent new infections and also allow people who are already infected to stop taking medications without the virus returning. Therefore, the health-care system would only have to interact with people once, to vaccinate them, and people could go on and live their lives as though they never had HIV. Unfortunately, this is still a dream, but work is going on now to try to make it a reality. For now, it is critically important people living with HIV take their medications so they will be healthy and able to participate in the cure when it arrives. 




Kang

Microbiology and Immunology professor Chil Yong Kang made international headlines when his lab developed a preventative HIV vaccine, approved for human clinical trials in 2012. The vaccine uses a genetically modified version of the inactivated HIV gene and has now moved into Phase 2 of clinical testing. Kang's lab is also working on developing a therapeutic vaccine to treat those already infected with the virus.

Worldwide, there are still 6,000 new infections of HIV per day. My hope is our experimental HIV-1 vaccines will lead to complete eradication of HIV infection in the long term. In the shorter term, I hope the vaccine, in combination with anti-retroviral therapy (cART), will help HIV-infected individuals to have a near normal life.

As far as prevention is concerned, the key lies in the development of effective prophylactic (preventative) vaccines. This is the solution to ending the AIDS epidemic.

In 10 years, with respect to HIV/AIDS, I hope everyone will have access to an affordable, effective prophylactic HIV vaccine which can prevent HIV infection and consequently, new HIV/AIDS patients will be non-existent. Moreover, I would hope all previously infected individuals could be treated permanently by cART or a therapeutic HIV vaccine. If we can do that, then we can have a real impact. 




Dikeakos

Microbiology and Immunology professor Jimmy Dikeakos and his team are specifically interested in one HIV protein, Nef, to better understand how it functions inside of infected cells. Nef is often considered the disease-causing protein in HIV, or the protein that causes disease in humans.

Our hope is to better understand this protein called Nef in order to develop new drugs that block its function in HIV infected cells. Although there are already very good drugs out there, HIV is constantly mutating, making the disease resistant to therapy, so there is always a need for new drug compounds.

As the saying goes, "There are 35 million people infected with HIV, and there are probably 35 million different versions of the virus out there," which is not that far from the truth. The future of treatment for HIV lies in resistance testing, to be able to tailor anti-retroviral drug combinations for infected individuals to very specifically treat their unique infection. It will take a combination of drugs and vaccines to completely cure HIV/AIDS in the future.

If you look at where research is going right now to find a cure, it's a combination of anti-retroviral drugs and vaccines to both prevent and treat the infection. Long term, if both groups of researchers work together – those that do the drug therapy, like my group, and the vaccine researchers – it would be a more successful approach for the future. I would like to see everyone working together for a common goal.

In the shorter-term, we are currently in the era of PreP therapy (pre-exposure prophylaxis), a daily medication individuals can take in order to prevent contracting HIV. Clinical studies have shown 90 per cent of those who take this medication on a daily basis will not get a new HIV infection. Right now, there are guidelines and restrictions in place controlling who can get access to the medication. I hope, in the near future, there will be widespread and worldwide use of PreP and governments will make it readily available to any individual who wants it. 




Arts

Eric Arts, Microbiology & Immunology chair, and his research team are looking at HIV evolution and how it impacts treatment actions and drug resistance. His lab is also working on vaccine development and trying to find a cure.

What most people don't understand about HIV is it is not just one virus causing the epidemic. We have millions of strains circulating, making it very different from any other disease we've encountered so far. A good analogy is, we have as many HIV strains in one infected patient as we have of influenza, or the flu virus, in the entire world in one year. That's one aspect of what makes vaccine development so complicated.

Our lab looks at identifying and understanding those different strains with the hope of using that information to develop better treatments and eventually, find a cure.

If we have any hope of eradicating the epidemic, our best hope is a vaccine. To get there, we need to be less dogmatic in our approach, and move on ideas wherever they come from that are promising.

In a perfect world, in 10 years from now, we will have developed a vaccine that will cure infected individuals. Even if we don't develop a vaccine that can prevent new transmissions, what a cure does is eliminate the virus in 35 million people who can no longer transmit. Otherwise, we have 35 million people we need to treat today, 45 million 10 years from now, and 50 million several years after that. The hope is patients who are receiving treatment will be able to stop taking their drugs and the virus won't come back. If we reach that, then we will have accomplished so much. 



Barr

Microbiology and Immunology professor Stephen Barr is a scientist researching the HIV genome and how it permanently incorporates itself into our own genome in a process called integration. This event leads to life-long infection and is typically accompanied by a dormant period of several years where HIV expression is barely detectable (HIV latency). His lab is also working to understand how HIV overcomes our body's strong antiviral defences.

HIV is a clever virus whose sole mission is to reproduce and survive in the hostile environment of our immune system. Since the immune system of each individual is unique, I believe in order for us to gain the upper hand and outsmart HIV, we need a targeted and more personalized attack on HIV. Precision medicine is an emerging approach for disease treatment and prevention that takes into account individual variability in genes, environment and lifestyle for each person. By looking at each person's antiviral defence system, and how HIV hides from this defence, we will be able to identify an Achilles' heel for each person that can be targeted with therapy.

The goal of our research is to understand the molecular interactions between HIV and our immune system and the human genome, so we can design new drugs to prevent viral infection and the onset of AIDS in HIV-infected individuals. We hope our research will help inform the design of new approaches in HIV eradication research.

In a perfect world, 10 years from now, I would love to see HIV/AIDS cured. I would also like to see HIV/AIDS no longer has the stigma it has today, that having HIV/AIDS is judged no different than having the flu. Not only will this ease the suffering of those infected and affected by HIV/AIDS, this will help in getting more people tested and on treatment. 