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Questioning walls of the heart_World Aids Day 2021

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[Questioning walls of the heart: World Aids Day, 2021](#)

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Questioning walls of the heart: World Aids Day, 2021



Lei Qi, PhD candidate, Microbiology and Immunology Department
December 1, 2021

Over 70 million people have been infected with HIV worldwide, leading to approximately 33 million deaths as of 2020 according to the United Nations Programme on HIV/AIDS ("The Global HIV/AIDS Epidemic," 2020). Despite anti-viral treatment suppressing viral loads and greatly reducing HIV-related deaths, mortality remains at ~800 thousand and new infections at 1.8 million per year with no effective HIV vaccine ("Global HIV & AIDS statistics," 2020-2021; "The Global HIV/AIDS Epidemic," 2020). Although the world has made significant progress, global targets for 2020 were not achieved. Division, disparity and disregard for human rights are among the failures that allowed HIV to become and remain a global health crisis.

The theme of World AIDS Day 2021 is "End inequalities. End AIDS". Most people notice inequalities from data or media. In my case, it was while pursuing my medical degree that I first witnessed economic, social, and cultural inequalities against individuals living with AIDS.

Five years ago, I was doing my residency training in a teaching hospital, which is also one of the biggest organ transplant medical centres in China. This hospital is, by any account, impressive so far as healthcare facilities go. It features model buildings, air ambulance capacity, and a number of cutting edge world medical devices, including the da Vinci Surgical Robot. We serve more than 2,000,000 patients annually and operate over 100 surgeries daily. However, my training also included rotations in "special" hospitals. One of them was an Infectious Disease Hospital. Honestly, the field of infectious diseases is not as hot as surgery or cardiology for young graduates to pursue their career. Furthermore, globally but also nationally within China, financial support and grants are disproportionately allocated to other diseases, such as cancer, diabetes, ischemia heart diseases and so on.

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Standing in sharp contrast to the well-funded general hospital teaching hospital I had first encountered as a resident, the HIV medical facility in this same city is a two-storey, run down building (picture B). This is the only HIV medical facility in our city, which counted 13.7 million citizens in 2021. I have no idea about the exact number of HIV infected individuals in our city, but this poor facility could probably not provide adequate health care for AIDS patients. You may think that it must be overcrowded here, but the fact is the opposite. Patients with HIV would rather not seek medical care in this hospital, although HIV medications are free in my country. The reasons are complex, but one of them is social discrimination. For instance, when I sought to transfer patients from the general teaching hospital to the Infectious Disease hospital, all of them asked to stay in our hospital. I had to persuade them that the Infectious Disease hospital is the place for them: with more medications and experts to treat certain infectious diseases than are found in our general hospitals.

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When I rotated into the Infectious disease hospital, one HIV patient certainly left an impression on me. He wore sunglasses all the time, even inside the room, so I never had a chance to make eye contact with him. My attending doctor told me that this patient was excluded from his workplace because his coworkers argued that mosquitoes would transmit his HIV to them. This social discrimination and isolation may explain the pair of sunglasses on his face.

To a certain level, every one of us may harbor stigmatizing beliefs, or feel social stigma. HBV, HIV and COVID are all viruses. Do we have the same compassion for patients suffering from HIV and its associated malignancy, in comparison with patients infected with COVID? Do we have the same compassion for a drug user with HIV infection, compared with a little kid with cancer? Why do we see patients with different diseases in distinct ways in our hearts? What constitutes the walls in our hearts and how will we break these down?

During the pandemic of COVID, I was honoured to join Dr. Eric Arts' research team to start my very own, very cool HIV vaccine imaging project. Dr Arts is scored as the top virologist in CIHR Foundation pilots maybe not only because he published over 130 articles that have been cited almost 10,000 times. My first impression of him is that he is different from the professors that I knew before. Most of them focus on their studies of some molecular pathways of diseases in a laboratory for their whole life, but they have little experience of interacting with people suffering those diseases on the front line. Dr Arts knows the people behind the disease to which he has dedicated his life. He goes to Uganda regularly, where 1.4 million people are living with HIV, to work with local researchers and medical doctors in Uganda to find a cure for HIV. Becoming a professor in his 30s, he indeed had the option to work comfortably in a university. However, he took the risk of being infected with malaria and other infections in Africa and chose a difficult journey that remains less traveled. In my view, it is because of what he experienced and saw on the front lines of HIV suffering and care – knowledge that can never be obtained from reading papers in the office - that he has great compassion on people suffering HIV in vulnerable situations. He places his enthusiasm for HIV and his compassion for vulnerable people before a comfortable, safe life. Most people choose to prioritize personal interests, such as a decent job and comfortable life. I have also lived this way. Now, asked to write this blog and reflecting on where I am on this World Aids Day, I wonder: if I only live for my own interests in a comfortable zone avoiding experiencing harsh, frustrating parts, will I later feel the meaning of life is too shallow?

Dr Arts and his colleagues are currently working on HIV vaccines(Ao et al., 2021; Mangion et al., 2020; Racine, Kobinger, & Arts, 2017). Experience from effective vaccines against other viral infections and functional regimens capable of eliciting more robust immunity could set a path towards HIV vaccine generation. WHO announced the first prequalification of vesicular stomatitis in Nov 2019, which showed 100% (95% CI 74.7-100.0; p=0.0036) efficacy(Henao-Restrepo et al., 2015). As such, our Canadian research team, in collaboration with International AIDS Vaccine Initiative (IAVI), has been testing multiple modified VSV vectored HIV-1 vaccine. Although our progress has been going well so far, I, facing challenging time in the future, should remind myself that spending so many years in my medical and research training not just for living for myself but solving difficult problems and doing good for people who are facing death threats.





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