

Disproportionate disability in people with HIV



CrossMark

Successful HIV care has long been defined as consistent, long-term viral suppression; but the vast amount of literature assessing disease burden and health outcomes in people with HIV taking suppressive antiretroviral therapy, especially among long-term HIV survivors, shows a contrasting situation. Even with effective antiretroviral therapy, people with HIV have higher rates of episodic comorbidities, chronic comorbidities, and mental health disorders, as well as poorer quality of life, compared with people without HIV.¹ There has been an increasing number of calls to improve health systems to provide integrated, person-centred care for people with HIV.² Integral to this call is the development of sustainable programmes for prevention and management of age-associated comorbidities in people with HIV, which can be rolled out even in resource-limited settings.

In *The Lancet HIV*, Verheij and colleagues³ use a prospective study design to evaluate trends in age-associated comorbidities and their associated disease burden in a cohort of people with HIV aged 45 years or older for a median duration of 5.9 years. 95.8% of the cohort were taking combination antiretroviral treatment at enrolment.

Unlike previous studies largely focused on the incidence and prevalence for individual diseases in people with HIV,^{4,5} Verheij and colleagues assessed the disease burden from a broad range of physical comorbidities, including AIDS and non-AIDS-related malignancies. These assessments were also compared with age-matched and lifestyle-matched people without HIV, unlike previous larger epidemiological studies that used data from the general population as a comparison. This comparison provided a unique perspective to the assessment of disability-adjusted life-years (DALYs), a matrix that quantifies the gap between typical health and life lost due to a disease. The authors carefully accrued longitudinal data on chronic disease diagnosis from multiple data sources, although they could not completely exclude the potential for screening biases inherent in this type of study. People with HIV had higher numbers of chronic comorbidities than did control individuals without HIV at all timepoints during follow-up. However, despite higher frequencies, the rate of increase over

time in people with HIV was comparable to people without HIV, like previous studies.⁶ However, the assessment of healthy life lost from age-associated comorbidities was more important. This analysis showed that morbidity and mortality associated with these conditions increased more rapidly in people with HIV compared with individuals without HIV (0.209 per year vs 0.091 per year). Loss of healthy life was largely attributable to deaths from non-AIDS-related malignancies in people with HIV and was significantly higher in people with a history of late presentation to care, a history of AIDS-defining illness, or exposure to toxic nucleoside-analogue reverse transcriptase inhibitors (NRTIs; eg, zalcitabine, stavudine, and didanosine), a result that has substantial global implications as this profile describes a large proportion of people with HIV from resource-limited settings, even in the current treatment era.⁷

The results of the study by Verheij and colleagues³ have several immediate and long-term implications. First, it highlights the urgent need to optimise screening for age-associated comorbidities, especially for non-AIDS malignancies in people with HIV, which is a practice that seems to be suboptimal even in well-resourced settings.⁸ The call from UNAIDS in 2021 for 90% of people with HIV to have access to services for chronic comorbidities as part of their HIV care is an essential step to address these gaps in practice, but more needs to be done to operationalise this target. Second, the observed differences in healthy life lost in this study between people with and without HIV who received care in a well-resourced health system in the Netherlands is concerning, because it highlights that even in health systems with high-quality infrastructures, disparities persist. This observation raises the question of whether recommendations for screening of non-communicable diseases and malignancies, including thresholds for intervention, should be adapted to people with HIV. Most HIV treatment guidelines, especially those from low-income and middle-income countries, tend to defer these recommendations to guidelines developed for the general population. With documented increases in morbidity and mortality from non-AIDS-related disorders in people with HIV⁸ and accumulating evidence that factors other than traditional lifestyle

Published Online

February 9, 2023

[https://doi.org/10.1016/S2352-3018\(23\)00027-9](https://doi.org/10.1016/S2352-3018(23)00027-9)[https://doi.org/10.1016/S2352-3018\(23\)00027-9](https://doi.org/10.1016/S2352-3018(23)00027-9)

See Online/Articles

[https://doi.org/10.1016/S2352-3018\(22\)00400-3](https://doi.org/10.1016/S2352-3018(22)00400-3)[https://doi.org/10.1016/S2352-3018\(22\)00400-3](https://doi.org/10.1016/S2352-3018(22)00400-3)

factors, including exposure to toxic NRTIs, duration of immunosuppression, and chronic immune activation, might contribute to these risks, the need for enhanced screening programmes and treatment algorithms specific to people with HIV should be re-examined. There are some trials already happening and published calls for similar considerations.^{9,10} Finally, although not part of the analysis in this study and rightly acknowledged as a limitation by the authors, is the consideration of the effects of social determinants of health and stigma on the outcomes of disease burden in people with HIV. Both disproportionately affect people with HIV and are substantial barriers to health care access. How much of the increased DALY observed in people with HIV could be attributed to these determinants should be a consideration in future studies. We should acknowledge the social context of HIV and its influence on health outcomes in all study designs involving people with HIV.

We declare no competing interests.

*Reena Rajasuriar, Pui Li Wong
reena@um.edu.my

Department of Medicine and Centre of Excellence for Research in AIDS,
University of Malaya, Kuala Lumpur 50603, Malaysia (RR, PLW); Peter Doherty

Institute for Infection and Immunity, University of Melbourne, Melbourne, VIC, Australia (RR)

- 1 Langebeek N, Kooij KW, Wit FW, et al. Impact of comorbidity and ageing on health-related quality of life in HIV-positive and HIV-negative individuals. *AIDS* 2017; **31**: 1471–81.
- 2 Lazarus JV, Safreed-Harmon K, Kamarulzaman A, et al. Consensus statement on the role of health systems in advancing the long-term well-being of people living with HIV. *Nat Commun* 2021; **12**: 4450.
- 3 Verheij E, Boyd A, Wit FW, et al. Long-term evolution of comorbidities and their disease burden in individuals with and without HIV as they age: analysis of the prospective AGE,IV cohort study. *Lancet HIV* 2023; published online Feb 9. [https://doi.org/10.1016/S2352-3018\(22\)00400-3](https://doi.org/10.1016/S2352-3018(22)00400-3).
- 4 Belanzaran-Zamudio PF, Caro-Vega Y, Giganti MJ, et al. Frequency of non-communicable diseases in people 50 years of age and older receiving HIV care in Latin America. *PLoS One* 2020; **15**: e0233965.
- 5 Chang D, Esber AL, Dear NF, et al. Non-communicable diseases by age strata in people living with and without HIV in four African countries. *J Int AIDS Soc* 2022; **25** (suppl 4): e25985.
- 6 Rasmussen LD, May MT, Kronborg G, et al. Time trends for risk of severe age-related diseases in individuals with and without HIV infection in Denmark: a nationwide population-based cohort study. *Lancet HIV* 2015; **2**: e288–98.
- 7 Justice AC, Goetz MB, Stewart CN, et al. Delayed presentation of HIV among older individuals: a growing problem. *Lancet HIV* 2022; **9**: e269–80.
- 8 Spence AB, Levy ME, Monroe A, et al. Cancer incidence and cancer screening practices among a cohort of persons receiving HIV care in Washington, DC. *J Community Health* 2021; **46**: 75–85.
- 9 Masiá M, Padilla S, Estañ G, et al. Impact of an enhanced screening program on the detection of non-AIDS neoplasias in patients with human immunodeficiency virus infection. *Trials* 2021; **22**: 851.
- 10 Grover S, Bhatia R, Friebe-Klingner TM, et al. Cervical cancer screening in HIV-endemic countries: an urgent call for guideline change. *Cancer Treat Res Commun* 2023; **34**: 100682.