



The Potential Impact of Twice-Yearly Injectable Lenacapavir Among Cisgender Gay, Bisexual, and Other Men Who Have Sex With Men (GBMSM) and Other Priority HIV Prevention Populations (Transgender People and Highly Exposed Heterosexual People) in France

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Conclusions

- Twice-yearly lenacapavir implementation in France has the potential to significantly reduce HIV incidence (Figure 3), with the greatest impact (Figure 2) when expanding coverage to high-priority HIV prevention populations underserved by oral pre-exposure prophylaxis (PrEP). While broader adoption enhances public health benefits, enabling highly exposed heterosexual people to benefit from twice-yearly lenacapavir will require increased stakeholder awareness to support efficient implementation

Introduction

- HIV incidence remains high and stable in France despite investments in HIV prevention (5 473 new HIV+ diagnoses in 2023 and an estimated 3 650 [3271-4030] annual seroconversion)
- Incidence in gay, bisexual, and (all other) men who have sex with men (GBMSM) is declining (-32%) in the last decade, likely related to oral PrEP of which 97% of users are GBMSM, but still representing 41% of seroconversion, as long-term adherence to oral PrEP remains challenging
- Incidence in other populations, including transgender people, born abroad GBMSM and highly exposed heterosexual people, is growing, and uptake of oral PrEP remains low

- There is an urgent need for additional HIV prevention approaches capable of addressing adherence difficulties and expanding access to priority populations
- Twice-yearly lenacapavir was associated with a 96%-100% reduction in seroconversion in PURPOSE 1 and 2 compared to background HIV incidence

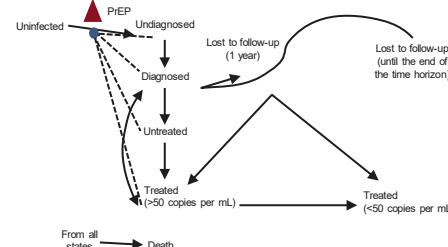
Objectives

- This study aims to evaluate the public health impact of introducing injectable lenacapavir in France, focusing on GBMSM and other priority groups

Method

- A dynamic epidemiological model to simulate HIV seroconversion risks designed around the HIV care cascade (Figure 1) was used
- The model included oral and injectable PrEP efficacy (93% and 98%, respectively), considering variations in adherence and persistence between the two modalities
- Three key populations were included, with their specific characteristics (Table 2): GBMSM, transgender (male-to-female and female-to-male), cisgender heterosexuals (men and women, French and foreign-born). These populations were further divided into risk groups based on assumptions from the literature
- Model parameters were obtained from the literature and calibrated to HIV diagnosis rates in France
- Three scenarios of varying PrEP uptake, coverage, and population covered were assessed (Table 1): 1) Baseline (current situation); 2) GBMSM switching from oral PrEP to twice-yearly lenacapavir, plus transgender people and highly exposed heterosexual people initiating twice-yearly lenacapavir; 3) Scenario 2 with expanded uptake strategies
- Results were estimated for the GBMSM, transgender people and highly exposed heterosexual people only

Figure 1. Dynamic Model Structure and Included Health States



Probability of infection (from uninfected to undiagnosed) is influenced by PrEP and by the number of patients in the undiagnosed, diagnosed, untreated and treated states (represented by the dotted line).

Results

Table 1. Epidemiological Results

	Scenario 1 ^a	Scenario 2 ^a	Scenario 3 ^b
Number of PrEP users			
2024	58 916	58 916	58 916
2035	101 382	201 980	482 373
Total number of oral and injectable PrEP initiations (2024-2035)^c	208 019	363 410	1 046 269
Estimated HIV incidence 2024^d (Nb cases)	2 640	2 640	2 640
Projected HIV incidence 2035 (Nb cases), % reduction versus Scenario 1^d	2 589	1 652 (-36%)	1 024 (-61%)
Cumulative infections (2024-2035)	31 333	24 398	18 306
Infections prevented by injectable PrEP initiations (2024-2035)	-	6 935 (-22%)	13 027 (-42%)
Number needed to initiate with PrEP to avoid one seroconversion	-	22	66

^aAssumes that the number of annual PrEP initiations follows the current trend for oral PrEP (~20 000 per year). ^bAssumes that the number of annual PrEP initiations is adjusted to reach 80% coverage of the target population by 2035. ^cIncludes all PrEP initiations during the period, including those followed by discontinuation. ^dIncidence in the target population (GBMSM, transgender people and highly exposed heterosexual people) excluding other risk groups. PrEP, pre-exposure prophylaxis.

Table 2. Population Characteristics

	GBMSM	Transgender	Cisgender Heterosexual
Size of the French population^a	2.3%	0.8%	96.9%
Risk Distribution			
High	6.3%	100%	0.5%-1.7%
Medium	26.7%	0%	2.8%-10.8%
HIV prevalence	16.2%	3.2%-14.2%	0.1%-1.6%
Baseline seroconversion risk	Calibrated to HIV incidence observed in France		

^a% of the 15-70 year-old population in France (46,673,114 individuals). GBMSM, gay, bisexual, and (all other) men who have sex with men; PrEP, pre-exposure prophylaxis.

Figure 2. Population Covered by PrEP for Each Scenario Between 2016 and 2034

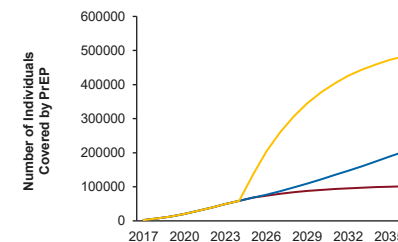
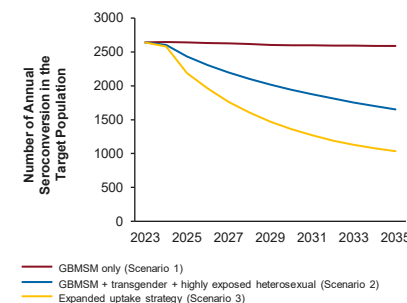


Figure 3. Number of Annual Seroconversion in the GBMSM, Transgender and Highly Exposed Heterosexuals



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