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Living longer with HIV: gains for some but not for all

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For more on **global life expectancy data** see https://www.worlddata.info/life-expectancy.php

A normal life expectancy brings hope: that one can reach life's milestones, contribute to society, dream—in short, live. Ending the stigma associated with HIV requires ending the fear of infection. The knowledge that the lifespan of people with HIV is nearly the same as that of the general population could help to alleviate this fear and could encourage people to come forward for HIV testing and care and to disclose their HIV status to their partners. Simple things like being able to access life insurance and plan for retirement could help to normalise living with HIV.

Substantial gains in life expectancy were reported for people with HIV soon after effective antiretroviral therapy (ART) became available.[1] Whether life expectancy continues to increase as immune restoration improves, and whether potential gains are blunted in long-term survivors by the cumulative effects of ART toxicity, comorbidities, and ongoing immune activation, is less clear, as is the life expectancy of those who started modern ART with high CD4 cell counts (which is now the norm).

In *The Lancet HIV*, Adam Trickey and colleagues[2] estimate the life expectancy of people with HIV on ART during the so-called treat-all era (ie, from 2015 onwards). They merged data for more than 200 000 people from 20 European and North American cohorts and divided these people into two groups that reflect the mix of people with HIV common in contemporary clinical practice: long-term survivors who started ART between 1996 and 2014 and survived until 2015, and people who started ART between 2015 and 2019. Overall, they found that life expectancy at 40 years in both groups approached that of the general population. Estimated life expectancy was about 3 years greater among people who started ART after 2015 than among those who started ART before 2015.

Notably, Trickey and colleagues did not directly statistically compare the two groups, and the starting point for follow-up differed between them. Thus, cohort effects and secular trends in health-care advances for other conditions could explain some of the absolute differences in life expectancy between the groups. However, the diversity and breadth of available variables allowed Trickey and colleagues to do an in-depth analysis of factors that could shorten longevity. For example, although life expectancy of people with CD4 cell counts greater than 500 cells per µL at the start of follow-up came very close to that of the general population in both groups, the life-expectancy gap remains substantial for people with lower CD4 cell counts at the start of follow-up, especially among risk groups other than men who have sex with men.

In Trickey and colleagues' study, the difference in years of life left at age 40 years between women and men who started ART after 2015 was small (39·0 years [95% CI 38·5–39·5] *vs* 37·0 years [36·5–37·6]). However, in the general population, women's life expectancy exceeds that of men in most countries by 4–8 years. For women who started ART after 2015, their estimated life expectancy was still 6·8 years lower than that of women in the general population. This difference in life expectancy was substantially greater for women who acquired HIV via injection drug use, whose life expectancy was 11·7 years shorter than that of women in the general population, even if they had more than 500 CD4 cells per µL at the start of follow-up, did not have AIDS, and had suppressed viral loads. These results speak to the changing epidemiology of mortality among people with HIV and the devastating consequences of

opioid-overdose epidemics occurring worldwide, which will threaten the life-expectancy gains made with HIV and hepatitis C virus therapies if not addressed.[3,4]

The North American AIDS Cohort Collaboration on Research and Design has similarly found that life expectancy has increased over time among people with HIV taking ART.[5] However, disparities in survival of approximately a decade persist between Black and white men who have sex with men, and between people with a history of injection drug use and those without a history of injection drug use. These disparities were only partly erased when simulating a 20% reduction in drug-related and alcohol-related mortality, suggesting that other causes of death also need to be addressed.[6] Life-expectancy gains have also been reported among people with HIV taking ART in low-income and middle-income countries.[7,8] In Africa, given the burden of HIV, these gains have helped to reverse overall population declines.[7] As in North America and Europe, however, not all groups have experienced the same gains in life expectancy (eg, gains in life expectancy have been less substantial among men, people with lower CD4 cell counts, people with tuberculosis, and people with lower levels of education).[8]

Finally, increases in life expectancy are not necessarily associated with improvements in quality of life. Marcus and colleagues[9] showed that insured people with HIV in the USA lived for 6·8 years less than a matched cohort of people without HIV, but had 9·5 years less without major chronic comorbidities. Cohorts are great resources in which to track these outcomes, and in future should incorporate measures of substance use, quality of life, and chronic pain to measure health-adjusted life expectancy, a more comprehensive measure of the true burden of HIV.

Life expectancy of people with HIV now approaches that of the general population, but does not yet reach it. Although overall Trickey and colleagues' findings are very encouraging, they also highlight the inequities that exist and the need for interventions beyond ART. It remains important to reach all people with HIV as early as possible, to ensure that people with HIV remain engaged in care, and to address substance use, mental health, and other comorbidities. Such interventions will ensure that people with HIV have not only longer lives but also healthier lives.

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Social determinants of transgender women's health

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In *The Lancet HIV,* Andrea Wirtz and colleagues[1] report results of a study that originally focused only on sources of HIV risk among transgender women in the USA, and the added value of digital methods of follow-up. The unexpectedly high mortality they found in this population drew the authors' attention as a topic that could not be neglected, regardless of the fact that none of those deaths was HIV-related. Moreover, the authors acknowledge that longitudinal HIV-related studies in transgender women often deal with this concerning finding, but either take it for granted or consider it unrelated to their research question.

Wirtz and colleagues decided to assess predictors of not only seroconversion, but also death. Various factors predicted both: living in southern USA, sexual partnerships with cisgender men, stimulant use,