The HIV response beyond 2030: preparing for decades of sustained HIV epidemic control in eastern and southern Africa

The UN global goal to "end AIDS as a public health threat by 2030"[1,2] has motivated remarkable progress in eastern and southern African countries most affected by HIV. In these countries since 2010, new HIV infections have decreased by an estimated 57% and AIDS-related deaths by 58%.[3] Targeted 90% reductions between 2010 and 2030 are in reach for some countries in eastern and southern Africa that are also on track to attain the UNAIDS 95-95-95 HIV care cascade targets.[3-6]

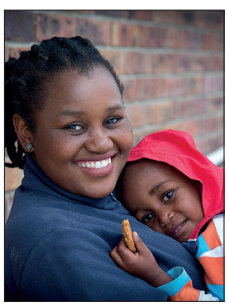
The 2015 UNAIDS–*Lancet* Commission envisioned "ending AIDS" as achieving disease control, recognising that long-term intervention measures would be needed to maintain the lowered rates of new HIV infections and AIDS-related deaths.[7,8] To sustain HIV epidemic control beyond 2030, countries with high burdens of HIV will need to continue steadily further reducing new HIV infections over coming decades, eventually to below a globally applicable threshold, such as below one new infection per 10 000 HIV-negative population.[9,10] Continued declines in HIV infections are crucial to contain long-term resources required for providing HIV treatment and to avoid risk of resurgent HIV transmission. For countries reaching the UNAIDS 95-95-95 targets, mathematical model projections suggest a further 20% reduction in new HIV infections every 5 years is an ambitious but attainable target to guide prevention strategies.[11,12] Where larger care cascade gaps remain, quickly increasing HIV treatment coverage would rapidly reduce population viraemia, enabling steeper HIV incidence declines.[13-15]

Through a meeting series convened by UNAIDS, the Post-2030 HIV Response Working Group reviewed progress in the HIV response, the evolving nature of the epidemic, how to define long-term epidemic control beyond 2030, and the key programmes, policies, and surveillance required to ensure it is sustained.[9,11] Here, we identify four essential priorities to sustain HIV epidemic control in countries in eastern and southern Africa with large HIV epidemics and successful HIV programmes.[9]

First, effective HIV treatment is the cornerstone of success. Even with continued success in reducing new HIV infections, it is estimated that the 21 million people living with HIV today in eastern and southern Africa will decline only gradually to about 13–17 million people living with HIV by 2050,[9,16] underscoring the need for long-term programmes delivering lifelong antiretroviral therapy. Maintaining extremely high treatment coverage and undetectable viral load is essential for the health of people living with HIV and reducing transmission, representing the powerful alignment of individual and population health outcomes embodied by the U=U (Undetectable=Untransmittable) public health message.[17] Providing antiretroviral therapy will constitute the majority of future resources for HIV programmes. Disruption to supply chains or delivery could precipitate immediate rapid rises in AIDS-related deaths and new HIV infections,[18] while deterioration in HIV treatment continuation or effectiveness at durable viral suppression, for example through increasing drug resistance, risks slowing declines in HIV incidence and thereby increasing future resource requirements for HIV care and treatment.[19]

Second, it is also important to ensure timely HIV diagnosis. HIV testing programmes should transition focus from the proportion of HIV positive people aware of their status in the 95-95-95 targets to ensuring short time to diagnosis which enables rapid viral suppression. HIV testing is fairly inexpensive and should be easily accessible to anyone, increasingly through self-testing,[20] with frequent testing encouraged among people with increased risk of exposure to HIV acquisition.

Third, HIV prevention approaches need to adapt with evolving individual needs and preferences to ensure continued use of prevention methods at levels that keep HIV infections low. The diffuse nature of HIV transmission in contemporary African HIV epidemics[21] necessitates strategies that engage large populations with moderate HIV risk in effective, easily accessible, and affordable prevention options, such as use of condoms and voluntary medical male circumcision. People with increased exposure to HIV acquisition, including some young people, need more intensive prevention choices, such as pre-exposure prophylaxis.[22] Deterioration in HIV testing or prevention threatens epidemic control through decelerating or stalling HIV incidence declines,[19] which would be expected to only become apparent 5–10 years later.



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Fourth, comprehensive HIV services for key populations need to be maintained for the long term,[23] including access to new antiviral-based prevention technologies. New HIV infections among key populations, including sex workers, gay men and other men who have sex with men, people who inject drugs, transgender people, and people in prisons, are about 9% of all new HIV infections in eastern and southern Africa, but occur at rates four to ten times higher than in all adults.[24] Theoretical epidemic dynamics suggest the proportion of HIV infections among key populations could increase as overall infections decline,[25] but this rise is not inevitable.[26] Services that meet the distinct prevention needs of key populations address health equity and human rights for key populations and ensure long-term epidemic control.

Shifting focus from rapid intervention scale-up to implementing resilient decades-long HIV programmes entails myriad new challenges for the HIV response. Vertical HIV management and delivery systems, while effective, are fragile to changing priorities. Such systems must maintain effectiveness while being integrated into local, national, and regional structures[27] to ensure durability of HIV services. Societally, the impacts of HIV programmes have been enabled by successfully addressing societal and structural barriers to accessing HIV services.[28] Current legislative attacks on human rights that criminalise populations at risk of HIV,[29,30] such as gay men and other men who have sex with men,[31] threaten the ability to ensure supportive legal environments, gender equality, ending stigma and discrimination, and the multisectoral coordination required for sustained future progress in controlling the HIV epidemic in countries in eastern and southern Africa.

HIV treatment programmes need to adapt to the changing health needs of ageing populations with HIV. In eastern and southern African countries, the median age of people living with HIV will increase from 32 years in 2010 to 59 years by 2050.[9] Maintaining effective HIV treatment requires a continued focus on improving care quality,[32] integration with primary care,[33,34] and addressing access barriers imposed by stigma and discrimination.[35] Equally, as HIV epidemics recede, high awareness and motivation for HIV prevention and testing could become more challenging, especially among young people unfamiliar with the height of the HIV/AIDS emergency. Policies and programmes will need more focused attention to ensuring HIV prevention, testing, and treatment equitably reach mobile, marginalised, and socioeconomically disadvantaged populations. As evidenced throughout the HIV/AIDS response,[36] empowered communities can safeguard success through delivering person-centred HIV services, guiding priorities and improvement in the quality of services, and holding governments accountable during HIV service integration and management transitions.

Lastly, ongoing innovation will provide new tools that can support sustaining epidemic control. Ensuring scalable and affordable access to medicines and commodities for the countries and communities most affected by HIV will maximise the impact of new long-acting antiretrovirals and pre-exposure and post-exposure prophylaxis. Digital health information systems and new point-of-care diagnostics for HIV viral load and resistance monitoring,[37] if resourced and implemented at scale, will unlock more convenient person-centred HIV service delivery models, decongest health facilities, and facilitate efficient surveillance to identify and mitigate emerging threats to epidemic control.

Considerable gains have been made in responding to HIV in eastern and southern Africa, but current progress is fragile. As 2030 approaches, the focus of—and terminology used in—regional and national HIV agendas should evolve from referring to the "end of AIDS" to building momentum for decades of sustained and resilient HIV epidemic control. These efforts need to include concerted actions towards integrated long-term services for millions of people living with HIV, minimising new HIV infections, and confronting HIV stigma and discrimination.

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