

VIEWPOINT

## The HIV epidemic in Latin America: a time to reflect on the history of success and the challenges ahead

Brenda Crabtree-Ramírez<sup>1,§\*</sup> , Pablo F Belaunzarán-Zamudio<sup>1\*</sup> , Claudia P Cortes<sup>2</sup>, Miguel Morales<sup>3</sup>, Omar Sued<sup>4</sup>, Juan Sierra-Madero<sup>1</sup>, Pedro Cahn<sup>4</sup>, Anton Pozniak<sup>5</sup>  and Beatriz Grinsztejn<sup>6</sup>

<sup>§</sup>**Corresponding author:** Brenda Crabtree Ramírez, Departamento de Infectología, Instituto Nacional de Ciencias Médicas y Nutrición, Salvador Zubirán, Vasco de Quiroga 15, Tlalpan, C.P. 14080, Mexico. Tel: +52 5554870900, ext. 5504, 5508 ([brenda.crabtree@infecto.mx](mailto:brenda.crabtree@infecto.mx))

\*These authors have contributed equally to this work.

**Keywords:** Latin America; HIV epidemic; migration; HIV; PrEP in Latin America; ART; HIV testing

Received 4 October 2019; Accepted 2 February 2020

**Copyright** © 2020 The Authors. *Journal of the International AIDS Society* published by John Wiley & Sons Ltd on behalf of the International AIDS Society. This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

According to Joint United Nations Programme on HIV/AIDS (UNAIDS) data, 1,900,000 adults and children were living with HIV in Latin America and the Caribbean in 2018 [1], where overall prevalence was 0.5%. Latin America's HIV epidemic is concentrated among men who have sex with men, transgender women, sex workers and people who inject drugs [2]. In comparison, the Caribbean has a smaller population of people living with HIV (PLHIV), but a generalized epidemic with an overall HIV prevalence of 1.2% and women accounting for half of all infections [3]. Within a short time span and through extraordinary efforts, programmes for universal access to antiretroviral therapy (ART) were rolled out in all countries in the region [4] despite the absence of previous infrastructure for HIV care provision and the lack of international financial support for these programmes in most of the countries.

From 2003 to 2008, the number of people on ART doubled and steadily increased afterwards; by 2017, approximately 1.2 million PLHIV (61%) were receiving ART, lagging only after high-income countries (78%) [1]. Furthermore, mortality after ART initiation has decreased and is very similar to that among Latinos receiving HIV care in the USA [5–7]. Regarding prevention, mother-to-child transmission (MTCT) has substantially decreased as provision of ART has ramped up [8].

And in the past decade, concerted efforts by activists, advocates, committed politicians, scientists and many others, have slowly advanced the recognition of rights of minorities [9,10]. For example, there has been a substantial increase during this century in the number of countries where same-sex sexual activity has been de-penalized, equal rights of marriage and child adoption extended to same-sex couples, and strong legal protections against discrimination and violence based on sexual orientation or gender identity implemented [11]. Nevertheless, these advances are threatened by the recent political and economic backlash throughout the entire American

continent, adding to the challenges lying ahead in controlling the HIV epidemic [12,13].

First and foremost, discrimination and violence against sexual minorities, in particular, transgender people, is far from over: Seventy-eight percent of transgender women reported to have been murdered from 2008 to 2015 worldwide were killed in Latin America [14]. Such levels of stigma and discrimination remain significant barriers to protection of even the most basic human rights.

Similarly, the estimated 2 million people who inject drugs living in Latin America have been neglected despite being one of the groups with the highest HIV prevalence (7.4%) [15]. As a result, there is an almost complete absence of reliable data on access to HIV and harm reduction services, which has made it difficult to design, fund and implement evidence-based strategies to reduce HIV incidence among people who inject drugs in the region [16].

The impact of major trade routes, dynamics of regional consumption and the heterogeneity of constantly changing drug enforcement policies and activities on risk behaviours makes this population a moving target [17]. However, punitive laws and practices and the sheer lack of political remain major barriers for drug users to access HIV prevention and treatment services [18]. As long as there is a broad social and political consensus that continues to frame drug use and dependence as a criminal law concern, rather than as public health and/or human rights issues, costly, wasteful and ineffective punitive interventions will continue [19].

During the 38 years of the HIV/AIDS epidemic, we have learned that it can be fuelled in environments where human rights for vulnerable populations are limited. We have also learned that coercive laws and misguided policies aiming to ban sex work and drug use may actually promote HIV transmission [20].

There is no straightforward solution since policies to reduce stigma and discrimination, prevent violence and improve access to harm reduction services must be supported and implemented by the same governments that are currently undermining the already adverse social and political environment in some countries. Organized efforts by international and local civil society organizations supported by progressive governments, intergovernmental agencies and academia might lead to the launch of political pressure initiatives to resist and contain the current adverse political trends.

Although the continuum of care in Latin American countries has improved over time [21,22], none have reached the 90-90-90 targets established by UNAIDS (Figure 1). The annual numbers of new infections have barely changed in the past two decades, overall mortality reductions have been heterogeneous and lower than expected [6], and AIDS-related conditions continue to be the leading causes of death among PLHIV in the region despite achievements in access to ART [1]. This might be explained by the persistently high frequency of late HIV diagnosis, which still occurs in almost half of diagnosed adults in Latin America [22,23].

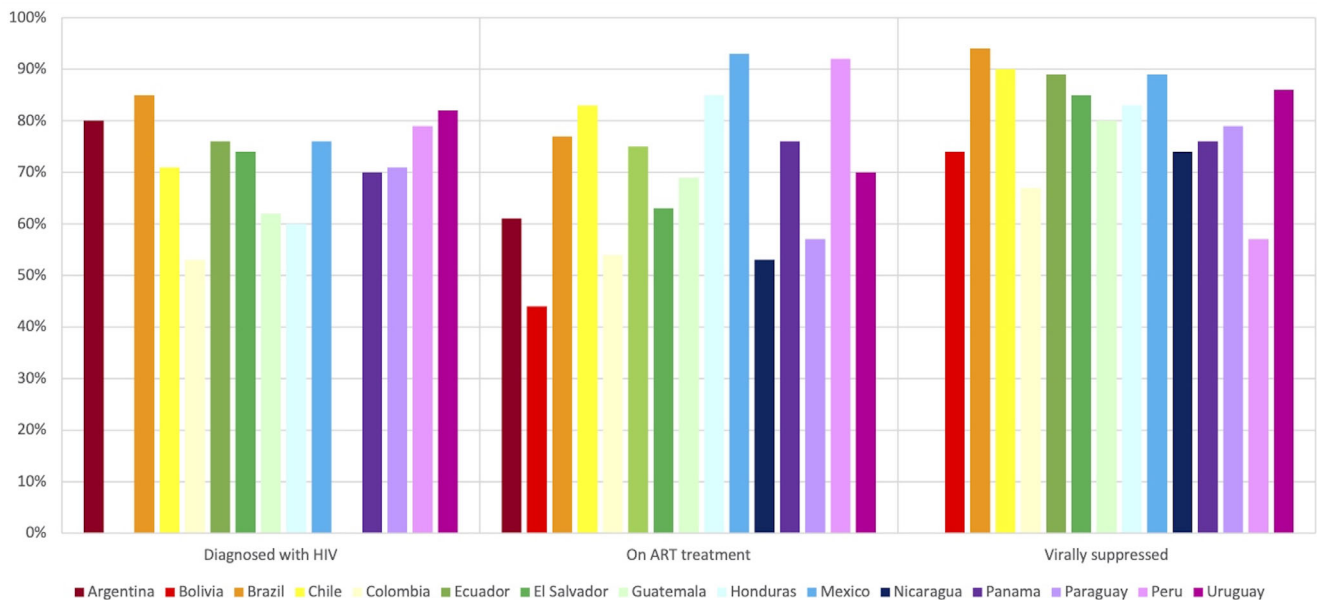
If we aim to fully achieve the 90-90-90 targets to control the HIV epidemic and end it as a public health problem, much more must be done to rapidly reduce the proportion of people unaware of their HIV status. Innovative strategies and tools to increase access to HIV screening tests are urgently needed. Strategies to demedicalize HIV counselling and testing services to make them accessible for hard-to-reach vulnerable groups and the implementation of proven self-testing models will be essential to achieve the target of having 90% of PLHIV being aware of their status – the first 90. This may require legislative and administrative changes in many Latin American countries in addition to increasing funds to allow for scale-up

of testing strategies, immediate linkage and same-day ART initiation programmes with simplified, integrase inhibitor-based regimens [24–26].

In terms of prevention, efforts to eliminate MTCT have clearly been insufficient (with the exemption of Cuba and six of the English-speaking Caribbean nations and territories) [8,18]. Broader improvements in healthcare systems are needed; these include strengthening of prenatal/maternal care services paired with improved access to HIV testing for all pregnant women and coordination with ART programmes to immediately initiate them on ART [9]. Countries should build on the experiences in Cuba and the Caribbean to eliminate MTCT.

Furthermore, pre-exposure prophylaxis (PrEP) is unacceptably scarce across the region. Programmes must be rapidly expanded as PrEP has been shown to control HIV transmission in concentrated epidemics elsewhere [27]. A multinational implementation project (ImPrEP), funded by Unitaid, national governments and other partners, is ongoing and is providing PrEP services to 7500 vulnerable gay men and transgender women in Brazil, Mexico and Peru with encouraging results, such as high retention and adherence (above 80% and 90% respectively) [28,29]. Nevertheless, successful implementation of large-scale PrEP programmes urgently needs political commitment, leadership, civil society advocates and the involvement of scientific and academic communities to move them forward.

Finally, the consequences of migration for the HIV epidemic in our region have rarely been considered in relation to the implementation of HIV prevention, treatment and care programmes. In addition to long-established migration patterns [30], recent political conflicts and economic instability in Central America and Venezuela have fostered massive waves of



**Figure 1. The current status of meeting the 90-90-90 targets in Latin America.**

Sources: UNAIDS data 2019. Bulletin on HIV, AIDS and STIs in Argentina, December 2018. Joint United Nations Program for AIDS-UNAIDS, Institute of Public Health. Registration of the care centers of the Public Assistance Network; Superintendence of Health. Current HIV-AIDS in Peru. General Directorate of Medicines, Supplies and Drugs (DIGEMID).

immigration throughout the region. UNAIDS estimated in 2017, only 49% of the 120,000 PLHIV in Venezuela had access to ART and <7% were virally suppressed [31]. Alarmingly, none of the blood banks in the country are reported to have supplies to test for HIV. Difficulties in ART acquisition in Venezuela in 2017 culminated in widespread drug shortages in 2018 [32]. As a result, nearly nine of the 10 PLHIV in Venezuela stopped receiving ART and some of them migrated to other countries in search of treatment [31]. This could present one of the more dramatic examples on how migration significantly impacts HIV care and control programmes; however, beyond the ongoing crisis, Latin America has historically been the origin, destination and transit of regional migrants.

Around 40 million Latin Americans live outside their native countries. Up to half of this population might have migrated within the region, and migrants constantly cross boundaries within the region [33–35]. Large-scale migration across borders increases vulnerability to HIV/AIDS and other sexually transmitted infections, probably through mechanisms that include sexual exploitation during human trafficking, exposure to sexual violence and new sexual partners, different social and sexual norms and different HIV prevalence rates [36]. Moreover the continuity of ART provision for individuals is threatened during migration. Innovative solutions to this situation go beyond any single nation and will require a coordinated plan to ensure that people migrating across borders have their fundamental human right to health guaranteed. Health systems in countries receiving migrants from Venezuela and elsewhere, especially those of Argentina, Chile, Colombia, Mexico and Peru, should be strengthened so that healthcare needs of migrants and refugees can be met without negative consequences for local HIV programmes [37].

A regional leadership and collaboration, internationally funded, could assist and support migrants and provide or coordinate services, including healthcare, across borders, building on the previous experiences and leadership of UNICEF and the UN International Organization for Migration.

In the past, the diversity of the HIV epidemic in Latin America has been tackled by progressive and often innovative treatment and prevention approaches, together with intense community engagement. This has succeeded in spite of the challenges posed by conservative groups and governments, migration, natural disasters and civil unrest. However, our current situation has changed, with new governments, either ideologically motivated or in response to economic crises, reducing public health budgets and seeking to suppress hard-won liberties and rights.

While we can look back at how much we have accomplished and learn from our history and from each other, our epidemic demands a renewed effort, one that integrates new tools at our disposal and follows a clear path built by science, with the strength of will of those who lived with HIV and AIDS in the past.

#### AUTHORS' AFFILIATIONS

<sup>1</sup>Departamento de Infectología, Instituto Nacional de Ciencias Médicas y Nutrición, Salvador Zubirán, Tlalpan, Mexico; <sup>2</sup>Fundación Arriarán, University of Chile, Santiago, Chile; <sup>3</sup>Taller Venezolano de VIH, Caracas, Venezuela; <sup>4</sup>Fundación Huésped, Investigaciones Clínicas, Buenos Aires, Argentina; <sup>5</sup>Chelsea and Westminster Hospital NHS Foundation Trust and Imperial College London,

London, UK; <sup>6</sup>Instituto Nacional de Infectologia Evandro Chagas, Fundacao Oswaldo Cruz, Rio de Janeiro, Brazil

#### COMPETING INTERESTS

All authors confirm that they have no conflicts of interest.

#### AUTHORS' CONTRIBUTIONS

BCR, PFBZ and CC developed the conceptualization and design of the viewpoint and wrote the manuscript. OS, AP and BG contributed to conception, design and reviewing of the manuscript. MM, JSM and PC contributed to design and reviewing of the manuscript. All authors have read and approved the final manuscript.

#### ACKNOWLEDGEMENTS

We gratefully acknowledge all patients, their families and caregivers for all the inspiration throughout these years.

#### REFERENCES

1. Joint United Nations Programme on HIV/AIDS (UNAIDS). UNAIDS data 2019. [cited 2020 Feb 24]. Available from: [https://www.unaids.org/sites/default/files/media\\_asset/2019-UNAIDS-data\\_en.pdf](https://www.unaids.org/sites/default/files/media_asset/2019-UNAIDS-data_en.pdf)
2. Joint United Nations Programme on HIV/AIDS (UNAIDS). The gap report: transgender people. [cited 2020 Feb 24]. Available from: [https://www.unaids.org/sites/default/files/media\\_asset/08\\_Transgenderpeople.pdf](https://www.unaids.org/sites/default/files/media_asset/08_Transgenderpeople.pdf)
3. Joint United Nations Programme on HIV/AIDS (UNAIDS). Regional fact-sheets, Caribbean 2017. [cited 2020 Feb 24]. Available from: <http://aidsinfo.unaids.org/?did=5b4e7dc0ddb54192bb396e4&r=world&t=null&tb=q&bt=undefined&ts=0,0&qia=R&qis=UNACAR>
4. Belaunzarán-Zamudio PF, Caro-Vega YN, Shepherd BE, Luz PM, Grinsztejn B, et al. Monitoring of HIV treatment in seven countries in WHO Region of the Americas. *Bull WHO*. 2015;93(8):529–39.
5. Arán-Matero D, Amico P, Arán-Fernandez C, Gobet B, Izazola-Licea JA, Avila-Figueroa C. Levels of spending and resource allocation to HIV programs and services in Latin America and the Caribbean. *PLoS ONE*. 2011;6:e22373. <https://doi.org/10.1371/journal.pone.0022373>
6. Carriquiry G, Fink V, Koethe JR, Giganti MJ, Jayathilake K, Blevins M, et al. Mortality and loss to follow-up among HIV-infected persons on long-term antiretroviral therapy in Latin America and the Caribbean. *J Int AIDS Soc*. 2015;18(1):20016.
7. Cesar C, Koethe JR, Giganti MJ, Rebeiro P, Althoff KN, Napravnik S, et al. Health outcomes among HIV-positive Latinos initiating antiretroviral therapy in North America versus Central and South America. *J Int AIDS Soc*. 2016;19(1):20684.
8. Caffè S, Perez F, Kamb ML, de Leon RG, Alonso M, Midy R, et al. Cuba Validated as the first country to eliminate mother-to-child transmission of human immunodeficiency virus and congenital syphilis: lessons learned from the implementation of the global validation methodology. *Sex Transm Dis*. 2016;43(12):733–6. <https://doi.org/10.1097/OLQ.0000000000000528>
9. World Health Organization (WHO), Global Health Observatory (GHO) Data. Prevention of mother-to-child transmission (PMTCT). 2019 [cited 2020 Feb 24]. Available from: [https://www.who.int/gho/hiv/epidemic\\_response/PMTCT\\_text/en/](https://www.who.int/gho/hiv/epidemic_response/PMTCT_text/en/)
10. Silva-Santisteban A, Eng S, de la Iglesia G, Falistocco C, Mazin R. HIV prevention among transgender women in Latin America: implementation, gaps and challenges. *J Int AIDS Soc*. 2016;19 3 Suppl 2:20799.
11. Corrales J. The expansion of LGBT rights in Latin America and the Backlash. In: Bosia MJ, McEvoy SM, Rahman M, editors. *The Oxford handbook of global LGBT and sexual diversity politics*. New York: Oxford University Press; 2020. p. 185–201. <https://doi.org/10.1093/oxfordhb/9780190673741.013.14>
12. Pan American Health Organization (PAHO), John Snow Inc, World Professional Association for Transgender Health. Blueprint for the provision of comprehensive care for trans persons and their communities in the Caribbean and other Anglophone countries. Arlington (VA): John Snow; 2014.
13. Simões M. Brazil's polarizing new president, Jair Bolsonaro, in his own words. *The New York Times*; 2018 [cited 2020 Feb 24]. Available from: <https://www.nytimes.com/2018/10/28/world/americas/brazil-president-jair-bolsonaro-quotes.html>
14. Transgender Europe (TGEU), Balzer C. Trans murder monitoring. 2016 [cited 2020 Feb 24]. Available from: <https://transrespect.org/en/map/trans-murder-monitoring/#>

15. Degenhardt L, Peacock A, Colledge S, Leung J, Grebely J, Vickerman P, et al. Global prevalence of injecting drug use and sociodemographic characteristics and prevalence of HIV, HBV, and HCV in people who inject drugs: a multi-stage systematic review. *Lancet Glob Health*. 2017;5(12):e1192–207.
16. Mathers BM, Degenhardt L, Ali H, Wiessing L, Hickman M, Mattick RP, et al. HIV prevention, treatment, and care services for people who inject drugs: a systematic review of global, regional, and national coverage. *Lancet*. 2010;375(9719):1014–28.
17. Angulo-Arreola IA, Bastos FI, Strathdee SA. Substance abuse and HIV/AIDS in the Caribbean. *J Int Assoc Provid AIDS Care*. 2017;16(1):56–74.
18. Global update on the health sector response to HIV. 2014 [cited 2019 Nov 19]. Available from: <https://www.who.int/hiv/pub/global-update.pdf>
19. Drug Policy, Canadian HIV/AIDS Legal Network. [cited 2020 Feb 24]. Available from: <http://www.aidslaw.ca/site/our-work/drug-policy/?lang=en>
20. Barré-Sinoussi F, Abdool Karim SS, Albert J, Bekker L-G, Beyrer C, Cahn P, et al. Expert consensus statement on the science of HIV in the context of criminal law. *J Int AIDS Soc*. 2018;21:e25161.
21. Rebeiro PF, Cesar C, Shepherd BE, De Boni RB, Cortés CP, Rodríguez F, et al. Assessing the HIV Care Continuum in Latin America: progress in clinical retention, cART use and viral suppression. *J Int AIDS Soc*. 2016;19(1):20636. <https://doi.org/10.7448/IAS.19.1.20636>
22. Piñeirúa A, Sierra-Madero J, Cahn P, Guevara Palmero RN, Martínez Buitrago E, Young B, et al. The HIV care continuum in Latin America: challenges and opportunities. *Lancet Infect Dis*. 2015;15(7):833–9.
23. Belaunzarán-Zamudio PF, Caro-Vega YN, Shepherd BE, Rebeiro PF, Crabtree-Ramírez BE, Cortes CP, et al. The population impact of late presentation with advanced HIV disease and delayed antiretroviral therapy in adults receiving HIV care in Latin America. *Am J Epidemiol*. 2019;pii:kwz252. <https://doi.org/10.1093/aje/kwz252>
24. Marukutira T, Stoové M, Lockman S, Mills LA, Gaolathe T, Lebelonyane R, et al. A tale of two countries: progress towards UNAIDS 90–90–90 targets in Botswana and Australia. *J Int AIDS Soc*. 2018;21:e25090.
25. Stover J, Bollinger L, Izazola JA, Loures L, DeLay P, Ghys PD. What is required to end the AIDS epidemic as a public health threat by 2030? the cost and impact of the fast-track approach. *PLoS ONE*. 2016;11:e0154893.
26. Hayes R, Floyd S, Schaap A, Shanaube K, Bock P, Sabapathy K, et al. A universal testing and treatment intervention to improve HIV control: one-year results from intervention communities in Zambia in the HPTN 071 (PopART) cluster-randomised trial. *PLoS Med*. 2017;14:e1002292.
27. Grulich AE, Guy R, Amin J, Jin F, Selvey C, Holden J, et al. Population-level effectiveness of rapid, targeted, high-coverage roll-out of HIV pre-exposure prophylaxis in men who have sex with men: the EPIC-NSW prospective cohort study. *Lancet HIV*. 2018;5(11):e629–37.
28. Jalil EM, Torres T, Moreira RI, Castro C, Monteiro L, Monteiro L, et al. PrEP uptake and early adherence among at HIV risk transgender women from Rio de Janeiro, Brazil: Results from the PrEPParadas study. Oral abstracts of the 10th IAS Conference on HIV Science, 21–24 July 2019, Mexico City, Mexico. *J Int AIDS Soc*. 2019; 22 Suppl 5:e25327.
29. Marins LMS, Torres TS, Leite IdC, Moreira RI, Luz PM, Hoagland B, et al. Performance of HIV pre-exposure prophylaxis indirect adherence measures among men who have sex with men and transgender women: results from the PrEP Brasil study. *PLoS ONE*. 2019;14:e0221281.
30. National Conference of State Legislatures. Snapshot of U.S. Immigration 2019. 2019 [cited 2020 Feb 24]. Available from: <http://www.ncsl.org/research/immigration/snapshot-of-u-s-immigration-2017.aspx>
31. Joint United Nations Programme on HIV/AIDS (UNAIDS). Country fact-sheets: Venezuela (Bolivarian Republic of). 2017 [cited 2020 Feb 24]. Available from: <https://www.unaids.org/en/regionscountries/countries/venezuela>
32. Joint United Nations Programme on HIV/AIDS (UNAIDS). Taking action against HIV medicine stock-outs in the Bolivarian Republic of Venezuela. 2019 [cited 2020 Feb 24]. Available from: [https://www.unaids.org/en/resources/presscentre/featurestories/2019/february/20190214\\_Venezuela\\_HIV\\_treatment](https://www.unaids.org/en/resources/presscentre/featurestories/2019/february/20190214_Venezuela_HIV_treatment)
33. Latin America: the opportunity of migration. [cited 2020 Feb 24]. Available from: <https://theglobalamericans.org/2019/06/latin-america-the-opportunity-of-migration/>
34. IOM, UN migration. South America. [cited 2020 Feb 24]. Available from: <https://www.iom.int/south-america>
35. IOM, UN migration. Central and North America and the Caribbean. [cited 2020 Feb 24]. Available from: <https://www.iom.int/central-and-north-america-and-caribbean>
36. Goldenberg S. HIV vulnerability and migration in the Americas. [cited 2020 Feb 24]. Available from: <https://www.paho.org/salud-en-las-americas-2017/?tag=hiv aids>
37. IOM/UN Migration. Migrant and refugee Venezuelan crisis: IOM regional response overview. 2019 [cited 2020 Feb 24]. Available from: [https://www.iom.int/sites/default/files/country\\_appeal/file/iomvenezuela\\_appealjuly-dec2019\\_final.pdf](https://www.iom.int/sites/default/files/country_appeal/file/iomvenezuela_appealjuly-dec2019_final.pdf)