

Focus on Key Populations Remains Integral to the HIV Response

There has been incredible progress in the prevention and treatment of HIV, with a 40% decline in new HIV infections globally since 2010. However, challenges persist in reaching key populations (KPs) and their sexual partners, who, despite representing the minority of the general population, accounted for 55% of all new HIV cases globally in 2022. (1) KPs are groups who are at high risk of HIV and who face significant social and legal challenges to accessing HIV services in the general public health system, including sex workers, men who have sex with men, transgender people, and people who inject drugs.ⁱ Targeted interventions for KPs are both effective and cost-effective, often yielding bigger epidemiologic and economic returns than untargeted, population-wide efforts alone.⁽²⁾

While KPs make up relatively small proportions of overall country populations, the concentration of new HIV cases among these populations makes investments in reaching these populations critical for overall epidemic control goals. This analysis models the HIV epidemics of 25 PEPFAR countries receiving bilateral support in FY2024.ⁱⁱ Models assess the impacts of a global HIV response that continues to invest in tailored services for KPs and their partners compared to an HIV response that does not. Specifically, models project new HIV infections under two scenarios: **1) Combined general population (GP)/KP prevention**—assuming a continued investment in a targeted KP response alongside a general population approach (using 2022 dataⁱⁱⁱ reflecting conditions prior to 2025 U.S. policy shifts); and **2) No KP prevention**—

Key Findings

- Despite major global progress in reducing HIV infections, key populations (KPs)—including sex workers, men who have sex with men, transgender people, and people who inject drugs—remain disproportionately affected, with over half of new infections occurring among KPs and their partners.
- A global HIV response which no longer targets KPs would lead to an immediate surge in new HIV infections in the populations most at risk for HIV and reverse progress in the global HIV pandemic.
- Models suggest that failing to prevent HIV in KPs in 25 PEPFAR countries **would add an average of 430,000 new infections per year, resulting in over 4.7 million new HIV infections by 2035.**
- Conversely, increased efforts to prevent new infections among KPs would greatly accelerate national declines in new HIV infections, with projections demonstrating that **total annual new infections could drop by more than 65%, to just over 126,000 across 25 PEPFAR countries** with the right investments.
- Even in generalized HIV epidemic contexts, investing in KP-targeted programming represents the most efficient path to epidemic control by 2035.

ⁱ Data on transgender men is generally not available and they are not included as a part of the KP group. However, clients of sex workers and their wives and sex partners of KPs who are otherwise not KPs (e.g. female partners of MSM) are included as a part of the KP group in our analysis.

ⁱⁱ Angola, Botswana, Burundi, Cameroon, Côte d'Ivoire, Democratic Republic of Congo, Dominican Republic, Eswatini, Ethiopia, Haiti, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, Rwanda, South Africa, South Sudan, Tanzania, Uganda, Ukraine, Vietnam, Zambia, and Zimbabwe.

ⁱⁱⁱ Models use 2022 data given this is the most recent year with KP-specific incidence estimates in our dataset.

assuming continued investment in the general population HIV programming but loss of all targeted KP prevention services starting in 2025.

For both scenarios, this analysis uses data compiled by Korenromp et al., containing HIV incidence estimates for the GP (non-KP) from UNAIDS and supplemented with country-level data for new infections among KPs and their partners.⁽¹⁾ The Korenromp dataset provides the number of new infections (NI) at the overall country-level for the total population and for KPs and their partners allowing for disaggregation of data by population for the 25 countries of interest. NI data from 2010 and 2022 were used to estimate an overall trend in KP and GP HIV incidence between the two years. This trend line was used to project forward NI rates for each population group to 2035 under the assumption of continued GP and KP prevention programming. To estimate the impact of the loss of targeted KP prevention programming, we use PEPFAR 2024 data for the total number of KPs receiving targeted prevention services and estimate the number of KPs that would seroconvert in a year without access to those services.^{iv} Estimated seroconversion rates were based on combined KP background incidence rates in the 25 countries in the most recent year available (2022). To account for community transmission rates, given the current level of immunity, treatment, prevention, and behavior in the population, models use a reproduction rate (Re) of .92.⁽³⁾ This means that, on average, models project that each person will pass HIV to fewer than one person (.92) in their lifetime, which is based on the U.S. epidemic so may not fully represent global transmission dynamics.

Why Continued, KP-Targeted HIV Investments Matter

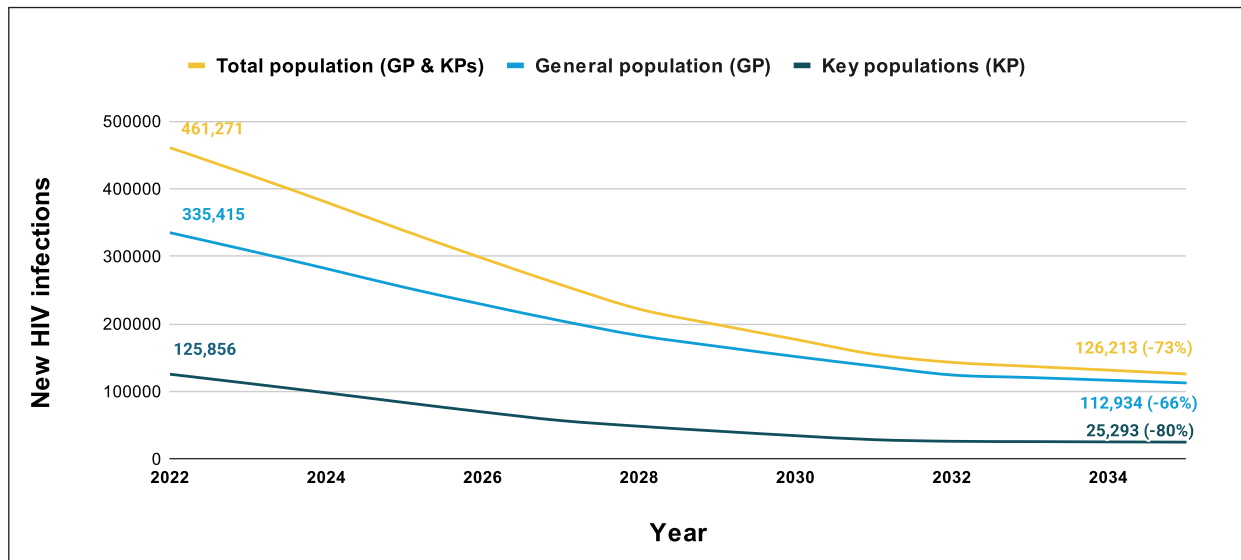
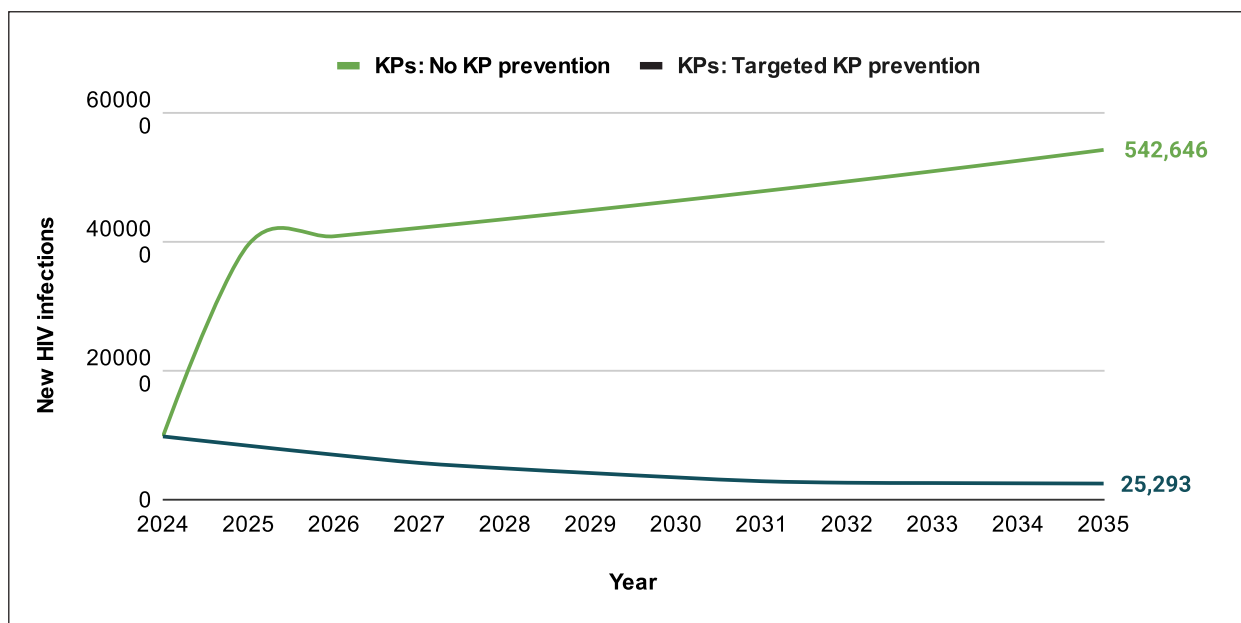
Since the early 2000s, global HIV investments have been designed around epidemiological evidence and have proven remarkably effective. As the epidemic became

increasingly concentrated among KPs, PEPFAR and The Global Fund shifted from a generalized approach to one that prioritized targeting resources to these groups. This included scaling up KP-friendly antiretroviral (ARV) services, HIV testing, and pre-exposure prophylaxis (PrEP), while developing differentiated service delivery models that addressed social and structural barriers to care, like drop-in centers led by KPs outside of regular clinics. By 2022, these KP-focused approaches accounted for an average of 5.75% of PEPFAR budgets at the country level. While modest in proportion, they represented a critical shift toward inclusion and equity in HIV programming.

Our trend analyses show that, if we sustain these levels of investment and maintain an “epidemiologically sound” focus on both the GP and KPs, HIV incidence in these 25 high-burden countries will continue to decline through 2035. The model projects substantial decreases in annual new infections in the GP, with declines among KPs as well (though the rate of change among KPs is somewhat less steep given persistent social and structural barriers). While HIV transmission is influenced by many factors—access to diagnosis and treatment, stigma, social inequalities—we applied a simplified trend approach using annualized rates of change from 2010 to 2022 based on incidence rates from Korenromp et al.⁽¹⁾ Technical details are provided in the appendix.

Our models, which extend the trends of NI data from 2010–2022, show that **sustaining the strategic targeting of the GP and KPs would continue to drive declines in all population groups** (Figure 1). Overall, this would result in a 73% decrease in NI in the total population with marked declines in both the GP and KPs by 2035. Of note, these projections are based off of funding levels and policies in place in 2022, and do not reflect the impact of U.S. policy changes in 2025. However, models are still relevant to display the huge potential for progress that can be made by 2035 with renewed commitments to HIV funding and epidemiologically sound HIV programming.

^{iv} amfAR's PEPFAR Monitoring, Evaluation and Reporting database. <https://mer.amfar.org/>.

Figure 1: Estimated new HIV infections by population type through 2035*Based on 2022 funding levels***Figure 2: Estimated new HIV infections among key populations with and without targeted prevention through 2035**

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total
No KP prevention	98,340	396,022	408,695	421,773	435,270	449,198	463,573	478,407	493,716	509,515	525,819	542,646	5,222,974
Targeted KP prevention	98,340	83,918	69,972	57,217	48,783	41,606	34,871	28,938	26,567	26,093	25,668	25,293	567,266

This table shows the estimated number of new HIV infections each year in Figure 2.

Targeted Interventions for KPs Give Outsized Epidemiologic Impact

Global epidemiological research demonstrates that addressing the prevention and treatment needs of KPs yields disproportionate reductions in HIV transmission at the population level.(4) Similarly, KP-targeted harm reduction and prevention policies avert more infections per dollar spent than untargeted interventions.(2) Uptake of many high-impact HIV prevention tools like PrEP remains low in PEPFAR countries, meaning there is still immense potential to expand KP-targeted services in these settings.(5)

Despite the evidence base supporting KP interventions, recent shifts in U.S. foreign assistance policy in 2025, including foreign aid reviews and executive orders, have contributed to interruptions in KP programming and a reorientation of resources to other populations. For example, under a limited waiver for U.S. foreign assistance, the provision of PrEP, a critical prevention tool, has been restricted almost exclusively to pregnant and breastfeeding women, excluding many KP groups as well as most youth.(6) In some countries, like Uganda, programs serving high-risk communities like gay men, sex workers, and people who inject drugs were shut down or severely scaled back during the aid pause, with NGOs reporting that these services were explicitly cut.(7) These policies have raised serious concerns among health groups that the epidemic could worsen in KP communities, undermining overall HIV goals.

The projected impact of a full discontinuation of targeted programming for KPs on new HIV infections is an additional 5 million new cases of HIV. The models project that the number of new infections among KPs would drop to 25,000 by 2035 if 2022 levels of funding and KP-targeted programming are maintained (Figure 2). However, if targeted interventions for KPs were abandoned, there would be an immediate surge of new infections as populations lose access to necessary services. In that scenario, we anticipate an average of 517,000 additional NIs annually among KPs and their partners by 2035, an increase of more than 400%. This is an average ad-

ditional 388,000 new infections every year among KPs as compared to the targeted prevention approach.

Abandoning KP-Targeted Interventions Has the Potential to Reverse Overall HIV Trends

With the right investments and a sustained focus on the world's most at-risk populations, the global community can reach its goal to end the HIV pandemic. When KPs have access to high-quality and targeted HIV prevention and treatment services, progress extends beyond these groups to drive national declines in new HIV infections.

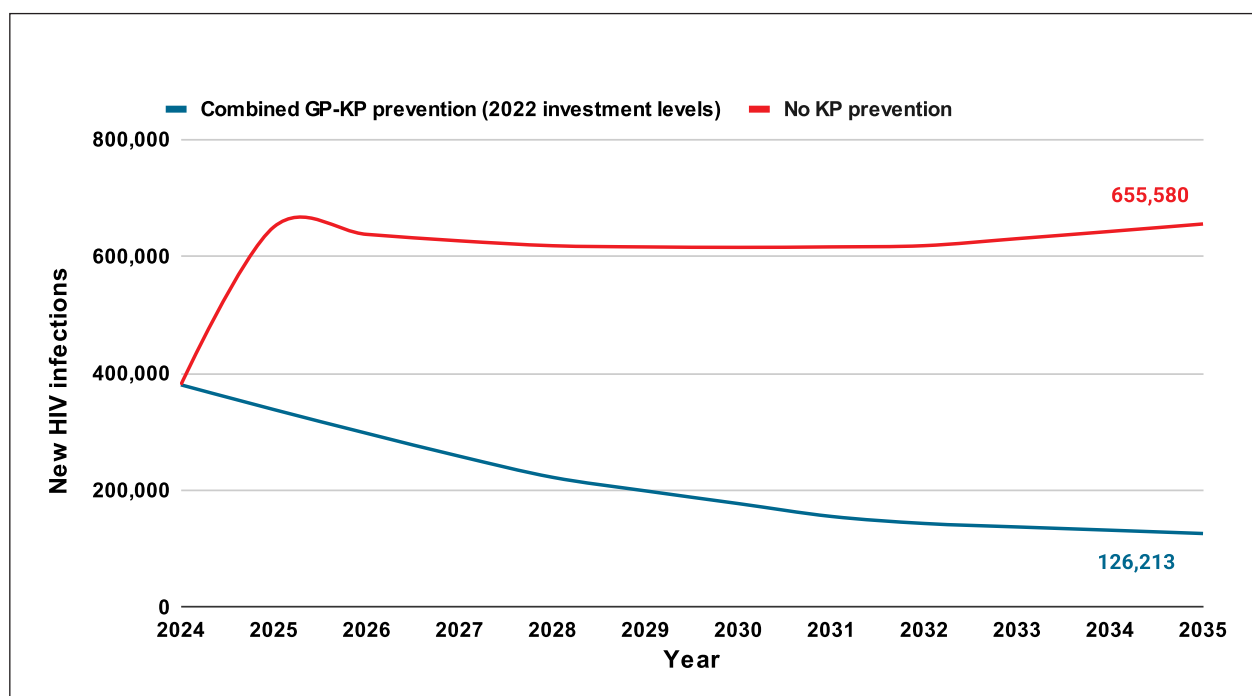
However, shifting investments away from KP-focused programs would be catastrophic for epidemic control. **Our models show that maintaining global HIV funding levels but removing targeted KP programming would lead to an immediate increase in NIs and a reversal of global HIV progress.** In the 25 countries in our model, loss of KP prevention programming would add an average of 430,000 NIs a year resulting in more than 4.7 million new HIV cases cumulatively by 2035 as compared to maintaining an approach that combined GP and targeted KP programming (Figure 3).

These findings underscore that funding alone is not enough. Investments must also be directed to the populations most at risk for HIV. Policy decisions that eliminate KP-targeted support risk undermining the broader pandemic and years of global HIV investment. Ending HIV will only be possible if we continue to fund, protect, and expand programs that prioritize KPs.

Conclusions

This analysis highlights that sustaining global progress against HIV depends on maintaining and expanding targeted interventions for KPs and their partners. Modeling projections show that even with sustained HIV funding, withdrawing investment in KP programming would cause

Figure 3: Total new HIV infections in 25 PEPFAR countries with and without key population prevention by 2035



	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	Total
No KP prevention	380,531	650,460	637,795	626,678	618,365	616,312	615,581	616,374	618,461	630,446	642,814	655,580	7,309,397
GP-KP prevention	380,531	338,213	297,585	258,294	222,350	199,141	177,404	155,450	143,418	137,476	131,904	126,213	2,567,979

This table shows the number of new HIV infections each year in Figure 3.

a rapid increase in NIs and as the populations most at risk for HIV lose access to services. This rise in NIs coupled with community transmission would reverse progress and throw the world off track to meet global HIV goals. By contrast, scaling up KP-sensitive, community-led, and stigma-free services is an essential pathway to reach epidemic control. This includes known interventions to reach KPs including drop-in centers, mobile clinics, and stigma-free service provision.

As the global HIV response faces shrinking budgets and shifting political priorities, maintaining a clear focus on

evidence-based HIV programming is essential. The path to ending HIV depends on our ability to protect and expand KP-focused programs. It will determine whether the world stays on course toward epidemic control or turns back the clock on decades of hard-won progress.

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References

1. Korenromp EL, Sabin K, Stover J, Brown T, Johnson LF, Martin-Hughes R, et al. New HIV Infections Among Key Populations and Their Partners in 2010 and 2022, by World Region: A Multisources Estimation. *J Acquir Immune Defic Syndr*. 2024 Jan 1;95(1 Suppl):e34–45.
2. Versteegh L, Amatavete S, Chinbunchorn T, Thammasiha N, Mukherjee S, Popping S, et al. The epidemiological impact and cost-effectiveness of key population-led PrEP delivery to prevent HIV among men who have sex with men in Thailand: A modelling study. *Lancet Reg Health Southeast Asia*. 2022 Dec;7:100097.
3. Chen YH, Farnham PG, Hicks KA, Sansom SL. Estimating the HIV Effective Reproduction Number in the United States and Evaluating HIV Elimination Strategies. *Journal of Public Health Management and Practice*. 2022 Apr;28(2):152.
4. Beyrer C, Adimora AA, Hodder SL, Hopkins E, Millett G, Mon SHH, et al. Call to action: how can the US Ending the HIV Epidemic initiative succeed? *The Lancet*. 2021 Mar 20;397(10279):1151–6.
5. Mukherjee TI, Yep M, Koluch M, Abayneh SA, Eyassu G, Manfredini E, et al. Disparities in PrEP use and unmet need across PEPFAR-supported programs: doubling down on prevention to put people first and end AIDS as a public health threat by 2030. *Front Reprod Health*. 2024 Dec 13;6:1488970.
6. KFF. The Trump Administration's Foreign Aid Review: Status of PEPFAR [Internet]. KFF. 2025 [cited 2025 Sept 23]. Available from: <https://www.kff.org/global-health-policy/the-trump-administrations-foreign-aid-review-status-of-pepfar/>
7. Green A. PEPFAR Cuts Hit Uganda's Most Vulnerable [Internet]. Foreign Policy. 2025 [cited 2025 Sept 23]. Available from: <https://foreignpolicy.com/2025/03/14/uganda-pepfar-hiv-health-aid-trump-united-states-funding-freeze/>

Methods Appendix

Figure 1: The number of new infections for each year 2023–2035 was calculated for total population, general population (GP), and key populations (KP) using the number of new infections for each of these groups applied to the formula below where t is year, I is year-specific number of new infections, and Re is the effective reproduction rate.

Equation 1: Number of new HIV infections in year t

$$= (I_{2022} + \frac{I_{2022} - I_{2010}}{2022 - 2010} * (t - 2022)) * \frac{Re (0.92)}{\text{Average life expectancy post infection (28.7)}}$$

Assumptions: Projected new infections are constrained at 0, meaning that once we anticipate a country may reach 0 new infections they are held constant (no negative new infections). No attempt was made to remove potential duplicates across KP groups (e.g., a sex worker who is also a person who injects drugs), and so this sample may be slightly inflated. The Re , or effective reproduction rate, accounts for the number of additional new infections generated by one infection given the current level of immunity, treatment, prevention, and behavior in the population based on the HIV Optimization and Prevention Economics study by Chen et al. (2022). Our estimate of 0.92 is based on the U.S. epidemic, which may be overly optimistic in some country contexts.

Figure 2: Figure 2 shows the difference in new infections for KPs under two scenarios:

1. Targeted KP prevention: Continued investment in KP-targeted programming extending the model projection from Figure 1 (Equation 1 applied to new infections for KPs).
2. No KP prevention: Projecting loss of KP-targeted services in 2025 using the following formula where where t is year, I is year-specific number of new infections, $KPinc$ is the pooled incidence rate for all KPs in the 25 included countries in 2022 (.81 per 100 person years), $KPprev$ is the number of KPs benefiting from targeted PEPFAR KP prevention services 2024 (3,636,235), and Re is the effective reproduction rate.

Equation 2: Number of new HIV infections in year t

$$= (I_{2024} + (KPinc * KPprev)) + I_{t-1} * \frac{Re (0.92)}{\text{Average life expectancy post infection (28.7)}}$$

Figure 3: The 'Combined GP-KP prevention' line in Figure 3 is the same as the 'Total population' line from Figure 1. The 'No KP prevention' line in Figure 3 is calculated by summing the 'General population' line from Figure 1 and the 'KPs: No KP prevention' line from Figure 2.