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Scaling up primary HIV prevention, including pre-exposure prophylaxis (PrEP), is essential to closing the prevention gap and reducing the number of new HIV infections, especially as countries approach the 95–95–95 treatment targets[1] but continue to face a stagnant or rising incidence of HIV among people from key and priority populations.

Injectable lenacapavir is a new long-acting injectable antiretroviral medicine given every six months for HIV prevention. In clinical trials, lenacapavir was found to be safe and effective, with 96–100% reduction in HIV acquisition compared with background rates *(1, 2)*. In mid-2025, the United States Food and Drug Administration approved lenacapavir as an HIV prevention option *(3)*, the European Medicines Agency released a positive opinion on lenacapavir *(4)*, and the World Health Organization (WHO) recommended lenacapavir for HIV prevention *(5)*.

The price of lenacapavir in low- and middle-income countries has not been released publicly.

As national health systems consider lenacapavir as an addition to their HIV prevention responses, mathematical modelling provides crucial evidence that can inform implementation by identifying potential strategies to maximize impact and cost-effectiveness.

This brief provides a synthesis of evidence from mathematical modelling, as of June 2025, arising from a meeting of programme managers, civil society representatives, mathematical modellers and international HIV prevention stakeholders convened by the Gates Foundation and the Joint United Nations Programme on HIV/AIDS (UNAIDS). The meeting focused on questions currently being considered by HIV programme managers on how to integrate lenacapavir into their prevention programmes. Multiple models were considered to produce robust results.

What could be the impact of providing two million person-years of lenacapavir for PrEP over the next three years?

In December 2024, donors announced an ambition to provide access to lenacapavir for at least two million person-years of lenacapavir for PrEP over three years.[2] Country managers requested estimates of the potential impact of this contribution on people newly acquiring HIV.

Providing two million person-years of lenacapavir over three years to people from the subpopulations that face the highest HIV incidence around the world could avert around 50 000 new HIV infections.[3]

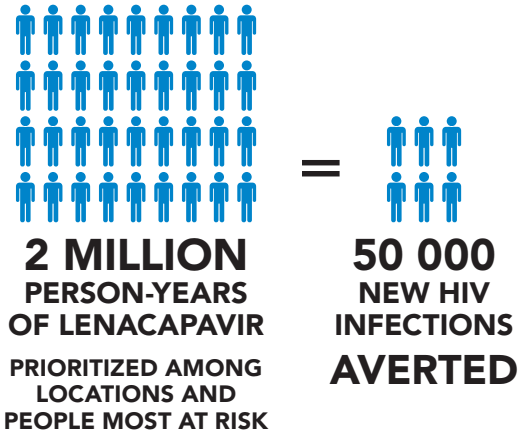
This is a small proportion of the total expected number (about 3.8 million) of people acquiring HIV over this period (Figure 1), meaning even greater ambition is required to have a larger impact. The expectation is that this early provision of lenacapavir will potentially establish a platform for future sustainable, full-scale provision of lenacapavir. Even a modest impact during the early rollout of lenacapavir can play a strategic role by laying the groundwork for long-term, sustainable impact. This can help generate demand, strengthen supply chains and accelerate generic market entry, ultimately leading to wider uptake and long-term benefits.

1 95–95–95 targets imply that 95 percent of all people living with HIV know their HIV-positive status, 95 percent of those who know their status are on treatment, and 95 percent of those who are on treatment have suppressed viral loads.

2 The Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) and the United States President's Emergency Plan for AIDS Relief (PEPFAR) announced in December 2024, in conjunction with the Children's Investment Fund Foundation and the Gates Foundation, an ambition to provide access to lenacapavir for at least two million person-years of protection over three years. The Global Fund recommitted to this ambition in July 2025 *(6)*.

3 Two models—EMOD-HIV (https://www.idmod.org/tool/emod-hiv/) and Goals (https://www.avenirhealth.org/software-spectrum.html)—investigated the impact of providing one million, two million and six million person-years of lenacapavir over three years, when delivered strategically to populations and locations with high HIV incidence.

Figure 1. The potential impact of providing 2 million persons of lenacapavir

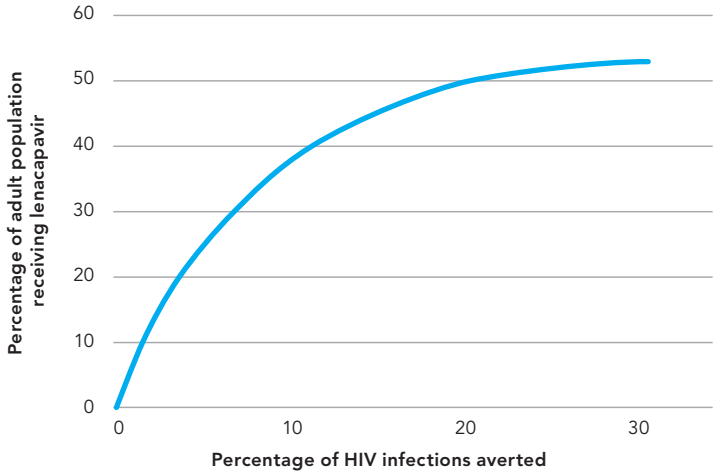


What could be the impact of at-scale implementation of lenacapavir in a programme context where it is targeted towards locations and populations with high incidence of HIV?

Providing lenacapavir to a higher proportion of the population in need can prevent a larger number of people acquiring HIV. As more people receive lenacapavir, however, the efficiency of reaching the people most at risk of acquiring HIV reduces, meaning lenacapavir needs to be provided to increasing numbers of people to avert each new HIV acquisition (Figure 2).

For example, in HIV epidemics among the general population in the African region, the EMOD-HIV model found that offering lenacapavir to 5% of adults, prioritized by location and risk behaviour, could avert 25–35% of new HIV infections over 10 years, depending on the surrounding incidence levels. Offering lenacapavir to 20% of adults, in similar settings and with similar prioritization, could avert around 50% of new HIV infections over 10 years.[4]

Figure 2. Expected percentage of HIV infections averted with increasing population coverage of lenacapavir in countries with high HIV prevalence



Source: illustrative heuristic informed by simulation results from EMOD-HIV model.

4 As an example, 20% of adults in the seven countries with the highest national HIV incidence would translate to 16.5 million adults. Using the lowest cost estimate for lenacapavir (US$ 25 per person-year), this would translate to US$ 4.1 billion to reach 20% coverage.

In a concentrated epidemic such as that in the Philippines, an analysis using the Goals model found that offering lenacapavir to 58% of people from key populations (equivalent to 1.16 million people, or about 2% of the total adult population) would avert 45% of new HIV infections.

How could lenacapavir save costs for health systems?

If priced at around US$ 40–60 per person-year (an average figure across low- and lower-middle-income settings, including commodities and delivery) and targeted at people from populations with an annual HIV incidence above 1%, providing lenacapavir to avert one new HIV acquisition could save more than the lifetime cost of treating one person for HIV.[5]

Analysis conducted by Avenir Health and UNAIDS shows that in upper-middle-income settings, lenacapavir could still generate savings compared with lifetime treatment costs, even at higher prices.

This perspective is solely financial and does not consider additional value generated to improve health outcomes (e.g. productivity or well-being gains) accrued from averted HIV infections. It also does not consider the feasibility or broader real-world impact of taking highly targeted approaches for population prioritization. The full value of lenacapavir also includes the health and social benefits of averted HIV infections, such as improved productivity and well-being. Policy-making should balance investment efficiency with equity-, gender- and rights-based considerations that are central to effective HIV prevention strategies.

When planning lenacapavir rollout, both the incidence threshold and respect for individual needs and choice should guide decisions. These returns will be most efficient when commodity and delivery costs are lowest. Any opportunities should be found to bring down the costs of commodities and to find efficiencies in delivery, while focusing on the people most in need of PrEP.

Conclusions and policy implications

Lenacapavir presents a promising opportunity to reduce the number of people newly acquiring HIV if deployed at scale among the right populations. Realizing this potential will depend on several factors, including competitive product pricing and market access, reliable supply, demand generation, community engagement and system readiness. Countries will need to conduct rigorous prioritization of geographic areas based on local epidemiology, programmatic feasibility and community input. Modelling can support such decisions, but it must be complemented by operational and social considerations.

The initial provisions of lenacapavir released in 2025 will create the systems and market for sustainable, at-scale implementation to accelerate continued declines in numbers of new HIV infections over the next several decades. Modelling shows that it will be essential to complement lenacapavir with additional prevention options, testing and treatment.

See "Meeting reports" at https://www.unaids.org/en/resources/publications/all for a description of models and tools to estimate potential impact and quantifications required for lenacapavir. Also watch for forthcoming UNAIDS and WHO guidance on scaling up lenacapavir.

5 Analysis used a 2% threshold for the maximum coverage of 80% and a sliding scale for lower coverage for populations with lower incidence of HIV. The weighted average incidence of HIV for all key populations is 1.02%.

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