Preparing for decades of sustained and resilient HIV epidemic control in Eastern and Southern Africa—the HIV response beyond 2030

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The 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. New infections are 57% lower since 2010 and AIDS-related deaths 58% lower,[3] with aspired 90% reductions by 2030 in reach for some countries attaining the 95-95-95 care cascade targets.[3–6]

The 2015 *UNAIDS-Lancet Commission* envisioned 'ending AIDS' as achieving *disease control*, recognizing that long-term intervention measures would be required to maintain the lowered epidemic level.[7,8] To sustain epidemic control beyond 2030, countries with large HIV epidemics should prioritise steadily reducing new infections over coming decades, eventually to below 1 per 10,000. Continued declines are critical to both contain long-term resources required for providing HIV treatment and avoid risk of resurgent HIV transmission. For countries reaching 95-95-95, mathematical model projections suggest a further 20% reduction in new infections every five years is an ambitious but attainable target to guide prevention strategies.[9,10] Where larger gaps remain, quickly increasing treatment coverage will rapidly reduce population viraemia,[11,12] enabling steeper incidence declines.

Through a meeting series convened by UNAIDS, the Post-2030 HIV Response Working Group identified four essential priorities to sustain HIV epidemic control in Eastern and Southern African countries with large HIV epidemics and successful programmes:

First, **effective HIV treatment is the cornerstone of success**. Even with continued success reducing new infections, the 21 million people living with HIV today in the region will decline only gradually to between 13 and 17 million by 2050, underscoring the need for long-term programmes delivering lifelong antiretroviral therapy. Maintaining extremely high treatment coverage and undetectable viral load

is critical for the health of people living with HIV and reducing transmission, representing powerful alignment of individual and population health outcomes embodied by “U=U”. Providing antiretroviral therapy will constitute the majority of future resources for HIV. Disruption to supply chains or delivery could precipitate return to emergency levels of AIDS deaths and new infections,[13] while deterioration in treatment continuation or effectiveness of durable viral suppression risks slowing incidence declines and thereby increasing future resource requirements for care and treatment.

Second, ensure **timely HIV diagnosis**. Testing programmes should transition focus from the ‘proportion aware’ (first 95) to ensuring short ‘time-to-diagnosis’ that enables rapid viral suppression. HIV testing is relatively inexpensive and should be easily accessible to anyone, increasingly through self-testing, with frequent testing encouraged among people with elevated exposure to HIV acquisition.

Third, **adapt HIV prevention** around evolving individual needs and preferences to ensure continued prevention usage at levels that protect epidemic outcomes. The diffuse nature of HIV transmission in contemporary African HIV epidemics[14] necessitates strategies that engage large populations with moderate HIV risk in effective, easily accessible, and affordable prevention options, such as condoms and voluntary medical male circumcision. Persons with heightened vulnerability, including vulnerable young people, need more intensive prevention choices such as pre-exposure prophylaxis. Deterioration in HIV testing or prevention threatens epidemic control through decelerating or stalling incidence declines,[15] which may only become apparent 5-10 years later.

Fourth, maintain **comprehensive HIV services for key populations,** including access to new antiviral-based prevention technologies. New infections among key populations—female sex workers and their clients, gay men and other men who have sex with men, people who inject drugs, transgender people, and prisoners—are 9% of all new HIV infections in Eastern and Southern Africa, but occur at rates four to ten times higher than all adults.[16] Epidemic dynamics suggest the proportion of infections among key populations could increase as overall infections decline,[17] but this is not inevitable.[18] Services that meet the distinct prevention needs of key

populations fulfill health equity and human rights for key populations and ensures long-term epidemic control.

Shifting focus from rapid intervention scale-up to implementing resilient programmes for decades entails myriad new challenges for the HIV response. Vertical HIV management and delivery systems, while effective, are fragile to shifting priorities. Management systems must maintain effectiveness while being integrated into local, national, and regional structures [19] to ensure resiliency. Societally, HIV programme impacts have been enabled by successfully addressing societal and structural barriers.[20] Current legislative attacks on human rights[21] threaten the ability to ensure supportive legal environments, gender equality, ending stigma and discrimination, and multisectoral coordination required for sustained future progress.

Care and treatment programmes need to adapt to changing health needs of ageing populations with HIV—whose median age will increase from 32 years in 2010 to 59 years by 2050. Maintaining effective treatment rests on continued focus on improving care quality,[22] integration with primary care,[23] and addressing access barriers imposed by stigma and discrimination.[24] Equally, as HIV epidemics recede, high awareness and motivation for HIV prevention and testing through comprehensive sexuality education will be more challenging, especially among young people unfamiliar with the height of the AIDS emergency. Policies and programmes will need more focused attention to ensuring prevention, testing, and treatment equitably reach mobile, marginalised, and socioeconomically disadvantaged populations as the epidemic recedes. As throughout the response,[25] empowered communities will safeguard success through delivering person-centred HIV services, guiding priorities and quality improvement, and holding governments accountable during integration and management transitions.

Lastly, innovation will support sustaining epidemic control. Continuing the legacy of HIV response in ensuring scalable affordable access to medicines and commodities for the countries and communities most affected will maximise impact of new long-acting ARVs and PrEP. Digital health information systems coupled with new point-of-care diagnostics for viral load and resistance monitoring,[26] if resourced and implemented at scale, will unlock more convenient person-centred service delivery

models, decongest health facilities, and facilitate efficient surveillance to rapidly identify and mitigate emerging threats to epidemic control.

Targets to ‘end AIDS as a public health threat by 2030’ have catalysed transformational change in HIV epidemics in Eastern and Southern Africa; but current progress is fragile. As 2030 approaches, focus—and terminology—should evolve from referring to the ‘end of AIDS’ to building momentum for *decades of sustained and resilient HIV epidemic control*, including concerted action towards integrated long-term services for millions of people living with HIV, minimising new HIV infections, and confronting stigma and discrimination towards people living with, at risk of, or affected by HIV.

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