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MISSED 90-90-90 TARGETS CALL FOR A MULTI-PRONGED APPROACH IN LOW- AND MIDDLE-INCOME COUNTRIES

To be on track to meet the goal of the Joint United Nations Programme on HIV/AIDS (UNAIDS) to end AIDS by 2030, more than 90% of people living with HIV (PLHIV) would know their status, 90% of those who had tested positive would be on treatment, and 90% of those on treatment would have achieved viral suppression, by 2020. However, the numbers reported in the recently published UNAIDS report shows that most countries are far from reaching these targets. By the end of 2019, eight out of 10 PLHIV knew their status, 82% of them were on treatment, and 88% had achieved viral suppression, across the globe.

There have been some bright spots, though. For instance, Eswatini, the country with the highest prevalence of HIV in the world, is doing so well that it has already surpassed the [2030 targets of 95-95-95](#). Five countries, including Namibia and Zambia, had also reached each of the 90-90-90 targets. But most low- and middle-income countries are struggling to expand uptake of testing and treatment by PLHIV, particularly those in the Middle East and North Africa (MENA) and West and Central Africa (WCA).

Table 1: 90-90-90 targets across different regions, 2019 (by alphabetical order)

	First 90	Second 90	Third 90
Asia and the Pacific	75	80	91
Caribbean	77	81	80
East and southern Africa	87	83	90
Latin America	77	78	88
Middle East and North Africa	52	73	83
West and Central Africa	68	85	78
West and Central Europe and North America	88	92	82

Globally	81	82	88
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Source: Data from the UNAIDS 2020 Global AIDS report

Note:

First 90: percentage of PLHIV who know their status

Second 90: percentage of people who know their status who are on treatment

Third 90: percentage of PLHIV on treatment who achieve viral suppression

There are a number of challenges and gaps aligned to the health systems that probably undermined the achievement of the 90-90-90 targets.

Gaps and challenges in achieving the 90-90-90 targets

First 90

HIV testing is usually the first point of entry into HIV care, making it quite crucial in efforts to end the epidemic. Indeed, more PLHIV know their HIV status than ever before. However, almost as many are not aware of their HIV status, especially in the [MENA](#), where only half of the PLHIV have tested for HIV (Figure 1). Generally, men, adolescents, the least educated, and key populations are less likely to be aware of their HIV status.

Most low- and middle-income countries offer HIV testing services at the health facility and community levels, often at no cost to the person tested. At the facility level, those seeking testing services often face a lack of testing resources such as test kits and reagents, long waiting times, and long queues.

[Stigma and discrimination, limited access to testing sites, and a self-perception](#) of having a low risk of contracting HIV are added barriers to HIV testing.

In addition to ensuring that testing resources are available, there is a need to expand routine and [targeted testing](#) to those at highest risk of HIV infection or with the least access to these services. Various studies have advocated for [increased HIV self-testing](#), particularly for men and key populations while acknowledging the challenges in limited-resource settings. These groups can easily access HIV self-test kits in chemists or other HIV testing points. HIV self-testing, however, leaves a gap in linking those who test positive to HIV treatment services.

Second 90

The World Health Organization (WHO) recommends a '[test and treat](#)' strategy where anyone who tests positive for HIV should initiate antiretroviral treatment immediately after diagnosis. The 'test and treat' strategy sets the stage for countries to initiate therapy to most, if not all, people who test positive, whether at the health facility, community, or at home through self-testing. The strategy assumes that countries can test and treat the large numbers of PLHIV. However, the reality is that low- and middle-income countries often have limited resources. [Staff and drug shortages](#) often occur, as well as other institutional barriers, including [limited space at the clinics](#) and long waiting times. Other barriers to treatment uptake and continuation, at the individual and interpersonal levels, include stigma and discrimination, fears of disclosure, lack of social support, work interference, drug side effects, and treatment fatigue.

Interventions that reduce the burden on health facilities and the individuals on care are likely to improve the antiretroviral therapy (ART) uptake and retention. An example is differentiated service delivery, where

service is adapted to the needs of those seeking it. For instance, [frequent appointments](#) for newly diagnosed PLHIV compared to biannual appointments for those who have been stable and on treatment for two years. The best strategy appears to combine multiple methods of delivering treatment, including at the facility and the community through [community distribution points](#) or [community-based ART clubs \(CACs\)](#).

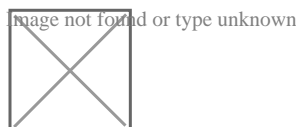
The third 90

The third 90 envisions that 90% of all people receiving ART will achieve viral suppression where their viral load is at an undetectable level. This target implies that countries will quantify the viral load for all patients receiving treatment, as [recommended by the WHO](#), i.e., six months after the initiation of ART and, once every 12 months afterwards. Routine viral load monitoring helps assess adherence to treatment or how well the patient is responding to therapy, and is associated with better treatment outcomes.

However, viral load testing is still insufficient, particularly in low- and middle-income countries. This is evident in the fact that far more than half of the countries in West and Central Africa (18 of the 24 countries) that reported data on the first two 90s, did not report on the third 90, in the most recent data published by UNAIDS. (The UNAIDS report explains that the agency only publishes estimates from countries that have tested at least half of those on treatment.) Overall, viral load reporting has increased from 29 countries in 2015 to 70 in 2019, suggesting that viral load testing has expanded across countries.

Viral load testing is costly and quite complex, which limits its scale-up in resource-limited settings (Figure 1). [Staff shortages](#), [inadequate training](#), and weak transport and laboratory systems limit its implementation. In some instances, samples have to be transported over long distances risking damage or loss, and increasing the turnaround times, which may be as high as [more than 50 days](#). However, the introduction of [point-of-care viral load testing](#) promises improved access to testing and shortens turnaround time to the same day in some settings. [Countries](#) have deployed the use of [GeneXpert technology](#) for viral load monitoring at the point of care, although at different scales. GeneXpert technologies were initially developed for the diagnosis of tuberculosis (TB), but their use was expanded to HIV in 2014, and now to the coronavirus disease 2019 (COVID-19).

Figure 2: Viral load continuum



Source: Realizing the potential of routine viral load testing in sub-Saharan Africa published in the Journal of International AIDS Society

Failure to achieve viral suppression has been linked to delayed initiation of ART, non-adherence to treatment, and treatment failure. Viral suppression requires at least 95% adherence to medication. Despite free access to ART, PLHIV still have to grapple with high transport costs (to gain access to the health facilities), costs for laboratory tests (such as CD4 and viral load tests), and treatment for opportunistic infections. Other [studies](#) have also identified [long waiting times](#), inadequate infrastructure and facilities, and insufficient staff as significant barriers to ART adherence. Countries should improve adherence monitoring and counseling, and simplify ART regimens.

UNAIDS-prescribed prevention targets also missed

The countries collectively failed to meet the target of fewer than 500 000 new infections. New HIV infections have stalled; approximately 1.7 million people became newly infected with HIV in 2019, similar to 2018. This represents a 23% reduction in infections since 2010. The increasing number of PLHIV is

stretching the already overburdened health systems and widening the funding gap as it is increasing the HIV resource needs amidst [dwindling HIV resources](#).

There is no single approach to prevention; it requires an integrated approach that includes a range of [biomedical, behavioral, and structural \(relating to policy and human rights barriers\)](#) interventions that are tailored to those most in need. However, currently, there is limited access to condoms (by young women) and pre-exposure prophylaxis (PrEP) for populations that need them most. Only 590 000 people accessed PrEP in 2019, far short of the three million targeted by 2020. Indeed, recent studies have also shown increased infection rates among key populations in countries with the worst criminalization policies.

Robust health systems needed for the achievement of AIDS 2030 targets

Robust health systems will remain the cornerstone of success in HIV treatment cascades, which includes HIV testing, treatment, and care services. Limited-resource settings have not been able to treat and retain in care the large numbers of PLHIV due to weaknesses in health systems.

For instance, most countries, particularly those in sub-Saharan Africa, face crippling shortages of the health workforce. Africa, for instance, has 13 skilled workers for every 10 000 people, whereas WHO recommends at least [23 for every 10 000](#) people. [Task shifting](#), where tasks are transferred to other cadres such as from a physician to non-physician clinician who would not have conventionally performed them as part of their scope of practice, has somewhat alleviated staffing shortages within the HIV response. For instance, nurses may prescribe antiretrovirals for stable patients. However, legal and regulatory barriers have hindered its implementation in some settings, especially in Latin America. Decongesting health facilities by enhancing differentiated service delivery and community systems will also improve the quality of care.

As mentioned above, laboratory [infrastructure](#) and testing capacity are insufficient in low- and middle-income countries. Optimal testing does not only require laboratory equipment, reagents, and staff, but other infrastructure such as water and electricity, which are often a challenge in limited-resource settings. Low- and middle-income countries also face challenges securing adequate access to ART and treatment for opportunistic infections. Countries often report stock-outs of test kits and ART.

However, strengthening the health workforce, diagnosis, and access to medicines, depends in large part, on countries' willingness to increase their investment in the HIV response. Previous Aidsplan analysis showed that domestic resources account for 64% of total available resources for HIV in high burden countries in [Asia and the Pacific](#) and just 16% in high-burden countries in [sub-Saharan Africa](#). These countries face considerable gaps in HIV financing, and the burden often shifts to those seeking services to pay user fees.

The Global Fund's role in strengthening health systems

As the Global Fund develops its post-2022 strategy, there is a need to assess its HIV response and its support of health systems strengthening in order to improve program delivery and outcomes. In recent years, health system strengthening grants have recorded lower absorption rates compared to grants for the three diseases. In addition, the grants were targeting interventions for system support rather than system strengthening. Interventions for system support include allowances for community health workers, financing for vehicles or computers, and training, whereas those for system strengthening include supporting the policy and institutional frameworks, and have long-term effects.

COVID-19 impact on the HIV response

The COVID-19 pandemic, and the measures put in place to mitigate it, has undoubtedly negatively impacted the HIV response. This includes prevention, testing, initiation to treatment, adherence to treatment (due to the shortage of drugs) and the pharmaceutical supply chain. For instance, many countries are at risk of stock-outs of antiretrovirals due to disruptions in supply chains and diversion of manufacturing capacity to COVID-19 related products. In addition, patients are facing [inadequate supplies of antiretrovirals](#) forcing them to ration their medications or to skip

them altogether, which increases the risk of resistance to antiretrovirals.

On the other hand, the pandemic has prompted the adoption or expansion of various HIV interventions whose use, until now, has been limited, including [multi-month ART prescription](#) and [telemedicine](#) where the health care workers attend to patients through video and phone calls. [WHO](#) estimates that more than 72 countries are administering HIV drugs sufficient for at least three months. Some countries have also adopted ART community pick up points or drop-off at the patients' homes. The pandemic has also spurred [increased uptake of HIV self-testing](#) as measures meant to address COVID-19 have undermined facility testing. These interventions could help overcome some of the barriers and improve access to HIV services, unburdening health facilities and health workers and reducing stigma associated with seeking out HIV-related services.

Further reading:

- UNAIDS [2020 Global AIDS Update: Seizing the moment – Tackling entrenched inequalities to end epidemics](#)

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