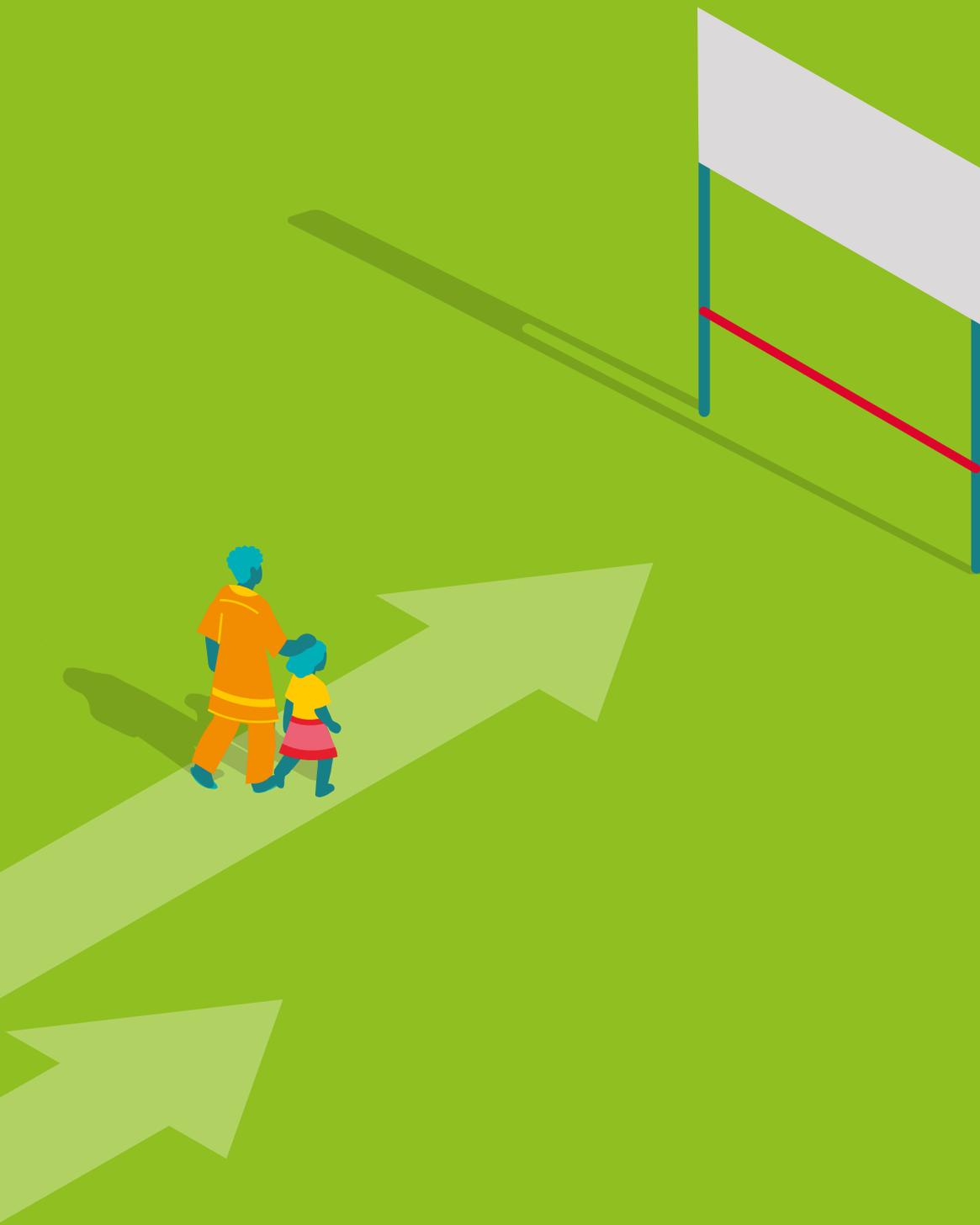


PATHWAYS TO SUCCESS IN THE HIV RESPONSE





Many countries are demonstrating that the HIV pandemic can be overcome

Numbers of new HIV infections and AIDS-related deaths have continued to decrease globally, bringing the AIDS response closer to achieving SDG 3.3 of ending AIDS as a public health threat by 2030.



Numbers of new HIV infections and AIDS-related deaths have continued to decrease globally, bringing the AIDS response closer to achieving Sustainable Development Goal (SDG) 3.3 of ending AIDS as a public health threat by 2030. Many countries with diverse epidemics and economic means are demonstrating that the HIV pandemic can be overcome. Their successes offer lessons for countries and regions where progress is slower, and for broader efforts to improve global public health and advance development (Figure 1.1).

Figure 1.1 Building blocks for a successful HIV response



Efforts to end AIDS as a public health threat are linked closely to wider efforts to remove inequalities and injustices, forge institutions that serve the public good and uphold fundamental human rights, and build dynamic and resilient communities.

Almost 21 million lives saved with antiretroviral therapy

Two decades ago, life-saving HIV treatment was almost unobtainable in low- and middle-income countries. The provision of effective treatment has reduced numbers of AIDS-related deaths globally by 52%—from 1.3 million [970 000–1.8 million] in 2010 to 630 000 [480 000–880 000] in 2022. Improved access to treatment has averted an estimated 20.8 million deaths globally (1).

Access to antiretroviral therapy has expanded in all regions, but especially in sub-Saharan Africa and in Asia and the Pacific, which together are home to 82% of all people living with HIV. In 2022, AIDS claimed fewer lives in those regions than at any point since the early 1990s.

Globally in 2022, out of the 39.0 million [33.1 million–45.7 million] people living with HIV, 86% [73%–>98%] knew their HIV status, 76% [65–89%] were receiving antiretroviral therapy, and 71% [60–83%] were virally suppressed. These are marked improvements since 2015 (Figure 1.2). The latter statistic is of paramount importance: viral suppression enables people living with HIV to live long, healthy lives and to have zero risk of transmitting HIV to other people.

The biggest gains have been among adults, particularly women, and in sub-Saharan Africa, the region with the largest epidemic. The proportions of people living with HIV who know their HIV status, who are on antiretroviral therapy and who are virally suppressed in eastern and southern Africa are almost the same as in the mostly high-income countries of western and central Europe and North America.

THE PROVISION OF EFFECTIVE TREATMENT HAS REDUCED NUMBERS OF AIDS-RELATED DEATHS GLOBALLY BY 52% SINCE 2010

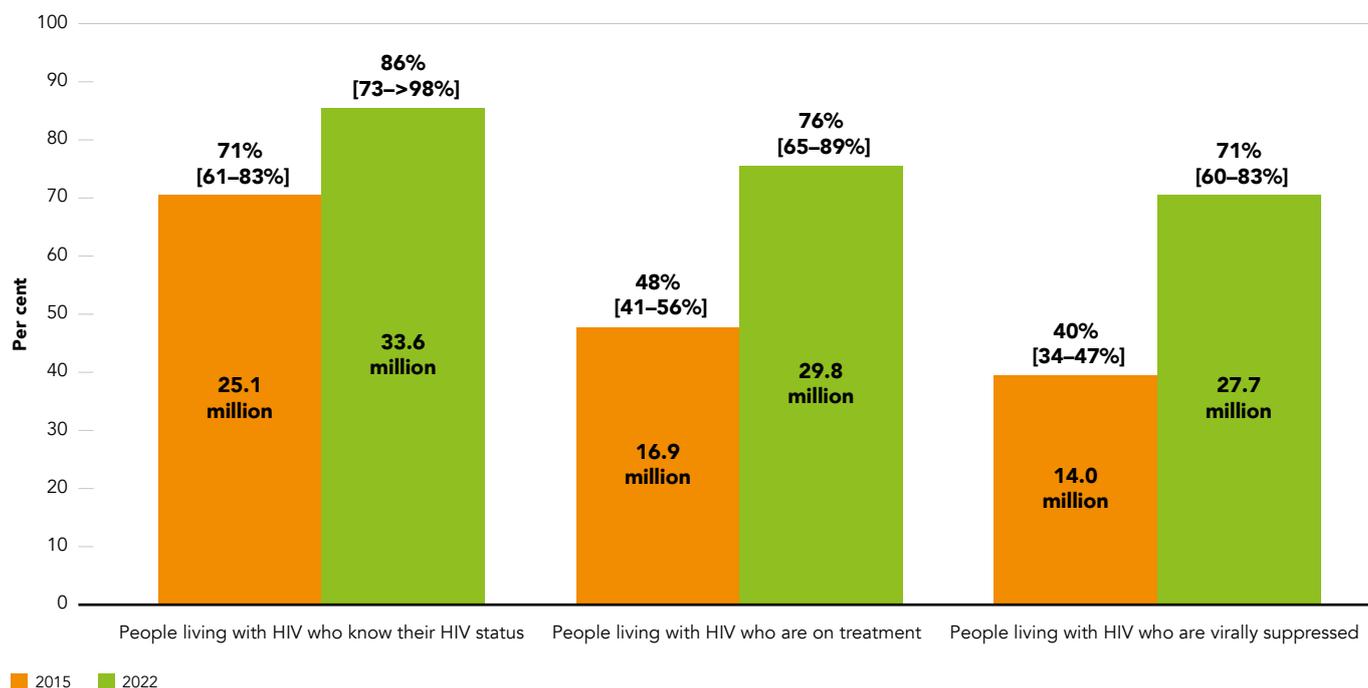


Remarkable treatment successes are under way in several regions

Five countries have achieved the 95–95–95 targets overall in 2022. At least 16 other countries (eight in sub-Saharan Africa) are within reach of those targets.

Knowledge of HIV status, treatment and viral load suppression levels have risen substantially

Figure 1.2 Percentage and number of people living with HIV who know their HIV status, are receiving antiretroviral therapy and are virally suppressed, global, 2015 and 2022



Source: UNAIDS special analysis of epidemiological estimates, 2023.

Rates of viral load suppression among people on treatment in eastern and southern Africa have risen impressively and reached 93% [78%→98%] in 2022. Across western and central Africa overall, viral suppression rates have increased even more steeply. At least 95% of people receiving antiretroviral therapy in Botswana, Cambodia, Denmark, Eswatini, Iceland, Lebanon, Lesotho, Luxembourg, Nepal, Rwanda, Saudi Arabia, Slovenia, Thailand, the United Republic of Tanzania, Zambia and Zimbabwe in 2022 were virally suppressed.

Botswana, Eswatini, Rwanda, the United Republic of Tanzania and Zimbabwe have already achieved the 95–95–95 targets overall,¹ and at least 16 other countries (eight in sub-Saharan Africa) are within reach of those targets (Table 1.1). Among the latter are low-income countries such as Malawi, which has targeted improvements and introduced tailored interventions in districts where testing and treatment coverage were lagging. As a result, in 2022, an estimated 94% of people living with HIV in Malawi knew their HIV status, 98% of people who knew their HIV-positive status were receiving antiretroviral therapy, and 94% of people on treatment were virally suppressed. Comparable progress has been made in other regions, with countries such as Cambodia, Denmark and Togo within reach of the 95–95–95 targets.

¹ 95% of people living with HIV know their HIV status, 95% of people who know their HIV status are receiving antiretroviral therapy, and 95% of people on antiretroviral therapy have achieved viral load suppression.

Remarkable treatment successes are under way in several regions

Table 1.1 HIV testing and treatment cascade by age and sex, selected countries, 2022

Country	Total population living with HIV	Men (aged 15+ years) living with HIV	Women (aged 15+ years) living with HIV	Children (aged 0–14 years) living with HIV
Eswatini	97–94–93	96–91–90	97–96–95	95–88–83
United Republic of Tanzania	95–94–92	93–91–89	98–97–95	72–72–66
Botswana	96–93–92	94–87–87	98–97–97	58–58–56
Zimbabwe	95–94–89	96–92–88	97–97–93	69–69–59
Rwanda	95–92–90	94–91–89	95–93–91	76–75–73
Denmark	95–88–87	95–88–87	96–89–88	
Kenya	94–94–89	93–89–84	95–95–92	84–84–74
Kuwait	94–93–92	94–94–93	92–86–86	
Malawi	94–92–86	90–86–80	98–98–93	70–70–55
Namibia	94–91–86	91–86–80	97–94–90	76–76–68
Lesotho	93–85–84	92–80–79	95–89–88	81–81–75
Zambia	92–89–86	92–90–86	94–91–88	67–67–62
Luxembourg	92–89–85	92–88–85	94–90–86	
Saudi Arabia	90–89–89	92–91–91	80–79–78	81–75–75
Slovenia	90–83–82	90–84–82	86–79–78	
Thailand	90–81–79	89–80–78	90–83–80	...–76–67
Uganda	89–84–79	88–80–75	92–87–83	71–71–60
Sao Tome and Principe	88–88–75	89–89–75	95–95–84	35–35–17
Iceland	87–84–82	85–82–80	92–89–86	
Burundi	86–84–79	87–86–80	94–92–86	36–36–31
Togo	84–81–73	74–67–61	92–91–83	60–60–43

■ Reached the 95–95–95 testing and treatment targets (equivalent to 95–90–86 in this table)

■ Reached the 90–90–90 testing and treatment targets (equivalent to 90–81–73 in this table)

■ Data not available

Source: UNAIDS epidemiological estimates, 2023 (<https://aidsinfo.unaids.org/>).

Note: achieving the 95–95–95 targets requires that 95% of people living with HIV know their HIV status (indicator 1); 95% of people who know their status are receiving antiretroviral therapy (indicator 2); and 95% of people on antiretroviral therapy have suppressed viral loads (indicator 3). In HIV testing and treatment cascade figures, indicators 2 and 3 are expressed as a percentage of all people living with HIV. Achieving the 95–95–95 targets thus translates to 95% of people living with HIV knowing their HIV status; 90% of people living with HIV receiving antiretroviral therapy; and 86% of people living with HIV having suppressed viral loads. Achieving the 90–90–90 targets translates to 90% of people living with HIV knowing their HIV status; 81% of people living with HIV receiving antiretroviral therapy; and 73% of people living with HIV having suppressed viral loads.

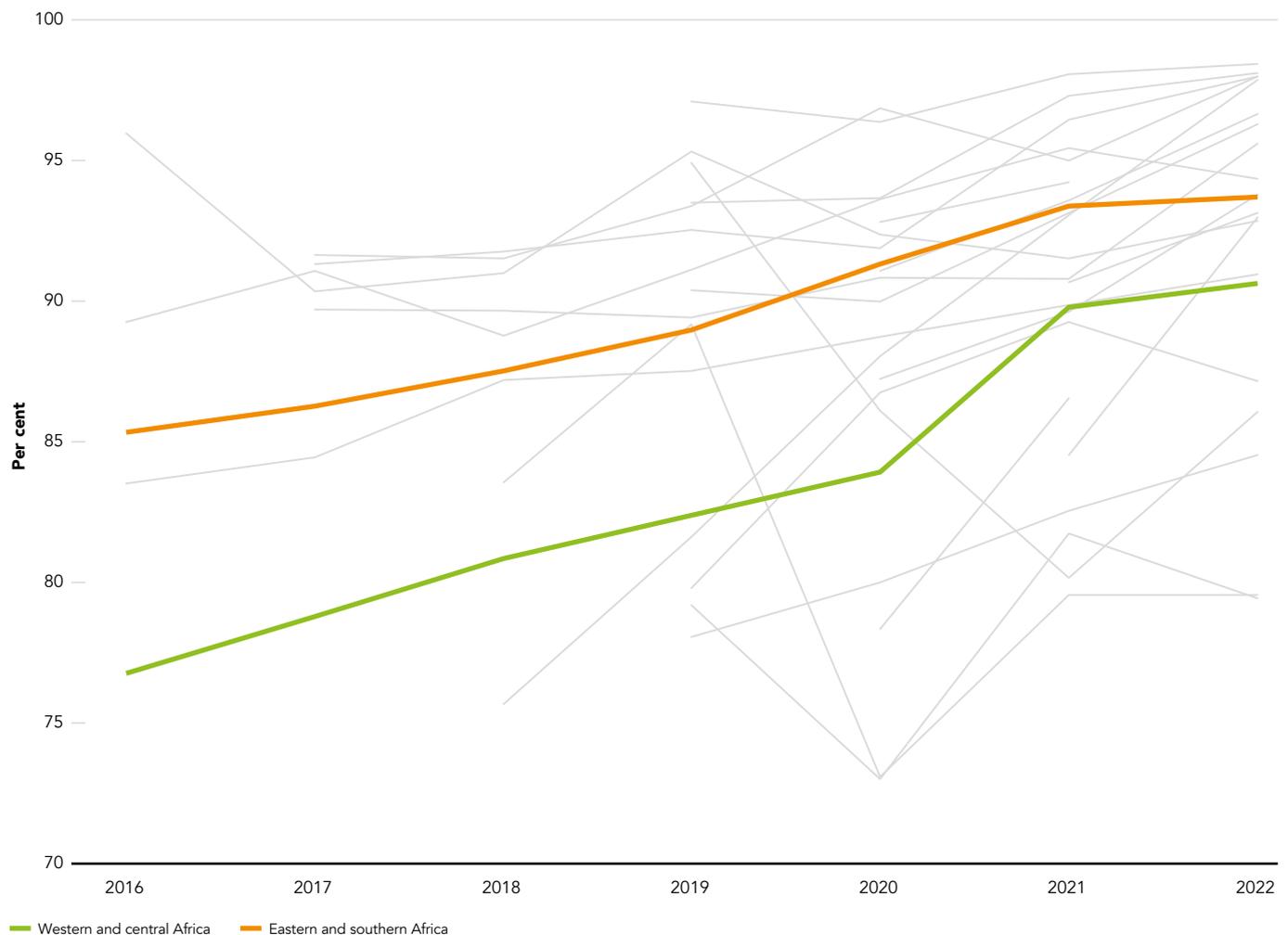
Note: all values in this table were rounded down to the nearest whole number. Countries have been assessed as reaching the 95–95–95 targets if coverage is $\geq 95.0\%$ (for the 90–90–90 targets if coverage is $\geq 89.9\%$). Thus, coverage of 94.9% (or 90.0%) is not considered as reaching the target. Please see Annex 2 Methods for a description of how estimates of the testing and treatment targets are calculated.

Extensive adoption of the Treat All model and treatment guidelines and wider use of improved antiretroviral medicines, notably dolutegravir (2), in preferred first-line regimens are boosting treatment outcomes, including for children. More than 95% of countries were implementing the Treat All approach in 2022, and rapid initiation of antiretroviral therapy (less than seven days after confirmed diagnosis) was occurring in three-quarters of those countries. As of July 2022, 108 of 123 reporting countries had adopted dolutegravir as part of preferred first-line antiretroviral therapy, an 80% increase compared with 2020 (3).

The impact of the shift to improved regimens includes greater viral load suppression among people living with HIV on treatment (Figure 1.3). The absolute number of people routinely tested for viral load suppression increased from six million in 2015 to 21 million in 2022. Receiving viral load test results provides important information for care providers and programme managers and, more importantly, provides considerable reassurance to people living with HIV that their treatment is working.

Viral load suppression levels are high and still rising in sub-Saharan Africa

Figure 1.3 Percentage of adults (aged 15+ years) living with HIV on antiretroviral therapy with viral load suppression (<1000 copies/mL), western and central Africa and eastern and southern Africa, 2016–2022



Source: UNAIDS special analysis of epidemiological estimates, 2023.

The transformative impact of PEPFAR on the global HIV response

This year marks the twentieth anniversary of the United States President's Emergency Plan for AIDS Relief (PEPFAR). PEPFAR has had a transformative impact on the global HIV response. As demonstrated through UNAIDS data, it is driving progress across populations, countries and regions, demonstrating that ending AIDS by 2030 is possible.



Country progress in preventing new HIV infections and reducing AIDS-related deaths is strongest in PEPFAR-supported countries

PEPFAR has made a decisive, continued impact in reducing the number of new HIV infections. Between 2010 and 2022, numbers of new HIV infections decreased by 57% in PEPFAR-supported countries, compared with 38% globally.² Numbers of new child HIV infections in these countries decreased from 1.7 million in 2010 to 820 000 in 2022, which accounts for 94% of all child HIV infections averted globally through vertical transmission programmes.

Between 2010 and 2022, numbers of AIDS-related deaths decreased by 59% in PEPFAR-supported countries, compared with 51% globally. PEPFAR-supported countries have reported significant progress towards the global 95–95–95 targets. Five have already achieved these targets, and the majority of other low- and middle-income countries within reach of these targets are also PEPFAR-supported countries (see Figure 1.3). In partnership with national governments, the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund), UNAIDS and local partners, PEPFAR has enabled partner countries to minimize delays across the cascade.

The positive impact of PEPFAR on domestic financing for HIV is putting the world on track to end AIDS as a public health threat by 2030

While annual funding for PEPFAR has remained largely unchanged over the past decade, PEPFAR continues to have a positive impact on mobilizing growing domestic financing for HIV. In the majority of PEPFAR-supported countries that provided data to UNAIDS, the increase in funding from PEPFAR and the Global Fund triggered an increase in their domestic HIV funding. This is particularly important at a time when overall domestic funding for health and development in low- and middle-income countries is declining.

These and other data demonstrate the positive impact of PEPFAR's political, programmatic and financial support. PEPFAR-supported countries are furthest ahead in ending AIDS—on a par with countries in Europe and North America, which have a significantly lower HIV burden. PEPFAR works in 55 countries, and 78% of people living with HIV reside in these countries. The continued progress and success of PEPFAR is having a systemic impact, supporting global efforts to end AIDS as a public health threat.

² For a list of PEPFAR-supported countries see <https://www.state.gov/pepfar-supported-countries-and-regions/>.

IN 2021, TB-RELATED DEATHS GLOBALLY AMONG PEOPLE LIVING WITH HIV HAD DECREASED BY 67% SINCE 2010

Integrated services are boosting both HIV and tuberculosis (TB) outcomes

Widening access to antiretroviral therapy and improvements in integrated delivery of HIV and TB services have led to a steep drop in TB-related deaths among people living with HIV. There were an estimated 190 000 [160 000–220 000] TB-related deaths globally in 2021 among people living with HIV, a 67% reduction since 2010.³ Although within reach of the 2025 target, the current trajectory has levelled out since 2019 (see Figure 3.7 in Chapter 3). A little over half of TB-related deaths were among men, about 38% among women and 11% among children.

There is still much room for improvement. Among people living with HIV who develop TB, both TB and HIV treatment are required to prevent TB- and AIDS-related deaths. Only 46% of the estimated 703 000 people living with HIV who developed TB in 2021 were receiving antiretroviral therapy (the same level as in 2020)—this is much lower than treatment coverage among people living with HIV overall. The low coverage is likely due to failures in detecting and reporting TB among people living with HIV (4).

The annual number of people living with HIV who received TB preventive treatment rose from fewer than 30 000 in 2005 to 2.8 million in 2021. Services were disrupted by the COVID-19 pandemic in 2020, but they subsequently recovered somewhat. Between 2005 and the end of 2021, a total of 16 million people living with HIV were initiated on TB preventive treatment. However, compared with the 38.4 million people who were estimated to be living with HIV, the target of 90% is not yet within reach.

In 2022, the World Health Organization (WHO) intensified its technical support to address advanced HIV disease including with a focus on key comorbidities and infections in addition to TB. This support recognizes the importance of communities to continue encouraging people who are unwell to seek health care, supporting people who are recovering following acute illness and focusing on ongoing adherence and retention in care.

³ The latest available TB data are for 2021. Data for 2022 will be available later in 2023.

Not everyone is benefiting equally

Not everyone is benefiting equally from the expanded provision of HIV testing and treatment (see Chapter 2). Treatment coverage among people from key populations⁴ continues to be generally lower than among people living with HIV overall. Men living with HIV are significantly less likely than women living with HIV to access testing and treatment services in sub-Saharan Africa, the Caribbean, and eastern Europe and central Asia. Testing and treatment coverage and viral suppression rates also lag among children and adolescents.

Treatment progress is especially slow in eastern Europe and central Asia and the Middle East and North Africa. About half of the almost 2.2 million people living with HIV in these two regions were receiving antiretroviral therapy in 2022. HIV treatment coverage in Asia and the Pacific was below the global average, while it has improved little in Latin America in recent years. Levels of viral load suppression in these regions were also below the global average. The epidemics in these regions differ in size, but they share a central feature: new HIV infections are occurring primarily among people from marginalized and criminalized populations and their sex partners. In the majority of regions, these key populations tend to have worse access to treatment services than other people living with HIV.

Overall, in 2022, about 9.2 million people living with HIV globally were not receiving antiretroviral therapy, and about 2.1 million people were receiving treatment but were not virally suppressed. This means that, despite the progress made, AIDS claimed a life every minute in 2022, and it remains the fourth-leading cause of death in sub-Saharan Africa.

⁴ UNAIDS considers gay men and other men who have sex with men, sex workers, transgender people, people who inject drugs, and people in prisons and other closed settings as the five main key populations that are particularly vulnerable to HIV and frequently lack adequate access to services.

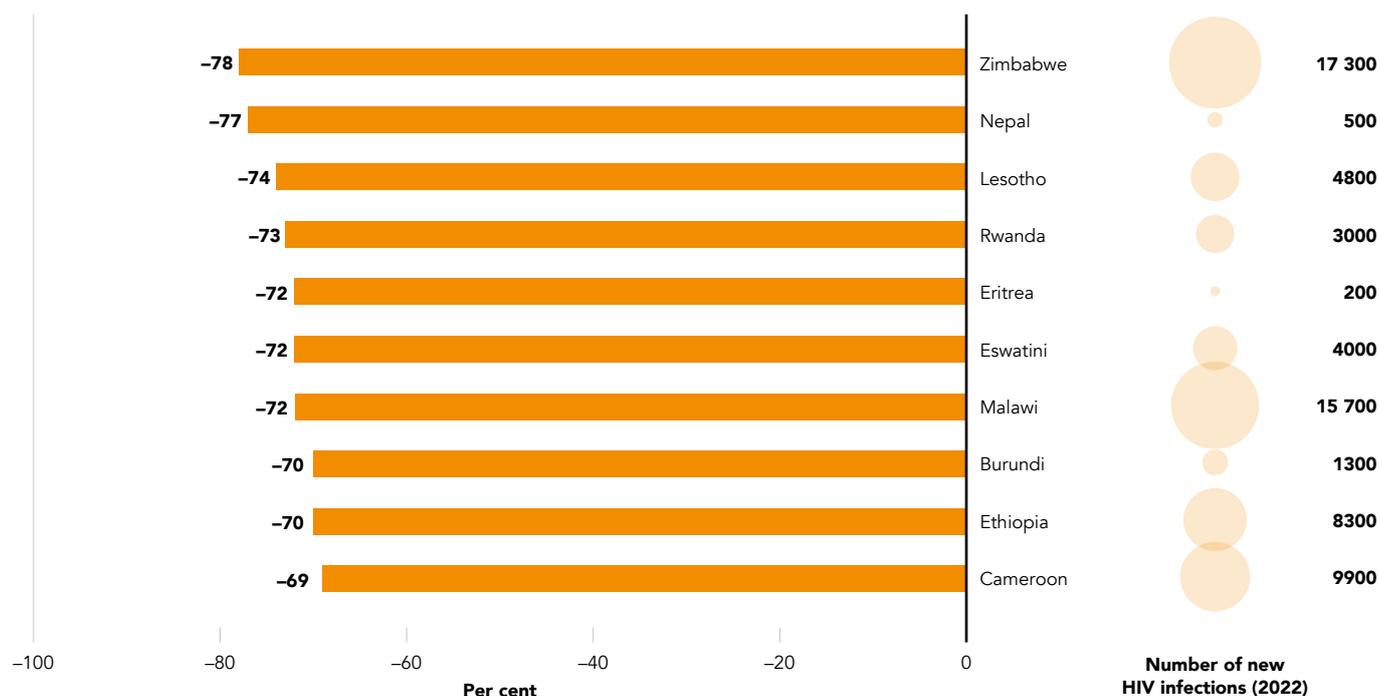
Fewest new HIV infections in decades

Fewer people acquired HIV in 2022 than at any point since the late 1980s. The estimated 1.3 million [1.0 million–1.7 million] new HIV infections globally in 2022 were over a third (38%) fewer than in 2010. The biggest declines in annual new HIV infections in that period have been in eastern and southern Africa (57% reduction) and western and central Africa (49% reduction). In 2022, 660 000 people in these two regions acquired HIV, compared with 1.2 million in 2015 and 1.5 million in 2010.

Alongside the overall reduction in numbers of new HIV infections in sub-Saharan Africa, there are a few countries where new infections have risen since 2010, including Congo, Madagascar and Mauritania. Generally across the region, however, countries with diverse epidemics and economic means are combining proven prevention options—including expanding the use of treatment as prevention—to bring about large reductions in new HIV infections. Outside sub-Saharan Africa, a few other countries have achieved major reductions in new infections (Figure 1.4).

Declines in numbers of new HIV infections are most pronounced in the countries and regions with the highest HIV burdens

Figure 1.4 Change in number of new HIV infections, 2010–2022, and number of new HIV infections, 2022, selected countries among those with the biggest declines in new HIV infections



Source: UNAIDS epidemiological estimates, 2023 (<https://aidsinfo.unaids.org/>).



The biggest declines in new HIV infections have been in sub-Saharan Africa

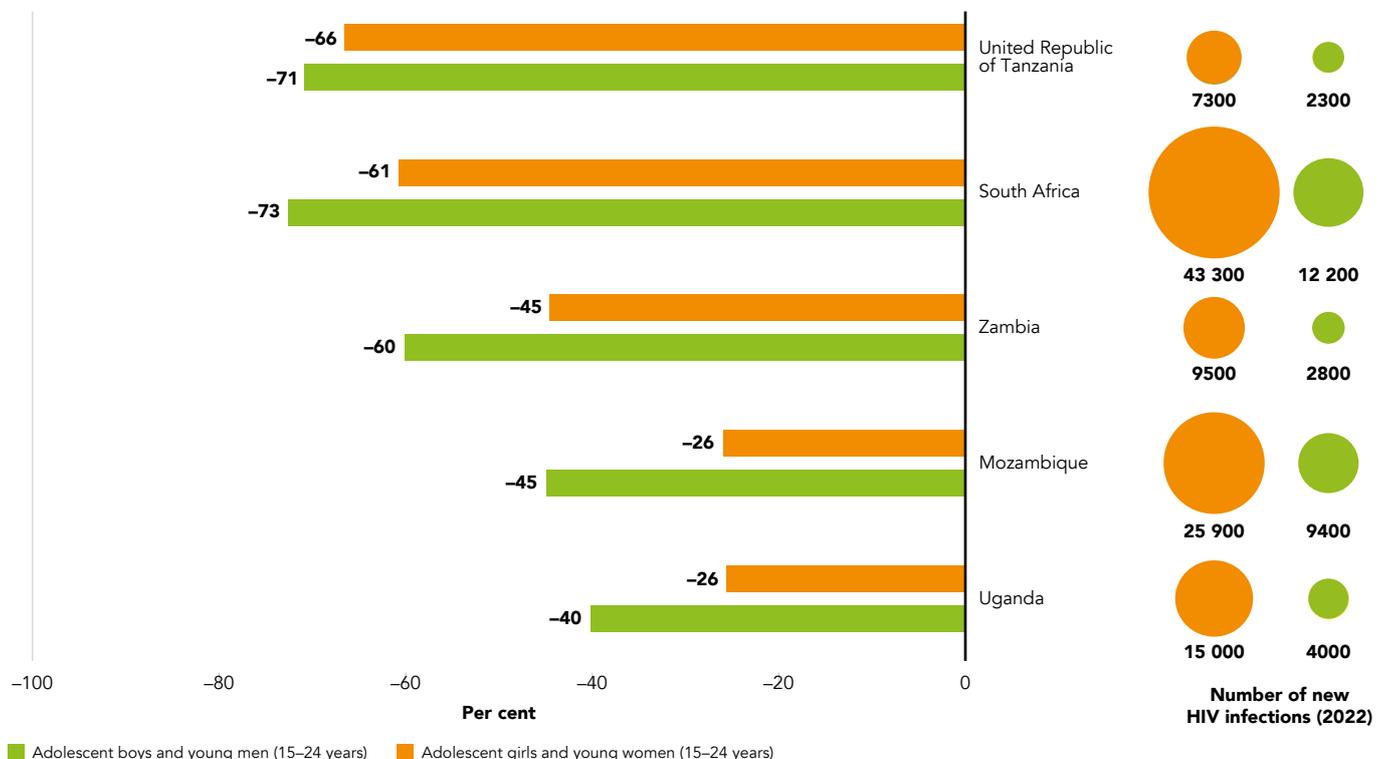
Countries with diverse epidemics and economic means are combining proven prevention options to bring about large reductions in new HIV infections.

The countries with the largest reductions are using refined data to focus their prevention programmes strategically for maximum impact, tailoring services to fit people’s needs, and integrating community-led interventions with public health programmes. Overall, the AIDS response tends to be most successful when it includes efforts to remove the underlying barriers (e.g. discriminatory criminal laws and policies, gender and other inequalities, stigma and discrimination, and human rights violations) that hold back progress and when there are public institutions strong enough to sustain those efforts.

Notably, the steepest drops in new infections have been among young people aged 15–24 years. It is especially important to make progress in averting new infections in adolescent girls and young women in sub-Saharan Africa, where they account for about 66% of new infections among people aged 15 years and above of whom over 77% of new infections were among people aged 15-24 years. Greater emphasis on reaching adolescent girls and young women with HIV interventions has seen HIV incidence among them decline substantially in most countries with high HIV burdens, although at a slower rate than among adolescent boys and young men (Figure 1.5). In sub-Saharan Africa in 2022, approximately 160 000 [93 000–230 000] adolescent girls and young women aged 15–24 years acquired HIV, half as many (53%) as in 2010, compared with 47 000 [9300–75 000] of their male counterparts, a 66% reduction since 2010.

Numbers of new HIV infections among adolescent girls and young women are declining, but not as quickly as among their male counterparts

Figure 1.5 Change in number of new HIV infections, 2010–2022, and number of new HIV infections, 2022, among adolescents and young people (aged 15–24 years), by sex, selected countries, eastern and southern Africa



Source: UNAIDS epidemiological estimates, 2023 (<https://aidsinfo.unaids.org/>).

THE COUNTRIES WITH THE LARGEST REDUCTIONS ARE USING REFINED DATA TO FOCUS THEIR PREVENTION PROGRAMMES STRATEGICALLY FOR MAXIMUM IMPACT

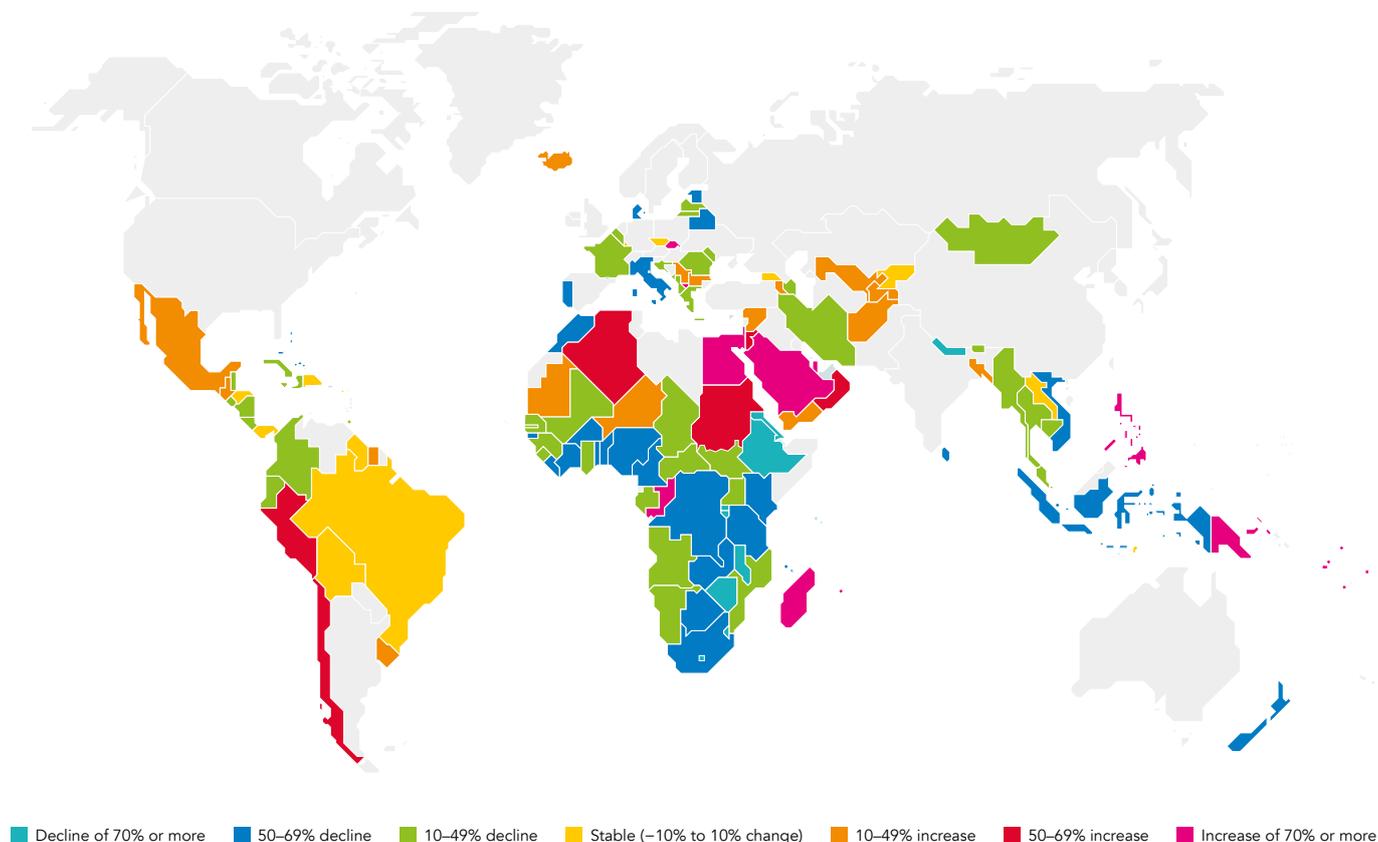
Adolescent girls and young women continue to be at very high risk of acquiring HIV, especially in eastern and southern Africa (see Chapter 2). Gaps still exist in combination prevention programmes and in supportive programmes that promote biomedical, behavioural and structural interventions for adolescent girls and young women, and for men generally, in most countries with high HIV burdens.

Prevention progress is slower outside sub-Saharan Africa

Beyond sub-Saharan Africa, progress in preventing new HIV infection is much slower (Figure 1.6). Eastern Europe and central Asia is experiencing steep increases in annual HIV infections (49% rise since 2010), as is the Middle East and North Africa (61% rise since 2010). Numbers of new infections have decreased somewhat in the Caribbean and levelled off in Latin America (see regional profiles). In Asia and the Pacific, which accounted for almost a quarter (23%) of all new HIV infections in 2022, there have been steep reductions in many countries, but the number of new infections is rising alarmingly in some other countries.

Numbers of new HIV infections are increasing in some countries with sizeable epidemics

Figure 1.6 Change in number of new HIV infections, countries with available data, 2010–2022



Source: UNAIDS epidemiological estimates, 2023 (<https://aidsinfo.unaids.org/>).

Stalled and irresolute prevention efforts, among other things, have failed to remove the societal and structural barriers that create vulnerability and prevent access to services. This has left the global HIV response a long way short of achieving the reductions in new infections that would put the world on-track to end AIDS by 2030.

The majority of new HIV infections in these regions are among people from key populations. The violence, discrimination and social exclusion they experience increases their vulnerability to HIV and reduces access to health-care services and prevention tools and information. In sub-Saharan Africa, people from key populations are important but often-neglected groups affected by HIV (see Chapter 2).

There has been uneven progress in reducing new HIV infections among people from key populations. Preliminary UNAIDS analysis based on countries with available trend estimates suggest that sex workers and clients experienced decreases in new infections from 2010 to 2022, often in line with overall national trends, whereas gay men and other men who have sex with men, transgender people and, in some regions, people who inject drugs have not benefited equally from HIV prevention and treatment services.

Those trends point to a glaring blind spot in HIV responses. More than four decades into the global AIDS pandemic, necessary HIV prevention services for people from key populations are still insufficiently available or entirely absent in many countries, and punitive laws and social stigma and discrimination remain rife. These are among the key reasons why the global HIV response is not yet on track to reduce new HIV infections to the levels needed to end AIDS as a public health threat.

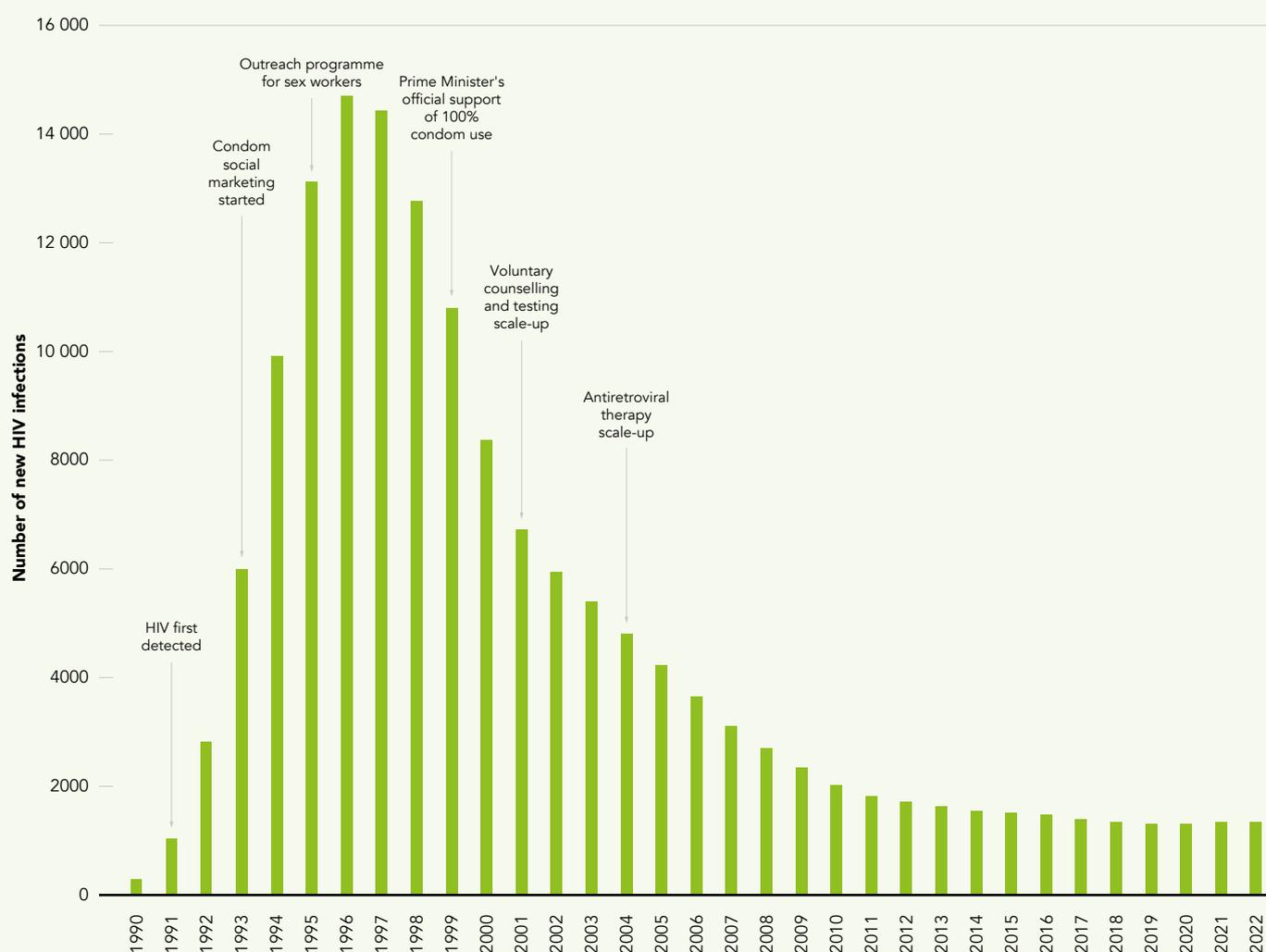
Strong leadership and effective key population programmes led to Cambodia's steep reductions in HIV infections

Cambodia's HIV response has experienced steady improvement over the past 20 years, having reduced the annual number of new HIV infections by 91% since the peak of its epidemic in 1996. The country's achievements in attaining high levels of linkage to treatment services along with high levels of viral load suppression among people living with HIV are exemplary. They can be attributed to strong political commitment and effective outreach programmes for people from key populations, including large-scale condom programmes (Figure 1.7) (5).

The annual number of new infections has levelled off in recent years, however. Cambodia's HIV response will have to address the inequalities and the stigma and discrimination that affect children and people from key populations, particularly gay men and other men who have sex with men, transgender women and sex workers (6, 7). Data reported to UNAIDS show, for example, that almost one in five sex workers (18%) said they avoided seeking health care because of stigma and discrimination.

Cambodia has made strong progress towards ending its AIDS epidemic

Figure 1.7 Numbers of new HIV infections and major programmatic improvements, Cambodia, 1990–2022



Source: UNAIDS epidemiological estimates, 2023 (<https://aidsinfo.unaids.org/>). Updated from Yun MC, Fujita M, Rathavy T, et al, Achieving universal access and moving towards elimination of new HIV infections in Cambodia. *J Int AIDS Soc.* 2014;17(1):18905.

Over three million children protected against HIV since 2000

ABOUT 82% OF PREGNANT OR BREASTFEEDING WOMEN LIVING WITH HIV WERE RECEIVING TREATMENT IN 2022

Fewer new HIV infections in women and high treatment coverage among women living with HIV have led to a steep drop in the annual number of new vertical infections in children (aged 0–14 years), which fell by 58% between 2010 and 2022. There were 130 000 [90 000–210 000] new infections among children globally in 2022, the lowest number since the 1980s.

About 82% [64–98%] of pregnant or breastfeeding women living with HIV were receiving antiretroviral therapy in 2022, up from 48% [37–57%] in 2010. Coverage is even higher in eastern and southern Africa, at 93% [71%–>98%], where Botswana has achieved a milestone in the pathway towards eliminating vertical HIV transmission. Programmes for preventing the transmission of HIV during pregnancy, birth and breastfeeding have averted an estimated 3.4 million infections in children (aged 0–14 years) since 2000 (Figure 1.8).

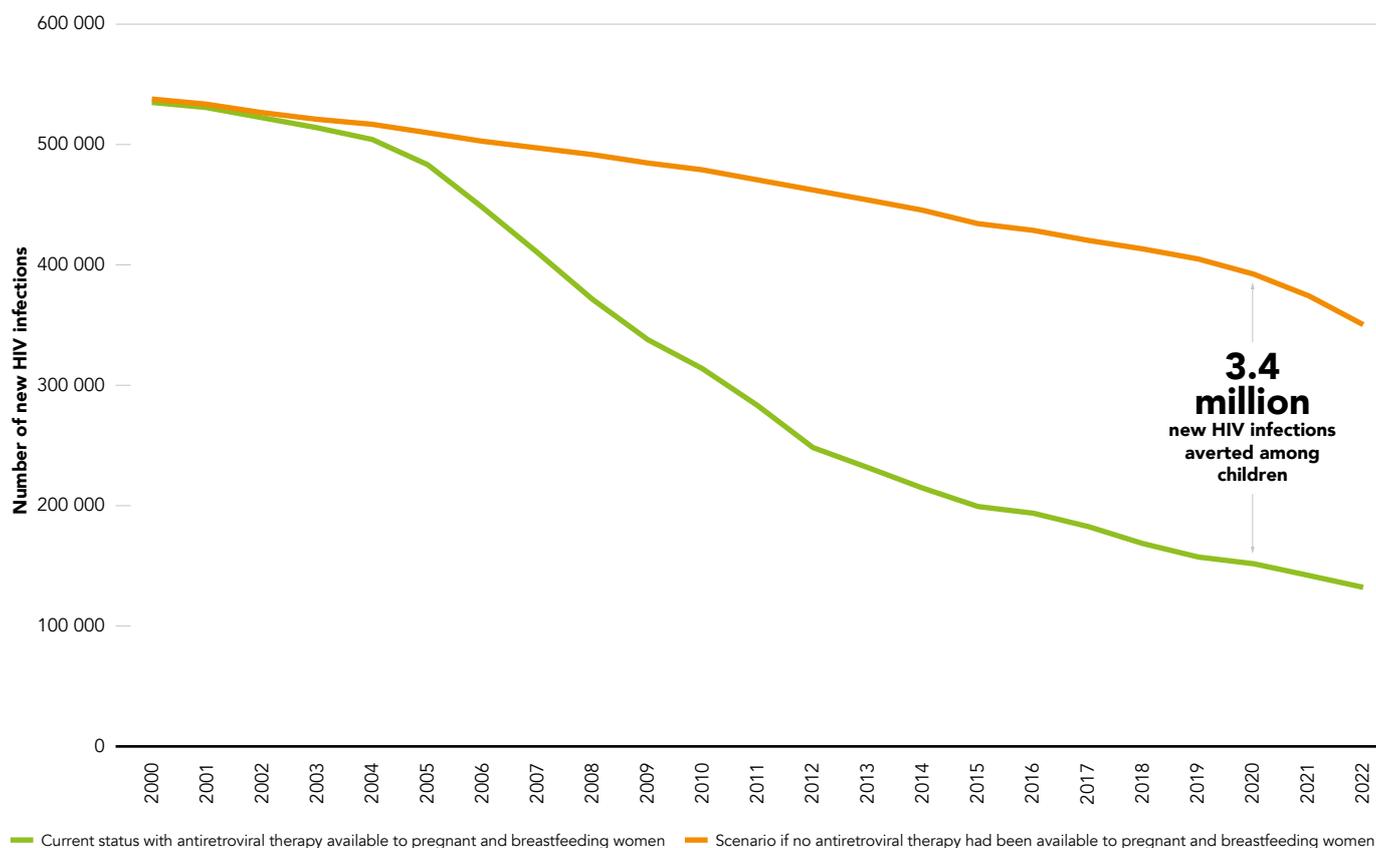


2022 saw the lowest number of new infections among children globally since the 1980s

Programmes for preventing the transmission of HIV during pregnancy, birth and breastfeeding have averted an estimated 3.4 million infections in children (aged 0–14 years) since 2000.

Over three million HIV infections in children were averted with programmes for preventing vertical HIV transmission since 2000

Figure 1.8 Number of new HIV infections among children (aged 0–14 years) versus scenario without antiretroviral therapy available to pregnant and breastfeeding women, global, 2000–2022



Source: UNAIDS special analysis of epidemiological estimates, 2023.

The WHO Triple Elimination Initiative encourages countries to simultaneously commit to eliminating vertical HIV infections, syphilis and hepatitis B virus as part of a broader push towards integrated health services (8). It is the only elimination programme of its kind that recognizes the importance of addressing underlying societal factors, and that includes requirements to act against gender inequality, stigma and discrimination.

Since 2015, when Cuba became the first country to eliminate new vertical HIV infections among children, 14 other countries and territories⁵ have matched that feat and several others are on track to do so in the next few years. But emulating those achievements in countries with large epidemics is proving difficult—as seen in the tens of thousands of children who still acquire HIV each year.

The number of new infections in children fell steeply until the early 2010s, as antiretroviral therapy coverage among pregnant and breastfeeding women living with HIV increased. For the past seven to eight years,

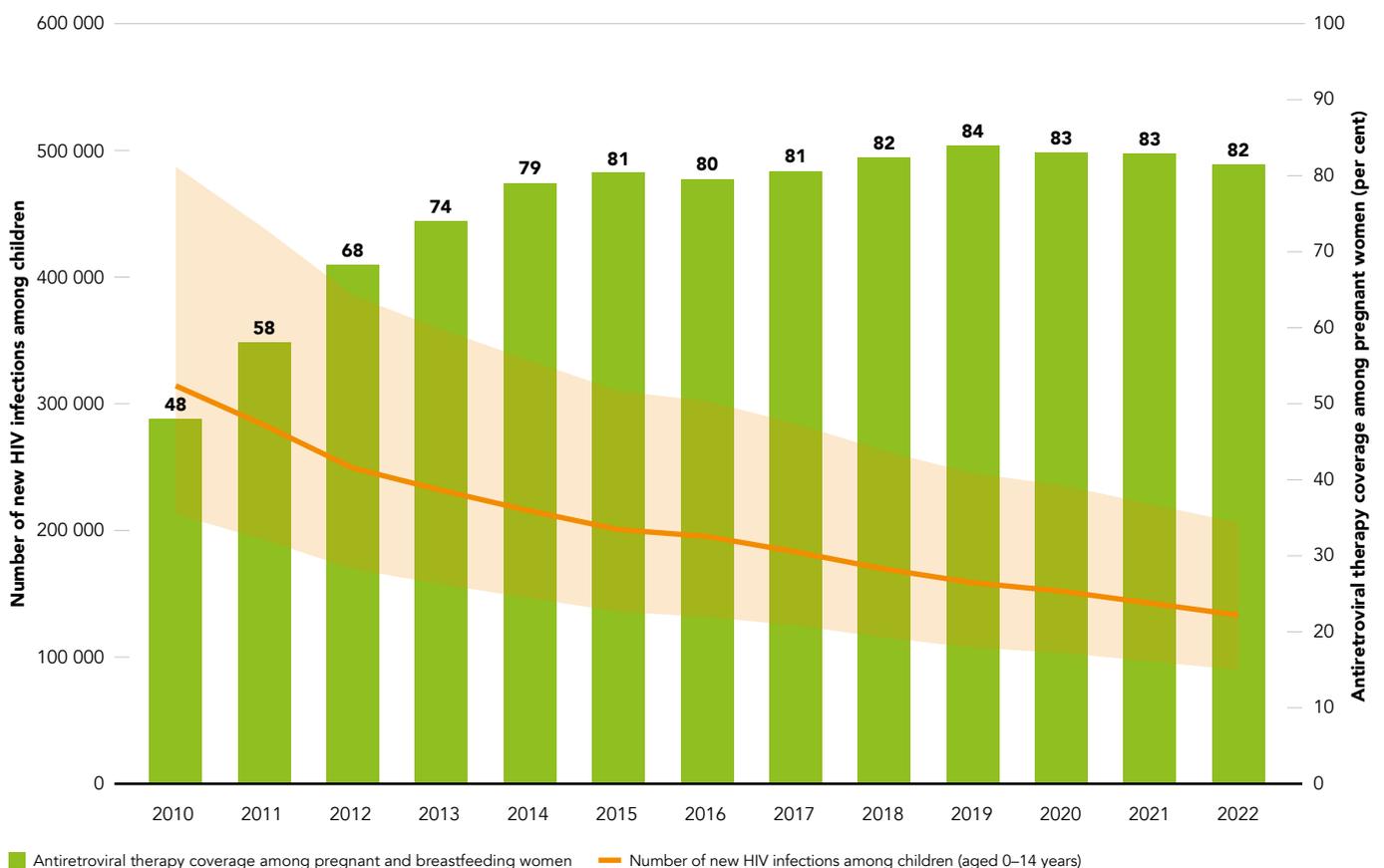
⁵ Anguilla (2017), Antigua and Barbuda (2017), Armenia (2016), Belarus (2016), Bermuda (2017), Cayman Islands (2017), Cuba (2015), Dominica (2020), Malaysia (2018), Maldives (2019), Montserrat (2017), Oman (2022), Saint Kitts and Nevis (2017), Sri Lanka (2019), Thailand (2016).

however, antiretroviral therapy coverage among pregnant women has changed little and the decline in new infections in children has slowed considerably (Figure 1.9). This trend is especially concerning in western and central Africa, where programmes to eliminate vertical HIV transmission reached only about 53% [42–64%] of pregnant or breastfeeding women living with HIV in 2022.

As advocated by the Global Alliance to End AIDS in Children, focused efforts and markedly stronger commitment are needed to address the unequal HIV service access and outcomes experienced by children. It will take significant shifts in service delivery and the creation of a more supportive environment to recover the earlier momentum. That includes making integrated antenatal and postnatal care and HIV services more affordable and convenient, especially for adolescent girls and women who are stigmatized and marginalized, or who require parental consent to access services. Programmes need to become smarter at finding the “missing” women who are living with HIV but not receiving antiretroviral therapy (see Chapter 2).

Antiretroviral therapy coverage for pregnant and breastfeeding women and numbers of new HIV infections in children have levelled off

Figure 1.9 Numbers of new HIV infections among children (aged 0–14 years) and antiretroviral therapy coverage among pregnant and breastfeeding women, global, 2010–2022



Source: UNAIDS epidemiological estimates, 2023 (<https://aidsinfo.unaids.org/>).

2022 saw progress in the removal of harmful laws within a divided world

Laws that criminalize people from key populations are major obstacles for the HIV response. Recent years have seen positive changes on this front, but they are shadowed by regressive and sometimes draconian steps in some countries.

Several countries removed such harmful laws in 2022 and 2023, including Antigua and Barbuda, Barbados, Cook Islands, Saint Kitts and Nevis and Singapore, which decriminalized same-sex sexual relations. Belgium and the Australian state of Victoria decriminalized sex work in 2022, and a number of other countries have initiated processes to do the same. Zimbabwe and the state of Nayarit in western Mexico have removed laws criminalizing HIV exposure, non-disclosure and transmission (9). Punitive laws affecting people living with HIV have been removed in the Central African Republic and Kazakhstan (10, 11). The Government of Belize in June 2023 approved an amendment that would remove the criminalization of vertical transmission of HIV from its statute books (12).

Existing legal instruments to protect the rights of people from vulnerable groups were strengthened in other countries. In Ghana, the Government committed to ensure that drug laws and policies are consistent with the country's obligations under ratified international human rights treaties (13). A landmark court ruling in India recognized the right of sex workers to equal protection under the law. In 2022, 105 countries reported that they included supportive references to harm reduction in national policy documents, compared with 87 in 2020 (14). Also in 2022, transgender rights were strengthened in Kuwait and Spain (15, 16). There have, however, been troubling setbacks in some countries, including Indonesia, Nigeria, Pakistan, Uganda and Zimbabwe (see Chapter 2).



Positive changes in removing harmful laws

Several countries removed such harmful laws in 2022 and 2023, but there have been troubling setbacks in some countries.

How HIV successes are contributing to the SDGs

The core principles and demands that have propelled the HIV response for decades are echoed in a central theme of the SDGs: the insistence that no one shall be left behind. Since the earliest days of the AIDS pandemic, activists have linked the spread of HIV to social inequalities and discrimination, and to failures to uphold human rights.

Those understandings came to typify the global HIV response and have been vital for the progress made towards SDG target 3.3, which includes ending the AIDS pandemic. They have also resulted in an HIV response that is generating effects that spill over beyond the public health realm and that contribute to progress towards other SDGs. The gains being made, and the health and community systems being strengthened, are triggering extensive health, social, economic and developmental benefits.

Before the massive expansion of HIV treatment, AIDS-related illnesses and deaths were especially concentrated among people in the prime of their lives, which severely destabilized the livelihoods and financial security of lower-income households. The evidence shows that households affected by HIV are especially vulnerable to falling into and remaining in poverty (17, 18). Successful HIV programmes are supporting, as well as increasing, the incomes of households affected by HIV (19). A review found that spillover effects of HIV treatment in households included improvements in wealth, labour market outcomes, health outcomes and schooling (20). In countries where HIV is highly prevalent, particularly in eastern and southern Africa, this could add up to a cumulative, poverty-reducing effect (SDG 1). By protecting the livelihoods of individuals and households, successful HIV programmes are also helping safeguard their food security and their ability to financially support the schooling of their children (SDGs 2 and 4).

**SUCCESSFUL
TREATMENT
PROGRAMMES SUPPORT
HOUSEHOLDS IMPACTED
BY HIV AND ALSO
IMPROVE THEIR ABILITY
TO GENERATE INCOME**



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Leaving no one behind

The HIV response is generating effects that spill over beyond the public health realm and that contribute to progress towards other SDGs.

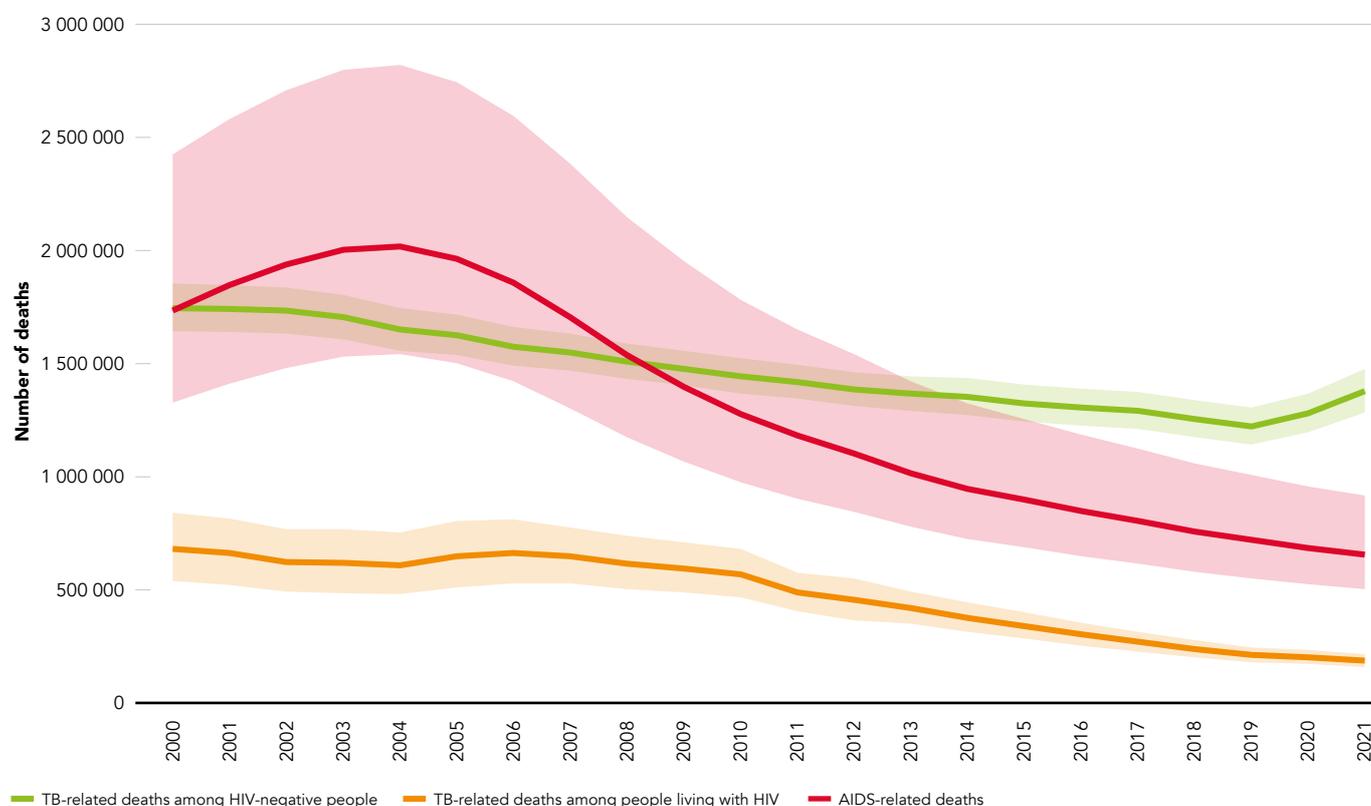
The integration of HIV testing and treatment with maternal and child care is a hallmark of HIV programmes. Together, these services have prevented over 3.4 million HIV infections in children since 2000, and they have drastically reduced numbers of AIDS-related deaths in children since the peak in 2004, when there were 360 000 AIDS-related deaths, to 84 000 in 2022. This has contributed to a decrease in overall deaths in children, especially among children aged 5–14 years, in whom the proportion of deaths that are AIDS-related has declined considerably (SDG 3). Most of these deaths have been averted in sub-Saharan Africa, the region with the highest mortality rates among children.

The effect of HIV on maternal mortality has been reduced since the peak of the pandemic in 2005. HIV-related indirect maternal deaths accounted for less than 1% of all maternal deaths in 2020, compared with approximately 2% in 2005 (SDG 3) (21). This impact is especially evident in eastern and southern Africa.

Numbers of TB-related deaths have decreased the most among people living with HIV (Figure 1.10), thanks to the deeper integration of HIV and TB services, especially over the past decade. An estimated 13 million [11 million–14 million] TB-related deaths were averted among people living with HIV between 2000 and 2021, 8.8 million of them in sub-Saharan Africa and 2.9 million in south-east Asia (SDG 3) (4).

The steepest reduction in numbers of TB-related deaths has been among people living with HIV

Figure 1.10 Numbers of TB-related deaths among people living with HIV and HIV-negative people, and AIDS-related deaths, global, 2000–2021



Source: Global tuberculosis report 2022. Geneva: World Health Organization; 2022 (<https://apps.who.int/iris/rest/bitstreams/1474924/retrieve>).

**STRONG PREVENTION
OF VERTICAL
TRANSMISSION AND
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REDUCED NUMBERS OF
AIDS-RELATED DEATHS,
IN CHILDREN LEADING
TO REDUCED OVERALL
CHILD MORTALITY**

The HIV response has contributed substantially to building health security, especially through strengthening health systems and community systems. This was evident, for example, when HIV laboratory systems, health workforces and service delivery facilities were some of the first to respond to the COVID-19 pandemic in many countries. Community organizations also kept basic HIV treatment and prevention services running during COVID-19 lockdowns and directly assisted COVID-19 responses by providing multi-disease services to communities.

Research and development of ways to prevent and treat HIV infection have had numerous spin-off benefits. Efforts to develop an HIV vaccine, including networks of trial sites set up for clinical research, laid the foundation for the eventual development of the COVID-19 mRNA vaccines that have proved so successful in protecting people against severe illness due to SARS-Cov-2 infection (SDG 3) (22, 23).

The routine provision of HIV treatment that is free at the point of care in many countries constitutes a significant expansion of social protection and saves millions of people living with HIV the expense of having to pay for potentially life-saving services (SDG 3). This central feature of the HIV response exemplifies the principle that affordable access to essential health care is a basic human right.

HIV programmes are showing that the empowerment of women and protection of their rights are essential for having healthy societies and developmental progress (SDG 5). Comprehensive sexuality education and integrated HIV and sexual and reproductive health services are gateways to the information, support and tools all adolescent girls and young women need to make their own decisions about their bodies and protect their health, whether or not they are living with HIV (24). The holistic care and advocacy led by networks of women living with HIV have led to the realization of rights for many women and their families.

In countries across the world, the HIV response has been characterized by struggles to uphold the rights and dignity of LGBTQI+ people and people from other ostracized communities, resist their persecution and harassment, and protect their health (SDG 10). This has spawned hundreds of community-led organizations and networks that provide legal, health and other support services; run rights literacy projects; and campaign for discrimination-free laws, policies and practices.

The HIV response has excelled at building innovating partnerships and placing communities at the centre (SDG 17). Among its hallmarks are its action-oriented partnerships—between community organizations and public health authorities (especially at local levels), academic researchers and policy-makers, and activists and health practitioners. The multisectoral character of the Joint Programme—which brings together the expertise and assets of 11 United Nations agencies and organizations—also typifies the partnership-for-development approach of the SDGs.

In addition to saving millions of lives, HIV programmes have strengthened health systems in many countries, through enhanced and integrated laboratory systems, human resources, health information systems, strengthened procurement and supply chain management systems,

governance, policies and revived community health systems. The two largest HIV funders—the Global Fund to Fight AIDS, Tuberculosis and Malaria and the United States President’s Emergency Plan for AIDS Relief (PEPFAR), invest approximately US\$ 2.5 billion per year in health systems strengthening (25).

The HIV movement has successfully challenged intellectual property laws and regulations that block equitable access to essential medicines and other health commodities. The successes in securing affordable HIV medicines and other products, and making them available free of charge in many countries, has created a template for broader health equity, including for TB, hepatitis C and noncommunicable diseases (SDG 17).

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