



Editorial

World AIDS Day 2022: A bittersweet commemoration of the global HIV/AIDS response

World AIDS Day has been taking place on the 1st of December every year since 1988. On this day, we remember the people we have lost, reflect on how far we have come and rally together to strengthen our HIV/AIDS response. However, the 2022 World AIDS Day featured a bittersweet commemoration for the global HIV/AIDS response. As local co-chair and member of the 24th International AIDS Conference (organized by the international AIDS society) held in Montreal, Canada, we discuss the international issues concerning the current global HIV/AIDS response.

The bitter part of the 2022 World AIDS Day

Our fight of AIDS is far from over as we do not have a vaccine in contrast to COVID-19¹.

In 2021, there were 1.5 million new HIV infections, 650,000 lives were lost due to HIV infection and 38 million people have been living with HIV (PLWH) who survive on antiretroviral therapy (ART) without a cure in hand.¹ For the first time, trends in HIV response are in danger, even as HIV is still perceived as a major public health issue. Over the last few years, progress towards HIV goals has stalled, financial resources have shrunk and millions of lives are at risk as a result. Disparity and disregard for human rights are among the failures that allowed HIV to remain a global health crisis.

In India, as per the Joint United Nations Programme on HIV/AIDS (UNAIDS) report of 2021, about 2.4 million (range 2-2.9 million) individuals are living with HIV infection¹. Although new infections have been on a gradual decline over the years, in 2021, a total of 63,000 individuals were newly infected. The ART coverage in India has steadily increased with up to 65 per cent of people living with HIV/AIDS (PLWH) receiving therapy in 2021. For UNAIDS 95-95-95

targets, India reports its progress at 77, 84 and 85 per cent¹.

Globally, persistent economic, social and legal inequalities posed by the COVID-19 and Mpox pandemics combined with wars in Europe and armed conflicts in Africa have fuelled an unprecedented crisis. COVID-19 pandemic has contributed to limit access for testing and delay ART initiation. Furthermore, COVID-19 public health crisis was the end of game whistle for the economic globalization where the interdependence of world economies and the rapid spread of technologies were an established dogma. As a countermeasure, nationalism, immigration regulation, abortion rights and lesbian, gay, bisexual, and transgender (LGBTQ) rights are at stake in many countries.

For the HIV community, large international gatherings like international AIDS conferences or other venues have been cancelled or programmed virtually over the last three years, limiting our collaborative effort and support. Definitively, a rejuvenated commitment is needed to maintain visibility for HIV and to end AIDS as a public health threat.

The sweet part of the 2022 World AIDS Day

Acknowledging the current crisis for the HIV/AIDS response, the 2022 International AIDS Society (IAS) organizing committee has chosen 'reengage and follow science' as a theme for the 2022 AIDS conference (<https://aids2022.org/about/conference-theme-and-objectives/>). The participation in person of more than 8000 attendees, with the addition of 2500 virtually, has represented a beacon of hope for the HIV/AIDS response. Key objectives were shared and a consensus emerged throughout the International AIDS Conference and World AIDS Day.

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The shared objectives can be wrapped up as the following: (i) to scale up for everyone the equal access to prevention, testing, treatment and long-term care, (ii) to orient health services to patient-centred needs to better reach the hard-to-reach persons often been those most at risk, (iii) to join force also as citizen to impose a 'zero tolerance' policy to stigma and discrimination in all health services, and (iv) to support the implementation of community-led research, prevention and care as a novel route for enhancing the UNAIDS 90-90-90 to 95-95-95 approach.

The same spirit was shared for the December 1 2022, as the WHO joined partners to commemorate World AIDS Day, under the theme 'Equalize'². The WHO is calling on global leaders, caregivers and anyone concerned with HIV to resolve the inequalities which are roadblocks for ending AIDS. As a community, we must grant access to point-of-care services and self-testing, particularly for children and key populations^{3,4}. This effort should include key populations with their partners: men who have sex with men, transgenders, people who use drugs, sex workers and people in prisons. In addition, countries like Canada, Australia and any other countries with indigenous people who represent a hard-to-reach population must propose culturally oriented interventions. Such culturally tailored interventions involving or led by local community members will increase screening and linkage to care for these populations often living in a remote geographic area.

Two main platforms should be implemented and maintained to improve the hard-to-reach populations including self-testing and community-based testing strategies. Self-testing is a person-centred strategy that is convenient, accessible and can be affordable. Worldwide, oral and finger stick rapid self-testing has been proven to be a cost-effective act.

Self-testing in undiagnosed persons living with HIV in Africa contributed to increase the number of people who knew their serostatus up to 85 per cent⁵.

The COVID-19 pandemic has already primed and sped up the Indian audience to HIV self-tests^{3,4}. As the Indian economy is growing at a rapid pace, policymakers and HIV leaders should consider the expansion of its digital platforms for public and private self-testing while also supporting community-based testing.

Point-of-care testing

HIV testing should be offered as part of the sexually transmitted and blood-borne infection and respiratory virus testing repertoire. This will dramatically reduce stigmatization for the process of seeking HIV testing and improve treatment for other infections. In addition to testing for communicable diseases, non-communicable diseases such as hypertension, chronic renal failure and diabetes should also be diagnosed to create an integrated point-of-care, to improve the efficiency of service delivery.

To this end, India's generic drug industry can play a pivotal role in offering cheaper prophylactic and therapeutic options to its own and foreign populations. To overcome economic fallouts due to COVID-19, in 2020, the call of the honourable Prime Minister of India for '*Atmanirbhar Bharat Abhiyan*' or 'Self-reliant India' would help in making pragmatic developments of the economy and medical care⁴. Achieving UNAIDS targets in India will help set an example for the Asian subcontinent.

Improvement in prevention, treatment and cure research in 2022

The ART combined with plasma viral load and drug resistance testing have transformed the life of PLWH by averting AIDS, abrogating vertical transmission, allowing COVID-19 vaccines to be optimally effective and preventing the fear for forward HIV transmission^{6,7}. ART alone will not end the pandemic even if treatment is prevention. Therefore, we must continue to invest in vaccine and cure research. Despite the slowdown in HIV research due to the COVID-19 pandemic, this year witnessed significant breakthroughs in prevention, care and cure research⁸.

Prevention

Preventing sexually transmitted infections with an 'old' oral antibiotic doxycycline taken after the intercourse (DoxyPEP) as a strategy to reduce sexually transmissible bacterial infections, such as syphilis, *Chlamydia* and gonococcus infections can be considered part of the holistic sexual health continuum. Intramuscular Pre-exposure Prophylaxis (PrEP) injected intramuscularly every two months (cabotegravir + rilpivirine extended-release injectable suspension = Cabenuva®) has shown evidence to prevent HIV infection in high-risk male and female adults and adolescents⁹. Based on such success, global stakeholders

are asking for oral and injectable PrEP options with equitable access.

Long-term ART success confirmation

Integrase strand transfer inhibitors (INSTIs) continue to demonstrate durable efficacy and favourable tolerability profile up to four years, supporting their preferred status in most treatment guidelines. In addition, dual (dolutegravir + lamivudine = Dovato®) or long-acting ART (Cabenuva®) regimens containing INSTI are alternative for triple therapy regimens¹⁰.

HIV cure research

Two additional HIV cures have been reported in 2022: one male PLWH undergoing allogeneic stem cell transplantation for a lymphoma with a donor lacking the second receptor of HIV cellular entry (CCR5-Δ32/Δ32). More importantly, a female PLWH who was previously considered an elite controller, likely cleared her virus as Spanish physicians and scientists were not able to find back the virus¹¹. This case represents the second observation of a possible spontaneous cure due to an outstanding immune control, leading over time to the clearance of the virus. Definitively, these rare cases reignited enthusiasm for immune strategies¹².

Among new frontiers in immunotherapy, the development of broadly neutralizing antibodies (bNAbs) that target highly conserved part of the virus envelope (epitopes on the HIV Env protein) heralds strategies for prevention and cure research. Pilot clinical trials have demonstrated the antiviral potency of these bNAbs, as HIV viral load decreased by two logs after administration¹³. Furthermore, their infusion at the time of ART initiation and/or combined with immune boosters have entered clinical trials and study results are awaited¹⁰.

The successful development of COVID-19 mRNA vaccine platforms has permitted to deliver HIV mRNA vaccines. Recruitment for the first HIV mRNA vaccine clinical trial has been completed and the vaccine seems to be well tolerated in uninfected volunteers¹⁴. Immunogenicity results, including antibody and cellular responses, should be available in 2023.

Conclusion

We must acknowledge that still 70 per cent of new HIV infections occur among people who are marginalized and often criminalized. Scaling up HIV services and removing structural barriers like stigma and discrimination of key populations in every country

is considered the only way to end AIDS. This 2022 World AIDS Day is a distinctive moment to foster interaction and celebrate the accomplishments of the fearless HIV leaders, healers and community members for their unwavering commitment to ending the HIV epidemic.

Conflicts of Interest: None.

Jean-Pierre Routy^{1,2,3,*} & Nitika Pant Pai^{4,5}

¹Infectious Diseases & Immunity in Global Health Program, Research Institute, ²Division of Hematology,

³Chronic Viral Illness Service, ⁴Department of

Medicine, Faculty of Medicine, McGill University &

⁵Research Institute, McGill University Health Centre, Montreal, QC, Canada

**For correspondence:*

jean-pierre.routy@mcgill.ca

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