

UNAIDS 90–90–90 targets to end the AIDS epidemic by 2020 are not realistic: comment on “Can the UNAIDS 90–90–90 target be achieved? A systematic analysis of national HIV treatment cascades”

Luchuo Engelbert Bain,¹ Clovis Nkoke,² Jean Jacques N Noubiap³

To cite: Bain LE, Nkoke C, Noubiap JJN. UNAIDS 90–90–90 targets to end the AIDS epidemic by 2020 are not realistic: comment on “Can the UNAIDS 90–90–90 target be achieved? A systematic analysis of national HIV treatment cascades”. *BMJ Global Health* 2017;**2**:e000227. doi:10.1136/bmjgh-2016-000227

Received 29 October 2016
Revised 3 January 2017
Accepted 6 January 2017



CrossMark

¹Athena Institute for Research on Innovation and Communication in Health and Life Sciences, Vrije Universiteit, Amsterdam, The Netherlands

²Department of Internal Medicine and Specialties, Faculty of Medicine and Biomedical Sciences, University of Yaoundé I, Yaoundé, Cameroon

³Department of Medicine, Groote Schuur Hospital and University of Cape Town, Cape Town, South Africa

Correspondence to

Dr Luchuo Engelbert Bain; lebaiins@gmail.com

There is indisputable evidence regarding the remarkable success over the past two decades in reducing HIV associated morbidity, mortality, transmission, stigma and improving the quality of life of people living with HIV.¹ In 2014, the Joint United Nations Programme on HIV/AIDS (UNAIDS) and partners launched the 90–90–90 targets; the aim was to diagnose 90% of all HIV-positive persons, provide antiretroviral therapy (ART) for 90% of those diagnosed, and achieve viral suppression for 90% of those treated by 2020. This is estimated to result in 73% of people with HIV achieving viral suppression, a crucial step in ending the AIDS epidemic by 2030.² However, 36.9 million people are living with HIV today and about 2.1 million new infections were recorded in 2015.³ This high rate of new infections continues to fuel the epidemic. Reports from national HIV programmes suggest that the 90–90–90 targets agenda for 2020 risks are unrealistic.⁴

Early placement of patients on combined ART (cART) and achievement of viral load suppression reduces mortality and HIV transmission and improves quality of life.¹ Getting over 90% of people with HIV to know their status can therefore plausibly help achieve the 90–90–90 targets. However, in a recent systematic analysis of national HIV treatment cascades from 69 countries by Levi *et al*⁴ in *BMJ Global Health*, none of the countries had met the 90–90–90 targets. They found that diagnosis (target one—90% of all HIV-positive people diagnosed) ranged from 87% (the Netherlands) to 11% (Yemen). Treatment coverage (target two—81% of all HIV-positive people on ART) ranged from 71% (Switzerland) to 3% (Afghanistan).

Summary box

- ▶ Achieving the United Nations Programme on HIV/AIDS (UNAIDS) 90–90–90 targets will require a viral load-informed care to ensure optimal HIV clinical follow-up and resistance monitoring—this in turn will require significant mobilisation of resources.
- ▶ Maintaining a constant drug supply to satisfy the growing number of potential patients to be put on treatment with current funding trends is almost unattainable.
- ▶ Poor quality and non-uniform data collection tools of the various indicators render evaluation of the evolution of the HIV pandemic extremely difficult.
- ▶ The UNAIDS 90–90–90 agenda is non-inclusive, disease specific and might contribute to weakening health systems which are already challenged by the double burden of communicable and non-communicable diseases.

Viral suppression (target three—73% of all HIV-positive people virally suppressed) was between 68% (Switzerland) and 7% (China). In 2014/2015, of the 36.9 million of people with HIV globally, only 54% were diagnosed, 41% were on ART and 32% were virally suppressed, demonstrating that we are still very far from achieving the 90–90–90 targets. The lowest achievement rates were in low income and middle income countries (LMICs).

Levi *et al*⁴ adequately highlighted the gaps in HIV diagnosis and provision of cART, which may be unattainable under the ambitious UNAIDS 90–90–90 targets given the current trends. However, the targets only make sense if HIV testing is performed under acceptable conditions and appropriate interventions to ensure linkage to care after

testing are put in place. Improving the quality of counselling could ameliorate linkage to care, trust and compliance.⁵ It is no news that social workers and trained psychosocial support staff remain scarce if not inexistent in most healthcare facilities that manage patients with HIV. Without refuting the fact that HIV-associated stigma has reduced significantly worldwide, it still constitutes a hindrance to optimal care, even in developed countries.^{6–8}

Putting adequate and holistic interventions in place requires good data. Levi *et al*⁴ identified lack of good quality data, as well as its non-uniformity, which renders cross-national comparisons difficult. Of the 196 eligible countries, they only found available data on 69 countries for analysis. Paediatric HIV care remains a core hindrance to achieving the 90–90–90 targets. With unacceptably high numbers of HIV-infected children who are not on treatment⁹ and potential new HIV-infected patients who will be diagnosed and consequently deserve treatment with expanded screening, it is questionable if health systems will be able to meet the demand for and ensure the continuous supply of cART.⁴ Periodic unavailability of drugs is a key driver of drug resistance. Resistance to first-line therapy is already here, and could get worse if immediate and appropriate action is not taken.^{10 11}

Early detection of treatment failure, adherence counselling and appropriate switching to second-line therapy are key strengths of a viral load monitored model.¹¹ Investing and ensuring the sustainability of a viral load-informed care and monitoring model^{10 11} must be a priority. This, of course, shall involve mobilisation of resources. Unfortunately, global health challenges go far beyond HIV, and many other leading causes of death and disability also deserve increased attention. Priority setting and health system reforms to manage HIV as a chronic disease must be upheld in government agendas of LMICs.

Indeed, non-communicable diseases (NCDs) are set to overtake HIV and other infectious diseases as the top killers in low-income countries (LICs) by 2030. These countries are still ill-prepared to cope with the rising epidemic of cardiovascular diseases (CVDs) and NCDs in general.¹² Despite the increasing burden of diabetes mellitus and CVDs in the HIV population, even HIV clinics in these settings are unprepared for the diagnosis and management of NCDs in the context of HIV care.¹³ Considering the already huge and increasing burden on health systems of diseases other than HIV, inclusive approaches are needed to provide integrated care for both infectious diseases and NCDs to populations at the primary healthcare level. A disease-specific agenda focusing on HIV is therefore self-destructive. Moreover, meeting the future resource needs for ART scale-up under the 90–90–90 scenario (US\$18 billion per year globally) will require significant additional resource mobilisation, which may jeopardise funding of other health programmes. Large gaps exist across countries

with respect to meeting targets, with highly affected and LIC lagging behind.⁴

Indeed, before ending the HIV epidemic by 2030, the 90–90–90 strategy would have significantly weakened health systems and impeded the fight against the rising NCDs burden in LICs. Active research and development of community friendly interventions are highly needed.¹⁴ This can lead to an increase in screening rates; also, early identification of patients lost to follow-up and addressing of special psychosocial concerns could be achieved.¹⁴ Getting good and uniform data constitutes a priority to better monitor, plan and act appropriately within the context of evolving towards meeting these, for the moment elusive targets, especially in LMICs.⁴ Although Levi *et al*⁴ did not explore linkage to care and retention in their systematic analysis, they highlighted the fact that placement of diagnosed persons on ART shall constitute a key barrier to attaining the 90–90–90 targets in most LMICs. However, political will, appropriate planning and obtaining required funds could be game changers towards reaching these goals.

Handling editor Seye Abimbola.

Contributors LEB conceived the initial idea and wrote the initial manuscript. CN and JJNN actively participated in the writing of the manuscript. All authors have read and agreed on the final version of the paper.

Competing interests None declared.

Provenance and peer review Not commissioned; internally peer reviewed.

Data sharing statement No additional data are available.

Open Access This is an Open Access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>

REFERENCES

1. Maartens G, Celum C, Lewin SR. HIV infection: epidemiology, pathogenesis, treatment, and prevention. *Lancet* 2014;384:258–71.
2. 90–90–90—An ambitious treatment target to help end the AIDS epidemic | UNAIDS [Internet]. (cited 1 Sep 2016). <http://www.unaids.org/en/resources/documents/2014/90-90-90>
3. Fact sheet 2016 | UNAIDS [Internet]. (cited 1 Sep 2016). <http://www.unaids.org/en/resources/fact-sheet>
4. Levi J, Raymond A, Pozniak A, *et al*. Can the UNAIDS 90–90–90 target be achieved? A systematic analysis of national HIV treatment cascades. *BMJ Global Health* 2016;1:e000010.
5. Eyal N. Using informed consent to save trust. *J Med Ethics* 2014;40:437–44.
6. Chan BT, Tsai AC. HIV stigma trends in the general population during antiretroviral treatment expansion: analysis of 31 countries in sub-Saharan Africa, 2003–2013. *J Acquir Immune Defic Syndr* 2016;72:558–64.
7. Franse CB, Kayigamba FR, Bakker MI, *et al*. Linkage to HIV care before and after the introduction of provider-initiated testing and counselling in six Rwandan health facilities. *AIDS Care* 2017;29:326–34.
8. Tiruneh YM, Galárraga O, Genberg B, *et al*. Retention in care among HIV-infected adults in Ethiopia, 2005–2011: a mixed-methods Study. *PLoS ONE* 2016;11:e0156619.
9. Bernheimer JM, Patten G, Makeleni T, *et al*. Paediatric HIV treatment failure: a silent epidemic. *J Int AIDS Soc* 2015;18:20090.
10. Phillips A, Shroufi A, Vojnov L, *et al*. Working Group on Modelling of Antiretroviral Therapy Monitoring Strategies in Sub-Saharan Africa.

- Sustainable HIV treatment in Africa through viral-load-informed differentiated care. *Nature* 2015;528:S68–76.
11. Hoffmann CJ, Maritz J, van Zyl GU. CD4 count-based failure criteria combined with viral load monitoring may trigger worse switch decisions than viral load monitoring alone. *Trop Med Int Health* 2016;21:219–23.
 12. Peck R, Mghamba J, Vanobberghen F, *et al*. Preparedness of Tanzanian health facilities for outpatient primary care of hypertension and diabetes: a cross-sectional survey. *Lancet Glob Health* 2014;2:e285–92.
 13. Leung C, Aris E, Mhalu A, *et al*. Preparedness of HIV care and treatment clinics for the management of concomitant non-communicable diseases: a cross-sectional survey. *BMC Public Health* 2016;16:1002.
 14. Nachega JB, Adetokunboh O, Uthman OA, *et al*. Community-based interventions to improve and sustain antiretroviral therapy adherence, retention in HIV care and clinical outcomes in low- and middle-income countries for achieving the UNAIDS 90–90–90 targets. *Curr HIV/AIDS Rep* 2016;13:241–55.