



Introduction

Ending AIDS as a public health threat is an achievable objective—the knowledge, tools and pathways exist for reaching this goal. But in a volatile and evolving context, further improvements and constant adaptations are needed so people living with or affected by HIV can live long and healthy lives.

The remaining disparities in HIV treatment coverage and outcomes must be eliminated. A much stronger focus on HIV prevention is needed, including more funding (1). Especially in countries with moderate or high HIV prevalence, "treatment as prevention" alone will not be sufficient. Drastically stepped-up primary prevention is needed.

As countries get closer to reaching their national HIV targets, it becomes increasingly difficult to bridge the remaining gaps. The last 5% or 10% of people who are not being reached consistently with services and support tend to be deprived and socially excluded and find it extremely difficult to access and use HIV and other services. Scaling these obstacles and making HIV responses more equitable require fresh ways of linking community systems and health systems and bigger roles for community-led and community-based organizations. The structural barriers and capacity constraints that undercut their work must be removed or neutralized (1).

Even when the world succeeds in ending AIDS as a public health threat, or achieving "disease control", the pandemic will be far from over.

All of this must be achieved in a context shaped by persistent inequalities within and between countries, a broadening attack on human rights, and ongoing discrimination against people in marginalized sections of society, many of whom are inordinately affected by the HIV pandemic. The fiscal constraints posed by debt distress and low economic growth, especially in Africa, are affecting low- and middle-income countries' abilities to invest more in their HIV responses, while some donors have diverted their assistance to other priorities.

Even when the world succeeds in ending AIDS as a public health threat, or achieving "disease control", the pandemic will be far from over (see box "What does 'disease control' mean?", below). Huge tasks will remain. Unless a vaccine or a cure is developed, tens of millions of people living with HIV will still need treatment and care for decades to come, and countries will have to prevent the HIV pandemic from rebounding. We will have to keep doing better at preventing people in ostracized populations from being left behind, by tackling the deep-rooted human rights and gender-related barriers that stop people from accessing health and social services. Awareness and knowledge of HIV will have to be constantly

replenished among new generations of adolescents and young people, who are becoming increasingly numerous. The number of young people aged 15–24 years across the world is expected to reach 1.3 billion by 2030 (2), and a large proportion of them will be living in Africa (3).

For the global HIV response, the primary objective for 2030 is to reduce numbers of new infections and AIDS-related deaths to levels that approach or achieve "disease control". This entails a rejuvenated HIV response that not only makes quicker gains but does so in ways that sustain long-term HIV control and prevent a future resurgence of the pandemic (1). It will involve continuous adaptation.

Rather than build incrementally on what is already in place, an HIV response that achieves an enduring impact will require transformations in systems, programmes, policies, and financing instruments and sources, including rethinking how the response fits within overarching health systems and strategies (4).

Some distinct programme activities will no longer be needed, and others will have to be adapted or innovated (5). For example, as the epidemic evolves, services for preventing HIV will need to emphasize different populations, and treatment and care services will need to deal with the comorbidities experienced by ageing people living with HIV. The long-term care of people living with HIV will increasingly involve the prevention and management of noncommunicable diseases (see section "Treatment and care for people living with HIV").



The HIV response will have to shift further away from a parallel, emergency model. The HIV pandemic and public health strategies have evolved in ways that no longer support "exceptionalist" approaches (4, 6). The response will need to make common cause with wider health programmes by responding simultaneously to the growing impact of noncommunicable diseases, including among people living with HIV, and the ongoing toll exacted by other infectious diseases. The aim is to improve both HIV-related and other health outcomes. This can be done by further strengthening health and community systems and by preserving and building on key aspects of the HIV response, including its commitment to human rights, social justice and gender equality and the central roles assigned to community-led and other civil society interventions (6).

The core ingredients of HIV responses are highly relevant to other public health strategies. For decades, HIV responses have engaged civil society, especially at the community level, and boosted the roles of affected communities. Countries have built strong granular data collection systems and achieved an understanding of HIV epidemiology that encompass the socioeconomic and structural aspects of the pandemic and responses. Based on this knowledge, multisectoral approaches have been developed and actions to reduce societal and structural barriers have become intrinsic features of many HIV programmes, with efforts to ensure new health technologies are affordable and equitably accessible between and within countries.

As the HIV response is integrated further into existing health systems, there will be room and a need for mutual learning.

Deeper and more extensive integration can share these strengths more widely, but this has to be done without diluting the features and principles that have made HIV responses successful. Integrated programmes need to be designed carefully so they realize the desired benefits but sidestep the possible risks. This becomes especially important when serving the needs of people from populations that may be targeted with stigma or discrimination. Funding arrangements will need to adapt. These adjustments are likely to be shaped by the kinds of integration that shape the evolving HIV response. As the HIV response is integrated further into existing health systems, there will be room and a need for mutual learning. For example, the HIV response can learn from the systems set up for vaccinations and family planning that have been sustained for decades despite limited funding.

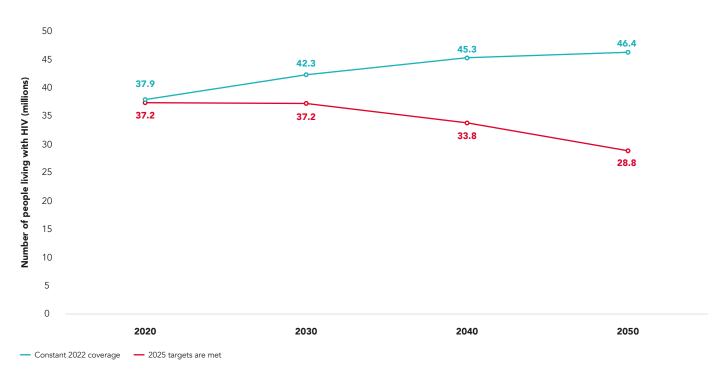
The overarching goal is to help build person-centred health systems that can control and eventually end communicable disease epidemics, halt the rise of noncommunicable diseases, and attend to the social and structural determinants of health (6).

ENDING AIDS AS A PUBLIC HEALTH THREAT

A major acceleration of the HIV response will see the world achieve 90% reductions in numbers of new HIV infections and AIDS-related deaths, compared with the 2010 baseline—an accomplishment often framed as "ending AIDS as a public health threat". Even when this target is achieved, however, tens of millions of people will be living with HIV. These people will require lifelong HIV treatment and care, and some will have advanced HIV disease, or AIDS.

Projections show that if countries meet the 2025 global targets, some 29 million people will be living with HIV globally in 2050. On the other hand, if HIV programmes remain on their current course, about 46 million people will be living with HIV in 2050 (Figure 9.1). The difference between a steady-state HIV response and an enhanced response is huge: there will be 17 million more people living with HIV in 2050 if the HIV response is not boosted to meet the 2025 targets.

Figure 9.1 Projections of numbers of people living with HIV globally in 2030 and 2050 in status quo scenario and if the 2025 targets are met and maintained



Source: special analysis by Avenir Health using Goals model, November 2023.

Even if the 2025 targets are met, it will not amount to "the end of AIDS". The world will still be contending with a major public health challenge. Almost 30 million people will be living with HIV in 2050. They will all need treatment and support for HIV and, increasingly, for comorbidities that become more numerous and complex as people living with HIV grow older. In the absence of an effective and universally accessible vaccine or cure (see box "What does 'disease control' mean?"), there will continue to be new HIV infections. Looking ahead, the priority is to ensure all people living with, at risk of, or affected by HIV can live a safe and healthy life, free from stigma and discrimination.

A steep and sustained decline in new HIV infections is essential to reduce the possibility of HIV transmission at the population level and to reduce the HIV treatment (7). This requires countries to have long-term strategies, adaptive systems and services, and a meaningful commitment to increasing equity and upholding human rights (8).

Countries that are currently further away from reaching the 2025 targets can achieve steeper declines in HIV incidence by rapidly increasing treatment coverage and adherence (9, 10) and intensifying their most effective primary prevention interventions. Modelled projections indicate that it is feasible for high-burden countries that reach the 95–95–95 treatment and care targets to continue reducing new HIV infections by 20% every five years if they invest simultaneously in effective HIV primary prevention programmes (11). These reductions will be vital for curbing their HIV epidemics in the long-term.



What does "disease control" mean?

Reponses to infectious diseases such as HIV and tuberculosis (TB) can be located along a path of progressive milestones, which, ideally, lead to disease control and culminate in disease elimination or even eradication (Figure 9.2). These ultimate objectives are not achievable for all infectious diseases.

Disease control entails reducing the incidence, prevalence, morbidity and mortality of a disease to a level deemed acceptable, with continued actions needed to maintain those decreases (12). "Ending AIDS as a public health threat" by reducing numbers of new HIV infections and AIDS-related deaths by 90% compared with a 2010 baseline therefore implies strong progress toward "disease control". Situating that objective along the path shown in Figure 9.2 is useful to avoid a misleading and premature sense of "success" that could tempt the diversion of necessary resources to other priorities and lay the ground for a resurgent epidemic (12).

Intervention Disease control Elimination Eradication Disease occurrence (prevalence and/or incidence) Maintaining Maintaining Maintaining nterruption of reduction target threshold transmission to zero transmission incidence Time in years Flimination of vertical transmission Interruption of as a public health problem Elimination as a Permanent public health problem reduction End of disease Elimination of worldwide Flimination as a epidemic Pre-elimination public health threat transmission incidence

Figure 9.2 A continuum of milestones and targets

Source: Khawar L, Donovan B, Peeling RW, Guy RJ, McGregor S. Elimination and eradication goals for communicable diseases: a systematic review. Bull World Health Organ. 2023;101(10):649–665.

Building blocks of disease control

There has been a steep decline in the number of new HIV infections in sub-Saharan Africa since 2010, but very little change outside that region overall. About 80% of new infections outside of sub-Saharan Africa in 2022 were among key populations and their sex partners. As shown elsewhere in this report, current programmes are generally failing key populations and their sex partners—who remain exposed to harsh stigma and discrimination and are targeted with punitive laws and policing practices. Even in sub-Saharan Africa, a lot more needs to be done to ensure a sustainable HIV response, including in countries with HIV programmes that are already relatively successful (13).

Timely diagnosis of HIV and wide coverage of effective HIV treatment are essential. By enabling people to start HIV treatment soon after acquiring HIV, prompt diagnosis helps improve health outcomes and reduce the period during which people living with HIV can transmit the virus. Solid long-term programmes and secure funding are needed to deliver lifelong antiretroviral therapy to the tens of millions of people living with HIV in ways that enable them to have undetectable viral loads. This includes well-functioning procurement and supply chains; arrangements that make diagnostics and treatments affordable and accessible; reliable referral and follow-up mechanisms; and interventions that minimize antiretroviral medicine resistance. Antiretroviral therapy will absorb the bulk of HIV resources far into the foreseeable future (7).

Primary HIV prevention programmes must intensify and adapt to the various evolving epidemic contexts. They must reach and engage relatively large populations that are at moderate risk of acquiring HIV with affordable, convenient and accessible prevention options such as condoms and voluntary medical male circumcision (VMMC). Populations at high risk of acquiring HIV need more intensive prevention options such as pre-exposure prophylaxis (PrEP). Failure to intensify primary HIV prevention will stall or reverse current declines in HIV incidence and facilitate increased HIV incidence, already evident in several countries across different regions (7).

Key populations constitute substantial proportions of people living with, at risk of, or affected by HIV—including in countries where the epidemic is well established in the overall population. Comprehensive HIV services for people from key populations must be accessible in the long term, with access to new antiviral-based prevention technologies being a particular priority. Failure to do so may result in the proportion of HIV infections among people from key populations increasing while the overall number of new infections declines (14). Services that meet the prevention and treatment needs of people from key populations are therefore crucially important for achieving and sustaining long-term disease control (7).

All of this is possible only if accompanied by successes in protecting human rights; reducing societal and other barriers such as stigma and discrimination, social exclusion, punitive laws and obstructive policies; boosting the capacity and work of community-led organizations; and addressing oppressive gender norms and violence. Standing in the way of these priorities is an ongoing concerted backlash in many countries against rights-based governance and a steady denuding of civic space (15, 16).

WHAT WILL IT TAKE TO REACH THE 2025 AND 2030 TARGETS AND SUSTAIN IMPACT?

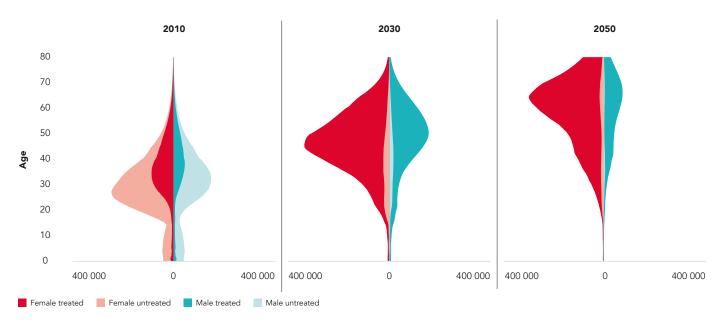
A resilient durable HIV response that reaches and sustains disease control entails improvements and adaptations across a range of domains—including epidemiological, political, programmatic, structural, financial and technological.

The epidemiological challenge

Steep reductions in the rate of new HIV infections are crucial for long-term control of the HIV epidemic, but underinvestment in primary prevention has undermined this work. Funding for primary prevention must increase. This requires robust investment cases and strong evidence-based advocacy. To achieve greater, more efficient impact, primary prevention interventions must fit each country's epidemic and, where appropriate, be integrated with existing health and community systems (1). At the same time, HIV treatment programmes need to achieve very high levels of coverage and viral load suppression, and adapt to the changing health needs of ageing people living with HIV. In eastern and southern Africa, for example, the median age of people living with HIV will shift from the low thirties in 2010 to the high fifties in 2050 (Figure 9.3). The age of the remaining people with unsuppressed viraemia will also get older as the population living with HIV ages. People in the older viraemic age group will likely have older partners and thus require different prevention services.

HIV treatment programmes need to achieve very high levels of coverage and viral load suppression, and adapt to the changing health needs of ageing people living with HIV.

Figure 9.3 Projected age of people living with HIV and viral suppression in eastern and southern Africa in 2010, 2030 and 2050



Source: UNAIDS epidemiological estimates, 2023 (https://aidsinfo.unaids.org/); Eaton J, Stover J. Describing the end of AIDS as a public health threat. Technical consultation, 20–21 July 2023, Boston, MA (https://jointsiwg.unaids.org/publication/describing-the-end-of-aids-as-a-public-health-threat/).

Reviving political will

Strong sustained political will at the highest levels of government is essential as a springboard for funding and action, especially in tight fiscal contexts and amid multiple competing priorities. Without strong political leadership and supportive policies, even promising programmes or changes will not make it past the design phase. Particularly important is consistent top-level support for a variety of effective HIV prevention approaches and for comprehensive HIV services for key populations.

This calls for revived advocacy to foster political will at the executive level and across relevant ministries, including the finance, justice and social development sectors. Advocacy should present persuasive epidemiological and investment cases for stepped-up interventions, including for primary HIV prevention and key population programmes; for supporting integration processes with policy and operational support; for enlisting local community-led and other nongovernmental organizations in accelerated HIV responses; and for removing societal and structural barriers that stand in the way (1).

Making the foundations sturdier

The push towards a sustainable HIV response requires ongoing work to strengthen and safeguard fundamental health system capacities, including numbers of qualified health workers, basic health infrastructure, granular and comprehensive data systems, and mechanisms for reliable procuring and supplying equipment and medicines.

It also demands an emphasis on human rights and equity. Structural barriers to service access—including discrimination, deprivation and the many manifestations of inequality—must be removed, requiring the protection of human rights, strong community systems and enabling civic space (6). This is particularly challenging in the context of rising authoritarianism and attacks on human and civil rights.

A sustainable HIV response hinges on the institutional capacities of community-led organizations to carry out and support service delivery, call out and tackle structural barriers to health care, and buttress community health systems. In addition to guiding priority-setting and delivering personcentred HIV services, empowered communities can hold governments and other stakeholders accountable during integration processes. Greater financial security and stronger management and governance capacities will enable these organizations to fulfil their potential.

Social contracting is an underused opportunity to address some of these shortcomings. Channelling government funds to community-led organizations to provide services is already possible in some contexts, such as Thailand, but in many others the regulatory arrangements and health strategies do not yet cater for such functional integration.

Integrating services and programmes

The remarkable expansion of HIV treatment over the past two decades has been achieved mainly with standalone programmes. In countries with high HIV prevalence, many of these programmes were donor-led and involved separate financing channels, supply systems and service delivery points (1).

There is now widespread recognition of the need to strategically shift from an emergency HIV response model—built around parallel programmes and interventions—to a mainstreamed, long-term model that integrates vertical HIV management and delivery systems with broader health and community systems. The Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) 2023–2028 strategy is moving beyond disease-specific models (17), and the United States Agency for International Development Primary Impact initiative is moving in a similar direction (18). The extensive global

investments in health information systems, logistics and human resources for health under the United States President's Emergency Plan for AIDS Relief (PEPFAR) and the Global Fund offer a strong platform on which to build integration efforts (19).

The kinds of integration to be pursued depend on a country's HIV epidemic and response and its health and community systems. In some cases, a fully integrated primary care system may encompass a large range of HIV services. In other cases, more selective integration with certain programmes (e.g. sexual and reproductive health and rights and noncommunicable diseases) may be most suitable, including by co-locating them or combining them as one-stop shop models where people receive a range of services from the same provider or team (1).

Modelling shows that in Nigeria, for example, the integration of HIV and sexual and reproductive health and rights services could, over a decade, avert over eight million unintended pregnancies and reduce the number of infants acquiring HIV by 56%.

Integration of primary health-care and HIV programmes is seen as an opportunity to broaden and sustain the gains made against HIV. Current programmes in sub-Saharan Africa, for example, may support integrating primary health-care services into existing HIV services and incorporating HIV services into primary health-care platforms (see section "Integration can take many shapes and forms") (20). But this also requires rethinking current HIV and primary health-care programming models—for example, incorporating in primary health-care models the shift towards personcentred, differentiated care, which increasingly distinguishes HIV programmes. A major concern is how to move towards a more integrated system while maintaining safe stable services for people from key and other priority populations. The actual status of primary health care in a country also needs to be factored in. Public health workforces often are overburdened, undertrained and poorly supported; health infrastructure tends be unevenly available and erratically maintained; and user fees and other out-of-pocket expenses frequently pose problems for people seeking care (20).

Successful integration holds great promise, however, for the HIV response and other health outcomes. Modelling shows that in Nigeria, for example, the integration of HIV and sexual and reproductive health and rights services could, over a decade, avert over eight million unintended pregnancies and reduce the number of infants acquiring HIV by 56%. In Kenya, the integration of HIV, diabetes and hypertension screening services, if linked to solid referral systems, could avert over 240 000 AIDS-related deaths and over 215 000 new infections, and reduce HIV incidence by 44% over a similar period (6).

Financing the response

Reducing HIV funding, whether domestically or externally sourced, is short-sighted. It will cost millions of lives and, instead of saving money—the ostensible reason for cuts—will lead to rising treatment and care costs deep into the future.

Funding shortages are a big obstacle, with total funding available for HIV in 2023 receding to 2013 levels (see section "Resourcing the HIV response"). It is becoming increasingly difficult to mobilize donor funding for HIV. Domestic financing of HIV programmes has increased substantially over the past decade, but the ability of low- and middle-income countries to maintain this trend is running up against major restraints. Many of these limitations lie beyond countries' direct control—they include major fiscal difficulties, crippling debt repayments (especially in Africa), and growing humanitarian crises.

Realistic paths for increasing domestic resourcing for HIV and the milestones for doing so vary from country to country (21). Many options are being considered, including expanding national health insurance schemes and integrating HIV programmes in those schemes (e.g. as in Viet Nam (22)), exploring new financing mechanisms for HIV and health generally, and achieving greater efficiency in spending resources. For example, procurement of medicines and other health products can be cheaper if done through pooling mechanisms or via major donors (4). Debt restructuring and the use of freed-up resources for health and HIV is another possible pathway, as are "blended" financing mechanisms that seek to leverage donor funding to raise additional resources (23).

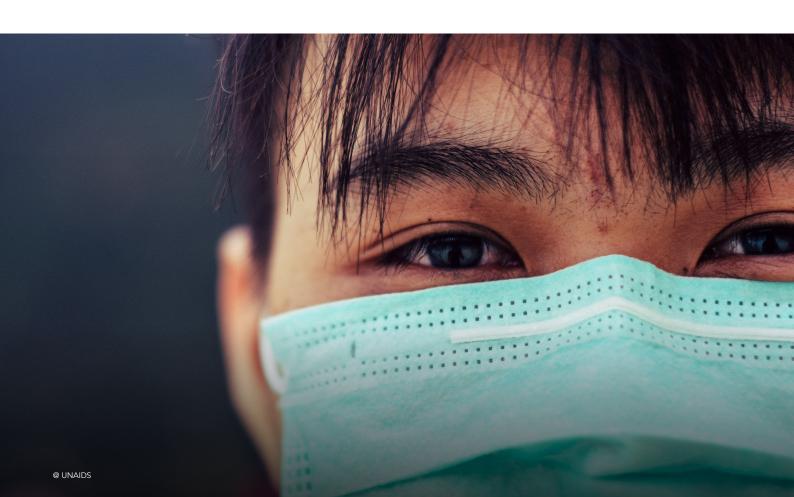


Achieving and sharing innovations

Affordable and equitable access to new HIV and other health technologies is crucial for a sustainable HIV response. Over the decades, activists have won important victories on this front, including for antiretroviral therapy and oral PrEP. Further gains will be needed, including for long-acting antiretroviral medicines for treatment and PrEP and for an HIV vaccine or cure, if or when that materializes (see section "Making better use of prevention opportunities").

An HIV vaccine or cure would be a potential breakthrough. Although there is a strong foundation for advancing vaccine science, to date only the RV144—the so-called "Thai Trial"—has shown modest efficacy, with a 31% lower infection rate observed among people who received the candidate vaccine (24). Possible mRNA vaccines are being investigated, including in clinical trials in Rwanda, South Africa and the United States of America (25, 26). The search for an HIV cure includes the development of a "sterilizing cure", which would eliminate the possibility of viral replication, and a "functional cure", which would control HIV replication without treatment (27). Near-absolute efficacy is necessary for a cure to ensure non-remission (28).

Timeframes for achieving an HIV cure (29) or viable vaccine (30, 31) are uncertain, but the research and development remain vitally important, as do solid commitments and arrangements to ensure speedy, affordable and equitable access to these and other breakthrough technologies. A recent example of this imperative is the twice-yearly injectable antiretroviral medicine, lenacapavir, which has been shown to have very high efficacy for preventing HIV infections in women and girls when used as PrEP (32, 33).



INTEGRATION CAN TAKE MANY SHAPES AND FORMS

In the HIV context, integration involves bringing together HIV services and programmes with other health programmes and with social development programmes and systems in ways that are mutually beneficial. To varying degrees, this is already happening in relation to some maternal and child health services; for preventing and treating TB and cervical cancer; in information management and monitoring and evaluation systems; in humanitarian assistance programmes; and in community health worker training and deployment.

Adding a service may save costs, may increase service uptake, and may be as effective as or more effective than continuing with separate services.

Methods of integration range from adding services to other existing service platforms, to full integration of services at one location and during the same visit. Adding a service may save costs, may increase service uptake, and may be as effective as or more effective than continuing with separate services. Adding a service is not always cost-saving, however, and does not automatically improve service delivery or health outcomes when compared with vertical approaches—this depends on the kinds of services that are being integrated and the context (34).

One approach is to integrate other services, such as screening, care or treatment of noncommunicable diseases, into HIV services. WHO recommends, for example, integrating diabetes and hypertension care with HIV services, and integrating sexual and reproductive health and rights services, including contraception, with HIV services (6).

Conversely, HIV services can be integrated into other health services as part of primary health care. For example, HIV care could be integrated with existing noncommunicable diseases care at primary health-care delivery sites where people receiving noncommunicable diseases care are also provided with HIV testing services and, if found to be living with HIV, provided with care and treatment (6, 34).

More comprehensive is the simultaneous provision of HIV and other services at the same site or as part of the same outreach activity (35). For example, screening for HIV, sexually transmitted infections, cervical cancer and viral hepatitis can be integrated in the same visit to a health facility, such as

when pregnant women seek antenatal care. For people from underserved or marginalized populations, the same service site or intervention can offer a bundle of services tailored to the needs of each population (6).

Integration can also be systems-focused—for example, cross-training health-care workers, including community health workers, to offer both primary health-care and HIV services; making integrated use of equipment such as multiplex diagnostic tools; and incorporating primary health-care facilities in existing centralized electronic medical record and health information systems.

Beyond this is the possible integration of health system resources and programmes to deal with social determinants of health. This would include joined-up efforts to address stigma and discrimination in the health sector; to achieve reforms that minimize legal barriers to health service access; to uphold the human rights of ostracized and embattled sections of society; and to advance women's rights and gender equality.

Finding the best fit for integrated services

There are multiple options for integration. In places with low HIV prevalence, HIV prevention and treatment can be integrated with existing primary healthcare and outreach models. In areas with high HIV prevalence, TB preventive treatment, PrEP, mental health and services for people who use substances can be combined with HIV care, or medicines for noncommunicable diseases can be "bundled" with multimonth dispensing of antiretroviral therapy.

The latter approach was taken in two counties in Kenya, where care for noncommunicable diseases and HIV was integrated at 66 HIV facilities to also offer hypertension, diabetes, chronic kidney disease and mental health care (36). Some VMMC services in Eswatini offer hypertension and diabetes treatment, PrEP, post-exposure prophylaxis, treatment for sexually transmitted infections, HIV services and TB preventive therapy (20).

For over a decade in Malawi, the primary health-care system has implemented a cost-effective basic health-care package that includes PEPFAR-supported HIV prevention, testing and treatment services at primary- and secondary-level facilities. Hypertension was integrated with antiretroviral therapy clinics at primary and secondary facilities in 2016, and the Malawi Ministry of Health recommended in 2022 adding screening for cardiovascular disease, cervical cancer, depression and diabetes into HIV clinics. In addition, Malawi's VMMC programme also incorporates screening for hypertension (20).

Although best practices for HIV-related integration are still emerging, it is clear that one-size-fits-all approaches are imprudent. Integration needs to fit the context, and the choices made must retain the core principles and strengths of successful HIV responses (6).

The HIV response sustainability roadmap

The Global Fund, UNAIDS and PEPFAR are supporting an approach to plan for and implement sustainable national HIV responses—that is, to reach the global AIDS targets and maintain the gains of the HIV response beyond 2030 (37).

Central to this approach are HIV response sustainability roadmaps, which countries are developing through country-driven and country-owned processes. The roadmaps will lay out pathways for country-level strategies and actions to achieve and sustain impact in ways that leave no one behind. They reflect a holistic approach that goes beyond the financing aspects and includes the achievement of enabling environments that are grounded in human rights and put affected communities at the centre. Long-term sustainability requires a dynamic HIV response that:

- Predicts, prevents, detects and responds to new infections.
- Sustains viral load suppression, by achieving the 95–95–95 targets among people of all age groups and genders, and from key populations.
- Achieves the 10–10–10 targets, thereby reducing the inequalities that drive the HIV pandemic.
- Systematically includes community-led responses that are also sufficiently funded and supported.

Each synthesis roadmap will identify high-level outcomes across the key domains of a new sustainability framework, including political leadership; effective and equitable service access and quality; systems capacity; enabling policies; and domestic and international financing.

Countries will then develop processes to decide on the pathways for achieving the outcomes, including vital changes to policies, programmes and systems. This roadmap approach is flexible and is not focused only on financial sustainability. The development of the roadmaps will unfold across phases and will incorporate lessons learnt from other sustainability efforts.

A new set of 2030 targets, which are being developed and will provide the framework for the next Global AIDS Strategy 2026–2031, will help to clarify the core actions for the detailed planning and implementation of the roadmaps.

Learning from experience

Discussions about the future HIV response often orbit around financial sustainability. The past decade saw shifts away from a reliance on donor funding for HIV interventions and from external implementation of projects, with mixed results and useful lessons learnt. Highlighted in those ventures is the value of strong political will and the importance of having solid institutional and policy foundations, of following phased approaches, and of engaging all relevant stakeholders, especially affected communities, in the process (1).

Examples include South Africa, where PEPFAR shifted from being a direct service provider to a technical support partner in a five-year handover that extended from 2012 to 2017. There was strong financial and political support for the move, but the structural and programmatic aspects were less solid. The latter drawbacks may have increased loss to follow-up rates for people transitioning from PEPFAR-funded antiretroviral therapy centres to local clinics (4, 38, 39).

In parts of eastern Europe, the Global Fund launched a new funding model in 2013, which changed the eligibility criteria for accessing funding for HIV programmes in Bosnia and Herzegovina, Montenegro, North Macedonia, Romania and Serbia. The transition was initially disruptive, especially for HIV programmes serving people who inject drugs, because countries struggled to take full ownership of programmes that had previously been entirely externally funded (4).

The handover of the pathbreaking Avahan programme to the Government in India 2009–2013, however, was seen as successful. Among the factors cited were high-level commitment from the Government to HIV prevention; clear implementation plans; the hiring of transition managers who operated at several levels; the creation of identifiable budget lines to finance the changeover; and clarity about the common minimum programme that would be maintained (40).

In Uganda, between 2015 and 2017, PEPFAR consolidated its support around a reduced number of facilities and districts. An examination of this process found that some core HIV services, such as testing and treatment, were sustained, although the range and quality of HIV services on offer changed, sometimes for the worse. In some cases, specialized paediatric HIV services, free HIV testing services and nutrition support for people on treatment were no longer available. At some facilities, antiretroviral stockouts, clinic waiting times and out-of-pocket expenses increased, and services reportedly became less person-centred (41). A later study, covering the 2018–2020 period in eastern Uganda, reported reduced funding for HIV programming at the district level, declining viral load suppression rates and increased reports of deaths of clients (42).

Acting "outside the box"

Sustainability discussions tend to focus primarily on the nation state, and particularly on the idea that countries ultimately should manage their health challenges in a self-sufficient manner with limited or minimal outside support. As the COVID-19 pandemic made clear, public health threats do not heed national boundaries. Similarly, countries' abilities to manage those threats are not always within their direct control.

Some decisive factors are subject to dynamics that are only marginally responsive to the decisions taken in low- and middle-income countries, such as economic growth prospects in a globalized world economy; commodity price volatility; shifts in debt-servicing levels due to monetary policy changes in dominant economies; and the prices of key medicines and other medical products. The roles of multiple inequalities between and within countries in generating the social determinants of health and the unequal impacts of the climate crisis also are often ignored or downplayed (43).

The World Bank has projected that government spending in 41 countries will remain lower than pre-COVID levels until 2027, while spending is expected to rise but remain weak in 69 countries (44). After rising steeply during the COVID-19 pandemic, per capita central government health spending in low- and middle-income countries has fallen back to pre-COVID levels, as countries have grappled with price hikes and rising debt service costs (45).

Interventions at the transnational level, including via multilateral institutions operating at the regional and international levels, are needed dearly. It will be important for stakeholders in the HIV response to come together with their counterparts in health, financing and other sectors to plot stronger forms of collaboration and coordination for health and HIV.



What the HIV response can bring to health

HIV programmes are already strengthening health systems and enhancing access to people-centred care in numerous ways (46), with integrated HIV services increasing access to holistic, comprehensive health services. In Côte d'Ivoire, Jamaica, South Africa and other countries, service platforms originally developed to respond to HIV now provide a broad range of health services, including for preventing, screening for and treating noncommunicable diseases.

HIV care is inspiring models of care for other diseases. In Colombia, HIV care methods are being used to provide comprehensive coordinated care for other chronic diseases, including diabetes, cancer and cardiovascular diseases. Health system components built as part of HIV responses are also facilitating broader improvements in health outcomes. Laboratory systems strengthened through HIV investments in Côte d'Ivoire are augmenting diagnostic services for multiple health priorities, including maternal and child health, TB and viral hepatitis.

At the same time, the HIV response can learn lessons from other sectors—for example, in rolling out "last mile" vaccination campaigns and conducting mass education campaigns about malaria. The convergence of health systems is an opportunity to learn across the many spheres of public health and development.

The progress made in expanding access to HIV services for people from marginalized populations is having ripple effects. A central challenge for universal health coverage is to ensure services are trusted, accessible and appropriate for people from the most marginalized communities. In countries such as Colombia, Côte d'Ivoire, Jamaica and Thailand, HIV investments have facilitated the creation of trusted, community-led services that are delivering holistic care to communities that are often not well served by mainstream health facilities.

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