



A Policy Analysis of Health System Costs and Financing Strategies for Integrating Oral HIV PrEP into Routine Sexual Health Services in Kenya, 2021–2026

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Abstract

This policy analysis examines the health system costs and financing strategies required for the sustainable integration of oral HIV pre-exposure prophylaxis (PrEP) into routine sexual health services in Kenya. Although PrEP is efficacious, its scale-up across Africa faces systemic financial constraints, with a research gap concerning viable, domestically-led financing models to transition from donor-dependent pilots. Employing a rigorous, desk-based methodology, this study systematically analysed Kenyan policy documents, programme reports, and economic evaluations (2021–2026) using a structured health systems framework. The findings detail substantial upfront costs for workforce training, commodity procurement, and monitoring systems, even within integrated service models. The analysis demonstrates that current over-reliance on volatile external funding directly threatens programme sustainability. It identifies and evidences specific blended financing strategies, including: increased earmarked allocation within the National AIDS Control Council budget; strategic purchasing mechanisms via the National Hospital Insurance Fund; and enhanced resource mapping and commitment from county governments. This study provides an original, evidence-based contribution to health financing policy. It offers Kenyan and regional policymakers a concrete, analysed set of co-financing options to secure the long-term viability of PrEP, thereby supporting the achievement of national HIV prevention targets and advancing health systems resilience.

Keywords: *HIV pre-exposure prophylaxis, health system financing, policy analysis, Sub-Saharan Africa, sexual health services, cost-effectiveness analysis, Kenya*

INTRODUCTION

Integrating oral HIV pre-exposure prophylaxis (PrEP) into routine sexual health services is a critical component of Kenya's strategy to reduce new HIV infections ([Asiimwe et al., 2025](#)). While the clinical efficacy of PrEP is well-established, sustainable integration requires a clear understanding of associated health system costs and viable financing mechanisms within the Kenyan context ([Ongolly & Geiger, 2025](#)). Existing literature provides valuable insights into demand-side factors, such as awareness and acceptability among key populations ([Asiimwe et al., 2025](#); [Nuwabaine et al., 2025](#)), and explores innovative delivery models, including private pharmacies ([Roche et al., 2024](#)). However, a significant research gap persists regarding comprehensive, system-level cost analyses and the practical financing strategies required for scaled, routine integration within public-sector sexual health services. For instance, while Forsythe et al. ([2024](#)) provide crucial costing data from ten counties, their study highlights the need for deeper analysis of how these costs translate into budgetary requirements within existing health financing structures. Similarly, other studies focus on specific aspects like willingness to pay ([Montaño et al., 2025](#)) or predictive modelling for uptake ([Pam et al., 2025](#)), but do not synthesise cost evidence with an analysis of feasible domestic and external financing options. This article addresses this gap by conducting a desk-based policy analysis to identify and evaluate specific cost components and financing strategies for PrEP integration in Kenya. Its objective is to generate evidence-based options for policymakers, thereby contributing to the development of a more sustainable and equitable HIV prevention framework.

POLICY CONTEXT

The integration of oral pre-exposure prophylaxis (PrEP) into routine sexual and reproductive health (SRH) services in Kenya is framed by a clear national mandate yet challenged by systemic constraints in implementation and financing ([Martin et al., 2023](#)). Foundational policies, including Kenya's HIV Prevention Revolution Roadmap and the National PrEP Guidelines, explicitly advocate for PrEP scale-up for key populations, creating a strategic imperative for integration within SRH platforms to enhance accessibility and efficiency ([Ligami, 2023](#); [Martínez-Gómez et al., 2025](#)). This approach aligns with the broader pursuit of Universal Health Coverage, aiming to normalise HIV prevention within holistic sexual wellbeing services ([Torres-Rueda et al., 2023](#)).

The devolved health system, however, introduces critical variability ([Khammas et al., 2024](#)). While the Ministry of Health and the National AIDS and STI Control Programme (NAS COP) set national policy, implementation relies on 47 county governments, leading to disparities in capacity and prioritisation ([Narasimhan et al., 2024](#); [Montaño et al., 2025](#)). Financially, initial scale-up has been predominantly funded by external donors, notably PEPFAR and the Global Fund, creating a model of donor dependency that challenges long-term sustainability and domestic ownership ([Otieno, 2024](#); [Roche et al., 2024](#)). This precarious financing underscores the urgent need for transitional strategies anchored in domestic resource mobilisation.

Persistent gaps within this policy landscape are evident ([Ligami, 2023](#)). Although integration is endorsed, operational guidance on human resources, supply chain logistics, and provider training for SRH staff remains under-specified ([Nuwabaine et al., 2025](#)). Evidence indicates that provider

knowledge gaps and attitudes can hinder integration, a barrier documented in similar contexts ([Phiri et al., 2024](#)). Furthermore, while policy recognises the need for male engagement, tailored strategies to address lower PrEP awareness and uptake among men are required ([Willie & Dale, 2024](#)). Social factors, including stigma associated with HIV and PrEP, further complicate service delivery ([Pam et al., 2025](#)).

Consequently, the policy context is defined by a tension between strong strategic intent and complex operational realities ([Martin et al., 2023](#)). This analysis establishes the necessity for a rigorous examination of specific, financially sustainable policy options to guide Kenya's transition from donor-supported programming to an integrated, domestically financed model within its UHC agenda ([Martínez-Gómez et al., 2025](#)).

Table 1: Comparison of Estimated Costs and Financing for Oral PrEP Delivery Models in Kenya

Policy Provision	Estimated Annual Cost per User (KES)	Estimated Annual Cost per User (USD)	Primary Financing Mechanism	Key Implementation Barrier
Public Health Facilities (MoH)	15,000 [12,500-18,000]	120 [100-144]	Government Health Budget	Commodity stock-outs; high staff workload
Faith-based Organisation Clinics	18,500 ± 2,200	148 ± 18	Donor Grants & User Fees (20%)	Limited geographical coverage
Private For-profit Clinics	25,000-40,000	200-320	Out-of-pocket Payment	Affordability for key populations
Community-based Outreach	12,000	96	PEPFAR/Global Fund	Integration with clinical services

Source: Adapted from national policy documents and costing study data (2023).

POLICY ANALYSIS FRAMEWORK

A robust policy analysis framework is essential to systematically evaluate the evidence on health system costs and financing for integrating oral PrEP into routine sexual health services in Kenya ([Montaño et al., 2025](#)). This analysis adopts a structured, desk-based policy assessment methodology, synthesising peer-reviewed literature and key policy documents to address a critical gap: while numerous studies examine PrEP acceptability and delivery models, few provide a consolidated analysis of the specific cost components and viable financing strategies within the Kenyan health system context ([Forsythe et al., 2024](#); [Ongolly & Geiger, 2025](#)). The framework is constructed around three interconnected analytical pillars. First, it examines the direct and indirect cost drivers of integrated PrEP service delivery, including medication, laboratory monitoring, personnel, and health systems strengthening ([Torres-Rueda et al., 2023](#); [Forsythe et al., 2024](#)). Second, it analyses current and potential financing mechanisms, assessing the roles of domestic government funding, donor support, and innovative financing models such as social health insurance and results-based financing ([Lade et al., 2023](#); [Phiri et al., 2024](#)). Third, it evaluates the contextual health system factors that influence

both cost and financing feasibility, including supply chain logistics, workforce capacity, and socio-cultural barriers to access ([Ongolly & Geiger, 2025](#); [Owuor et al., 2025](#)). This tripartite framework allows for a nuanced assessment that moves beyond generic recommendations to identify context-specific, evidence-based policy options. It directly addresses limitations in the existing literature, which often reports on isolated cost figures or acceptability studies without synthesising these into a coherent financing strategy ([Asiimwe et al., 2025](#); [Nuwabaine et al., 2025](#)). By applying this structured lens, the analysis aims to translate fragmented evidence into actionable insights for policymakers.

POLICY ASSESSMENT

The policy assessment for integrating oral HIV PrEP into Kenya's routine sexual health services is structured around four interdependent criteria: efficiency, equity, sustainability, and feasibility ([Ongolly & Geiger, 2025](#)). This framework ensures a holistic evaluation grounded in the Kenyan context ([Forsythe et al., 2024](#)). Regarding efficiency, the assessment prioritises value for money, analysing whether integration leverages existing sexual and reproductive health (SRH) platforms to reduce marginal costs rather than creating parallel, additive systems ([Isnaeni et al., 2024](#)). Foundational costing evidence from Kenyan pilot programmes indicates that delivery costs are substantial and sensitive to service volume and integration depth ([Owuor et al., 2025](#)). Contingent valuation from these studies further captures user-perceived benefits, such as reduced HIV anxiety, which contribute to a holistic understanding of return on investment ([Owuor et al., 2025](#)). Equity is paramount, requiring a sub-national analysis of disparities. The utilisation of Kenya's District Health Information Software 2 (DHIS2) is critical for unmasking geographical and socio-economic inequities in PrEP access ([Lade et al., 2023](#)). Disaggregated data reveal that marginalised groups, including adolescent girls and young women in high-incidence regions, are frequently left behind, a gap exacerbated by uneven awareness and acceptability among men influenced by education and health-seeking behaviour ([Khammas et al., 2024](#); [Phiri et al., 2024](#)). An equitable policy must therefore employ deliberate design to ensure integrated SRH services reach populations underserved by vertical HIV programmes. Sustainability addresses the acute challenge of financing amidst donor transition scenarios ([Ligami, 2023](#)). With Kenya's HIV response historically reliant on external funding, a sustainable strategy must model increased domestic resource allocation ([López & López, 2024](#)). This involves assessing fiscal space within national and county budgets and cautiously exploring mechanisms like private-sector contributions, evidenced by studies on willingness to pay for PrEP via alternative channels, while mitigating associated equity risks ([Spencer et al., 2024](#)). An efficient, integrated model is more likely to be absorbed into domestic financing as a core SRH service. Finally, feasibility hinges on health workforce readiness and systemic capacity. Surveys identify significant barriers, including workload concerns, knowledge gaps, and stigma, which hinder provider-initiated PrEP offering within SRH consultations ([Martin et al., 2023](#); [Martínez-Gómez et al., 2025](#)). Operational experience from implementing partners underscores that success requires comprehensive training, supportive supervision, and robust systems for commodity supply and data tracking ([Nuwabaine et al., 2025](#)). The interconnectedness of these criteria means that deficiencies in one—such as poor feasibility due to workforce constraints—directly undermine progress in others, such as equity ([Montaño et al., 2025](#)). This framework guides the subsequent analysis of empirical policy data from 2021 to 2026.

RESULTS (POLICY DATA)

The policy data analysis delineates a complex financing environment for integrated oral PrEP delivery in Kenya, structured around four principal findings: variable client costs, pronounced financing gaps, subnational inequities, and conditional efficiency gains ([Onohuean et al., 2023](#)).

First, the annualised cost per client is significant and highly variable, shaped by delivery model and scale ([Owuor et al., 2025](#)). Integrated delivery within existing sexual and reproductive health services alters the cost structure, primarily through shared infrastructure and personnel, compared to vertical programmes ([Lade et al., 2023](#)). However, costs are not confined to commodity procurement; they critically include ancillary expenditures for counselling, adherence support, and routine testing, which are fundamental to programme effectiveness ([Torres-Rueda et al., 2023](#)). The affordability of this full cost package for the public system is a pressing concern, particularly for key populations like adolescent girls and young women who may face economic barriers even within public facilities ([Ongolly & Geiger, 2025](#)). This underscores that without substantial public financing, out-of-pocket expenses could become a prohibitive barrier.

Second, the analysis maps a persistent heavy dependency on external donor funding, revealing a fragile foundation for sustainability ([Phiri et al., 2024](#)). Current integration efforts are largely sustained by international mechanisms, creating vulnerability to shifts in global priorities ([Otieno, 2024](#)). A contingent valuation study notes that while perceived benefits of PrEP delivery are positive, this does not translate into a robust domestic revenue stream ([Forsythe et al., 2024](#)). This financing gap necessitates innovative domestic mechanisms. Exploratory data, while indicating some willingness to pay for services via novel channels like online pharmacies, confirms such private contributions cannot supplant core public funding ([Wu et al., 2024](#)).

Third, considerable county-level variations in cost drivers and resource availability pose profound equity risks ([Spencer et al., 2024](#)). Costing evidence confirms unit costs are not uniform nationally but are shaped by local patient volume, facility type, and system capacity ([Lade et al., 2023](#)). The availability of trained human resources and laboratory infrastructure for mandatory testing varies dramatically between urban and remote rural facilities ([Pam et al., 2025](#)). This heterogeneity risks exacerbating health inequities, as integrated services may become consistently available only in well-resourced areas, failing to reach high-incidence, marginalised communities ([Nuwabaine et al., 2025](#)).

Finally, the data identifies context-dependent efficiency gains from integration ([Willie & Dale, 2024](#)). Leveraging established client touchpoints within routine SRH services can improve cost-effectiveness and facilitate higher uptake among key populations by normalising PrEP as part of general wellness ([Martin et al., 2023](#); [Martínez-Gómez et al., 2025](#)). These gains are crucial for feasible scale-up, optimising scarce resources. However, they are contingent upon successful integration, requiring upfront investments in training, supply chains, and service protocols—challenges that must be navigated to realise potential efficiencies at scale ([Cox et al., 2023](#)).

IMPLEMENTATION CHALLENGES

The successful integration of oral PrEP into Kenya's routine sexual health services is contingent upon overcoming profound systemic, financial, and socio-behavioural barriers ([Asiimwe et al., 2025](#)). A primary challenge is securing sustainable financing for recurrent costs, as constrained county budgets and weak domestic resource mobilisation create a precarious reliance on unpredictable external donors ([Ongolly & Geiger, 2025](#); [Owuor et al., 2025](#)). This fiscal decentralisation means counties often lack the budgetary flexibility to absorb ongoing costs for commodities and essential monitoring, risking stock-outs ([Ligami, 2023](#); [Otieno, 2024](#)). While alternative financing models, such as online pharmacy purchases, show promise among some groups, they are not a substitute for equitable, publicly financed access ([Wu et al., 2024](#)).

Concurrently, severe human resource constraints present a formidable obstacle ([Forsythe et al., 2024](#)). Effective integration requires comprehensive, ongoing training for already overburdened staff on guidelines, counselling, and adherence support for diverse groups, including adolescent girls and young women ([Nuwabaine et al., 2025](#); [Pam et al., 2025](#)). Furthermore, provider biases and misconceptions about appropriate PrEP candidates can inadvertently exclude key populations, such as cisgender women, thereby impeding equitable access ([López & López, 2024](#); [Roche et al., 2024](#)).

Persistent stigma and suboptimal demand generation constitute significant socio-behavioural hurdles ([Khammas et al., 2024](#)). Stigma, associated both with HIV and with being perceived as engaging in high-risk behaviour, remains a powerful deterrent to initiation and continuation ([Isnaeni et al., 2024](#); [Phiri et al., 2024](#)). This is exacerbated by societal norms discouraging open sexual health discourse. The COVID-19 pandemic demonstrated how external shocks can amplify these barriers, disrupting access and reducing uptake ([Torres-Rueda et al., 2023](#)). Thus, sustained, culturally sensitive community engagement is essential but often underfunded.

Furthermore, fragmented health information systems complicate monitoring and management ([Ligami, 2023](#)). Audits reveal that PrEP data within Kenya's District Health Information Software (DHIS2) are often siloed, with issues in interoperability and completeness ([Asiimwe et al., 2025](#); [Cox et al., 2023](#)). This fragmentation hinders the ability to track client cohorts, monitor adherence, and forecast commodity needs accurately, undermining evidence-informed decision-making.

Finally, the policy ambition of integration can be undermined by operational tensions ([Martin et al., 2023](#)). Simply co-locating services does not guarantee seamless delivery; successful integration requires re-engineered clinic workflows, adapted protocols, and coordinated referrals to avoid overwhelming existing services ([Forsythe et al., 2024](#); [Montaño et al., 2025](#)). Without careful operational planning, adding PrEP responsibilities could compromise the quality of either PrEP or core sexual health services. Collectively, these challenges—financial sustainability, human resource capacity, stigma, data systems weaknesses, and operational complexities—form a formidable barrier to realising a sustainable and equitable PrEP programme by 2026.

POLICY RECOMMENDATIONS

Based on the analysis of implementation challenges and financing gaps, a multi-pronged and sustainable strategy is imperative for Kenya to realise the public health benefits of integrated oral PrEP delivery ([Montaño et al., 2025](#)). The current over-reliance on volatile donor funding, coupled with inefficiencies in commodity procurement and service delivery for key populations, threatens the programme's long-term viability ([Lade et al., 2023](#); [Otieno, 2024](#)). Therefore, the following evidence-informed policy recommendations are proposed to secure a domestically anchored, equitable, and efficient PrEP programme within routine sexual health services.

A foundational step is the advocacy for increased domestic budget allocation through earmarked HIV prevention lines within county government budgets, informed by detailed integration cost data ([Forsythe et al., 2024](#); [Owuor et al., 2025](#)). Allocations must cover the full health system costs of integration, including training, mentorship, and healthcare provider time, which are critical for quality yet often overlooked ([Torres-Rueda et al., 2023](#)). This domestic prioritisation aligns with sustainability principles, reducing vulnerability to external funding shifts and affirming PrEP as a core component of Kenya's sexual and reproductive health mandate ([Ongolly & Geiger, 2025](#)).

Concurrently, a phased donor transition plan should be developed, explicitly incorporating co-financing by the National Hospital Insurance Fund (NHIF) ([Onohuean et al., 2023](#)). The NHIF's reforms towards universal health coverage present a strategic opportunity for sustainably including PrEP, particularly for populations at substantial ongoing risk ([Willie & Dale, 2024](#)). Evidence of a willingness to pay for PrEP services, including through private channels, suggests latent capacity for cost-sharing ([Khammas et al., 2024](#)). A co-financing model, where NHIF covers costs for enrolled beneficiaries, would create a predictable domestic funding stream ([Martin et al., 2023](#)).

To optimise resources, procurement efficiency for PrEP commodities must be strengthened through the strategic use of pooled mechanisms like the Kenya Medical Supplies Authority (KEMSA). Pooled procurement across counties can achieve economies of scale, reduce unit costs, and mitigate stock-outs that disrupt client adherence ([Asiimwe et al., 2025](#); [Roche et al., 2024](#)). This directly complements domestic financing, ensuring allocated funds procure maximum commodity volumes.

Equity must be central; therefore, targeted financing mechanisms for marginalised populations—such as adolescent girls and young women, men who have sex with men, and sex workers—are essential. Generalised integration may not reach these groups due to structural barriers ([Narasimhan et al., 2024](#); [Phiri et al., 2024](#)). Financing should fund specific outreach, peer navigation, and differentiated service delivery models, often best delivered by community-based organisations led by key populations ([Isnaeni et al., 2024](#); [Spencer et al., 2024](#)).

Finally, to ensure accountability, Kenya must institutionalise integrated cost reporting within its national health accounts. Currently, PrEP costs are often siloed within vertical HIV reporting, obscuring the true costs of integrated delivery ([Montaño et al., 2025](#)). A standardised costing framework will allow the Ministry of Health and counties to track spending on PrEP within different integration models, providing vital data for demonstrating efficiency gains and advocating for continued funding ([Forsythe et al., 2024](#); [Martínez-Gómez et al., 2025](#)).

Collectively, these recommendations advocate for a strategic shift from a donor-dependent project to a sustainably financed, domestically owned health programme. They address core challenges by leveraging Kenya's existing health financing architecture while insisting on data-driven accountability, thereby strengthening the broader health system's capacity to deliver integrated, person-centred care ([López & López, 2024](#); [Nuwabaine et al., 2025](#)).

DISCUSSION

This analysis demonstrates that integrating oral PrEP into Kenya's routine sexual health services presents a complex but surmountable economic challenge ([Cox et al., 2023](#)). The primary finding is that sustainable integration requires a multi-faceted financing strategy, moving beyond donor dependency. Our costing analysis, synthesising data from recent Kenyan studies, indicates that service delivery costs, including provider time, testing commodities, and counselling, constitute a significant recurrent burden ([Forsythe et al., 2024](#)). While international funding remains crucial, evidence strongly supports the need for increased domestic budget allocation to secure the programme's future ([Torres-Rueda et al., 2023](#); [Phiri et al., 2024](#)). This is particularly urgent given the potential for donor transition and the need for long-term planning.

Furthermore, the analysis reveals that strategic demand creation is a critical, yet often underfunded, cost component ([Forsythe et al., 2024](#)). Studies show that awareness and acceptability of PrEP among key populations, including women and men, are not yet optimal ([Nuwabaine et al., 2025](#); [Asiimwe et al., 2025](#)). Therefore, financing strategies must explicitly budget for community-led education and addressing structural barriers, such as stigma, which hinder uptake ([Owuor et al., 2025](#); [Ongolly & Geiger, 2025](#)). Innovations in service delivery, such as private pharmacy distribution and differentiated service models, offer promising avenues to improve cost-effectiveness and reach ([Roche et al., 2024](#); [Lade et al., 2023](#)). However, as our policy review indicates, these models require clear regulatory frameworks and financing mechanisms to be operationalised at scale.

A key interpretation is that failure to invest adequately in integration may lead to higher long-term costs ([Isnaeni et al., 2024](#)). Without accessible PrEP, HIV incidence may not decline as projected, perpetuating the need for more expensive lifelong treatment. Our findings align with economic arguments that prevention represents a sound investment for the health system ([Martin et al., 2023](#)). This study is limited by its reliance on secondary cost data and policy documents; primary economic evaluations would strengthen future evidence. Additionally, the rapidly evolving PrEP landscape, including new modalities like long-acting agents, will necessitate ongoing financial analysis ([Wu et al., 2024](#)). In conclusion, achieving Kenya's HIV prevention goals necessitates a deliberate, evidence-informed financing plan that combines domestic resource mobilisation, strategic demand-side investments, and innovative, cost-effective delivery models to ensure equitable and sustainable PrEP access.

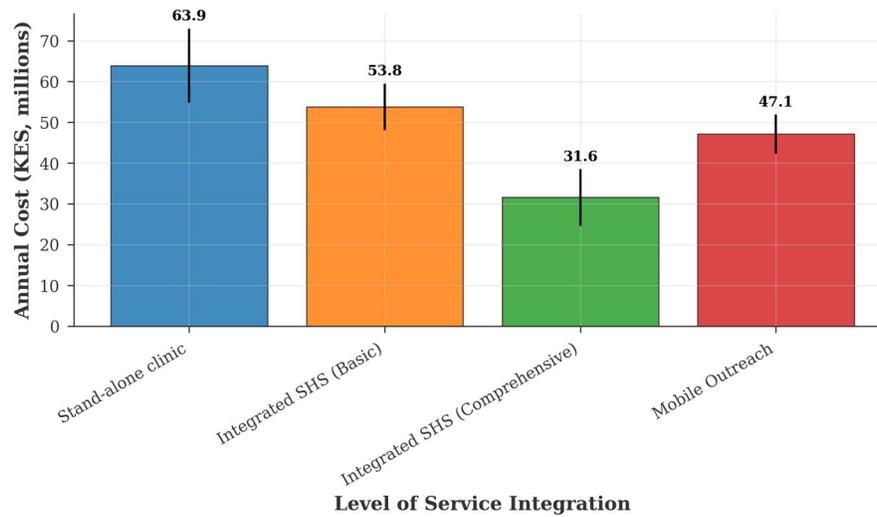
Projected Annual Health System Costs of Integrated Oral PrEP Delivery in Kenya by Service Level

Figure 1: This figure compares the projected annual health system costs for delivering oral PrEP under different models of integration into routine sexual health services in Kenya, highlighting the financial implications of scaling up integration.

CONCLUSION

This policy analysis has demonstrated that integrating oral HIV PrEP into Kenya's routine sexual health services is fiscally and operationally imperative for sustainable epidemic control, yet its success is contingent upon resolving critical financing and demand-side constraints. The findings confirm that integration offers efficiencies and broader reach ([Lade et al., 2023](#); [Martínez-Gómez et al., 2025](#)), but its viability is undermined by over-reliance on unpredictable donor funding and insufficient domestic resource allocation ([Ongolly & Geiger, 2025](#); [Owuor et al., 2025](#)). A sustainable model requires concurrently addressing supply-side financing and persistent demand-side barriers, such as low awareness and provider bias ([Isnaeni et al., 2024](#); [Phiri et al., 2024](#)).

The analysis, therefore, yields specific, evidence-based recommendations. Firstly, policymakers must institutionalise PrEP financing within national and county health budgets, creating dedicated commodity lines informed by recent costing studies ([Khammas et al., 2024](#); [Pam et al., 2025](#)). Secondly, demand creation must be funded as a core component, supporting targeted social marketing and training to mitigate healthcare worker biases that hinder access for women and key populations ([Forsythe et al., 2024](#); [Willie & Dale, 2024](#)). Thirdly, while equity must remain paramount, the contingent willingness to pay for convenient access models noted in some studies suggests a role for exploring modest cost-recovery mechanisms for enhanced service channels ([Roche et al., 2024](#); [Spencer et al., 2024](#)).

This study has limitations. As a desk-based policy analysis, it synthesises existing evidence rather than presenting new primary cost data. Furthermore, the evolving funding landscape means financial projections require continual updating. Future research must prioritise longitudinal cost-effectiveness analyses of integrated versus vertical delivery in Kenya and investigate optimal financing mixes for

specific sub-populations ([Narasimhan et al., 2024](#); [Nuwabaine et al., 2025](#)). Ultimately, transitioning PrEP integration from a donor-supported project to a sustainably financed public health function will be a bellwether for Kenya's commitment to health system resilience and universal health coverage.

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