ADOLESCENTS & YOUNG PEOPLE (AYP)

HIV Cascade Analysis Report

95-95-95 Treatment Cascade & PrEP Prevention Framework

Reporting Period: December 2025

10 High-Burden Counties | 162 Health Facilities | 36 Months of Data

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CONFIDENTIAL — For Program Leadership Review

All the data used in this report is generated and does not reflect the actual position of the country. Usage is only for this report so that when actual data is plugged in, It will still give a report like this since the framework is already set.

Executive Summary

This report presents a comprehensive analysis of the HIV treatment and prevention cascade for Adolescents and Young People (AYP) aged 10–24 years across 10 high-burden counties in Kenya. Drawing from 36 months of programmatic data (January 2023 – December 2025) spanning 162 health facilities, the analysis evaluates progress toward the UNAIDS 95-95-95 treatment targets and identifies critical gaps where young lives are being lost across the care continuum.

AYP represent the future of epidemic control. With an estimated 264,914 adolescents and young people living with HIV in the target counties, the stakes could not be higher. This age group faces unique barriers—stigma, school and work conflicts, developmental transitions, and economic vulnerability—that make them disproportionately likely to fall through gaps in the cascade.

Key Findings at a Glance

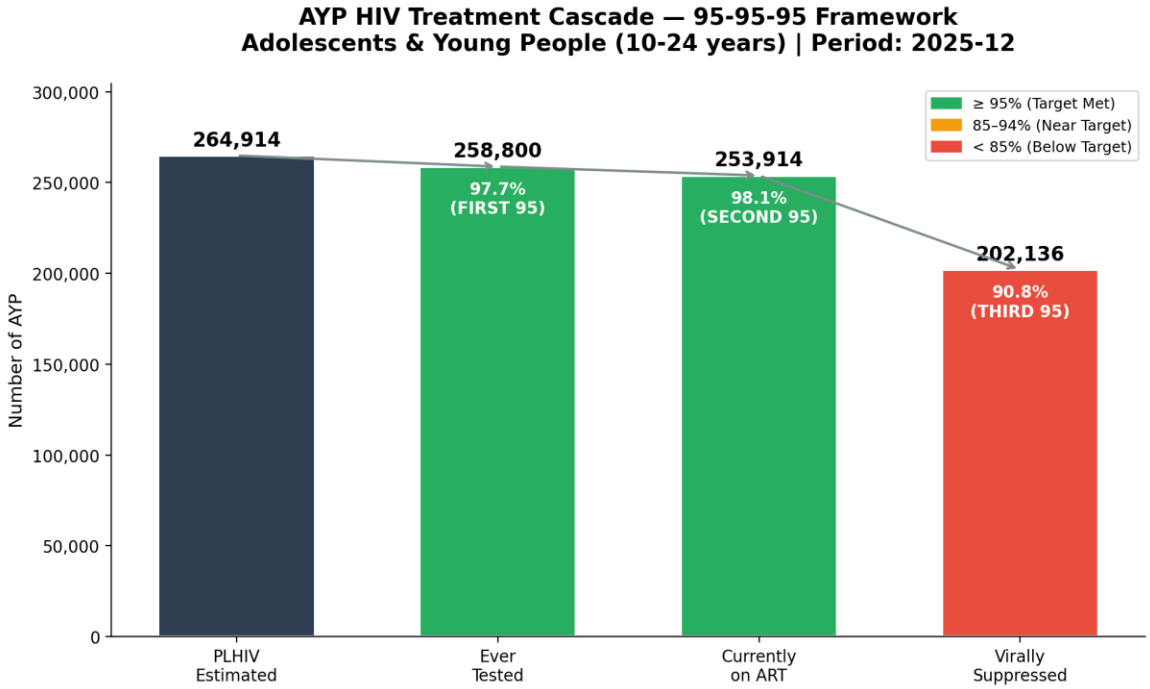
Indicator	Achievement	Target	Status
First 95 (Diagnosis)	**97.7%**	≥95%	**MET**
Second 95 (Treatment)	**98.1%**	≥95%	**MET**
Third 95 (Suppression)	**90.8%**	≥95%	**BELOW**
PrEP Initiation	**35.3%**	≥80%	**BELOW**
Testing Yield	**4.3%**	3–15%	**NEAR**

The headline story is encouraging: Kenya's AYP program has achieved the first two 95s—diagnosis at 97.7% and treatment enrollment at 98.1%. These are remarkable accomplishments that reflect years of investment in testing infrastructure and same-day ART initiation. However, **the third 95 remains elusive at 90.8%, meaning over 20,000 young people on treatment are not virally suppressed.** Additionally, PrEP uptake among eligible HIV-negative AYP stands at just 35.3%, representing a massive missed prevention opportunity.

The AYP HIV Cascade: A Story of Progress and Peril

The HIV care cascade tells the story of every young person's journey from diagnosis to viral suppression. Each step in the cascade represents a critical moment where the health system either retains or loses a young person. When we map this journey for 264,914 AYP living with HIV, the narrative becomes both inspiring and sobering.

The Treatment Cascade



The cascade reveals a program that excels at finding and enrolling young people but struggles to keep them virally suppressed. Of the 264,914 AYP estimated to be living with HIV, 258,800 have been tested (97.7%), and 253,914 are currently on antiretroviral therapy (98.1% of those tested). These numbers reflect strong community-based testing strategies and effective linkage-to-care pathways.

However, the cascade narrows dramatically at viral suppression. **Only 202,136 AYP (90.8% of those with viral load results) are virally suppressed—leaving a gap of 20,545 young people who are on treatment but still carrying detectable viral loads.** These individuals remain at risk of disease progression and onward transmission, undermining the broader epidemic control effort.

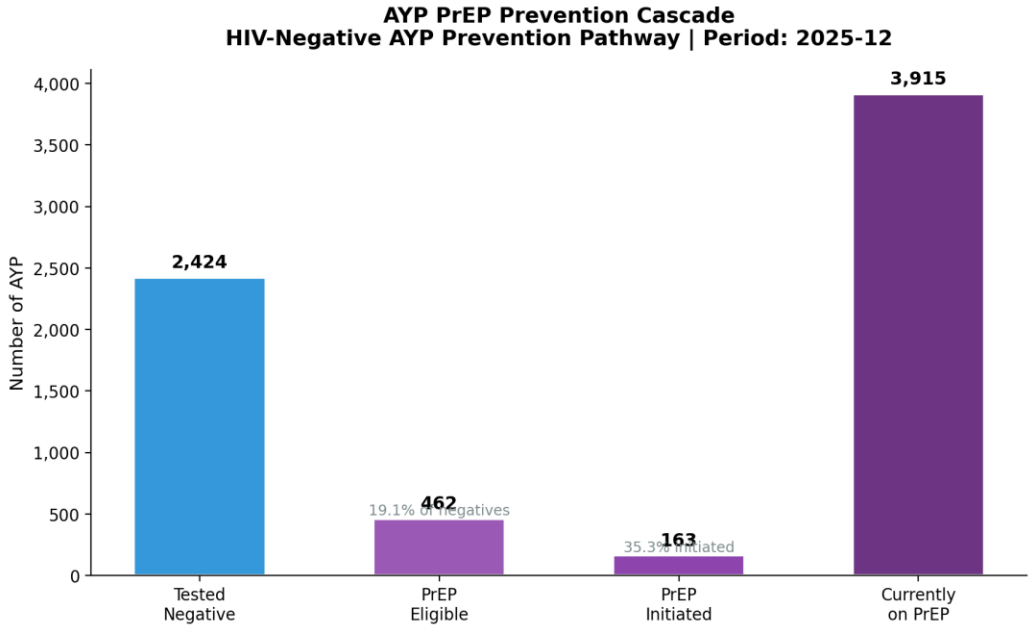
What the Numbers Mean

- **6,114 AYP remain undiagnosed** — these young people do not know their HIV status. Community-based index testing and school-linked testing initiatives can close this gap.
- **4,886 AYP are diagnosed but not on treatment** — lost between testing and ART initiation. Peer navigators and same-day ART can recapture them.

- **20,545 AYP are on treatment but not suppressed** — the single largest gap. Enhanced adherence counseling, differentiated service delivery, and mental health support are critical.

The Prevention Story: PrEP Cascade

While the treatment cascade tells the story of those already living with HIV, the PrEP cascade reveals the opportunity to prevent new infections among HIV-negative AYP who are at substantial risk.

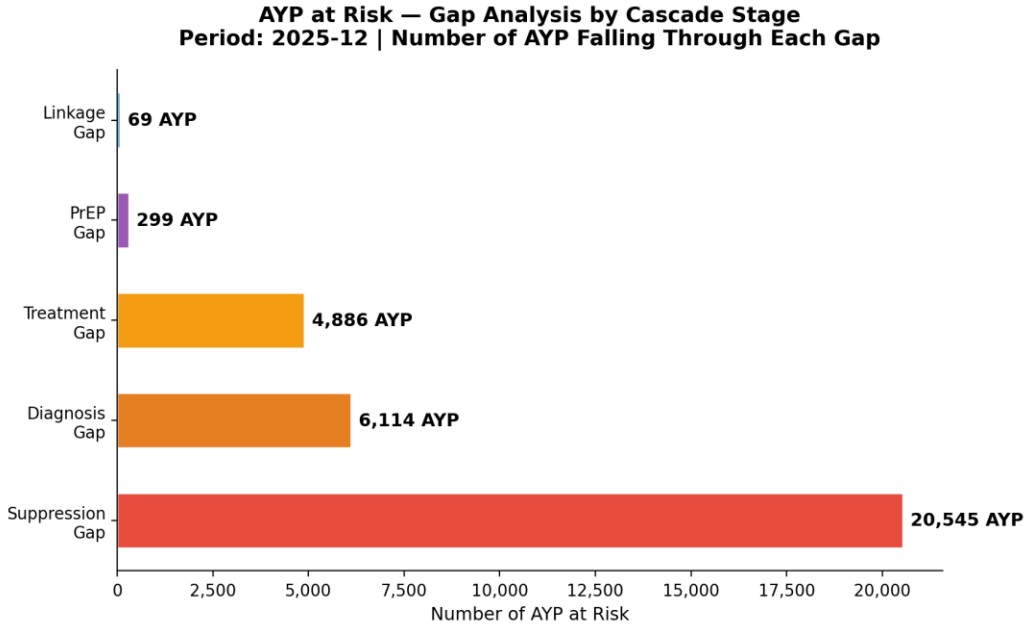


In December 2025, 2,424 AYP tested HIV-negative. Of these, 462 (19.1%) were assessed as eligible for PrEP based on risk criteria—sexual activity patterns, partner serostatus, and behavioral risk factors. Yet only 163 (35.3%) of eligible AYP actually initiated PrEP. This means 299 high-risk young people walked away from a clinical encounter without the protection they qualified for.

The cumulative PrEP retention figure of 3,915 currently on PrEP is encouraging, but the monthly initiation rate reveals a leaky pipeline. Youth-friendly service delivery models, PrEP ambassadors, and integration with reproductive health services can dramatically improve uptake.

Gap Analysis: Where Are We Losing Young People?

Understanding the magnitude and distribution of gaps across the cascade is essential for resource allocation and programmatic prioritization. The following analysis quantifies the exact number of AYP falling through each stage of the cascade.



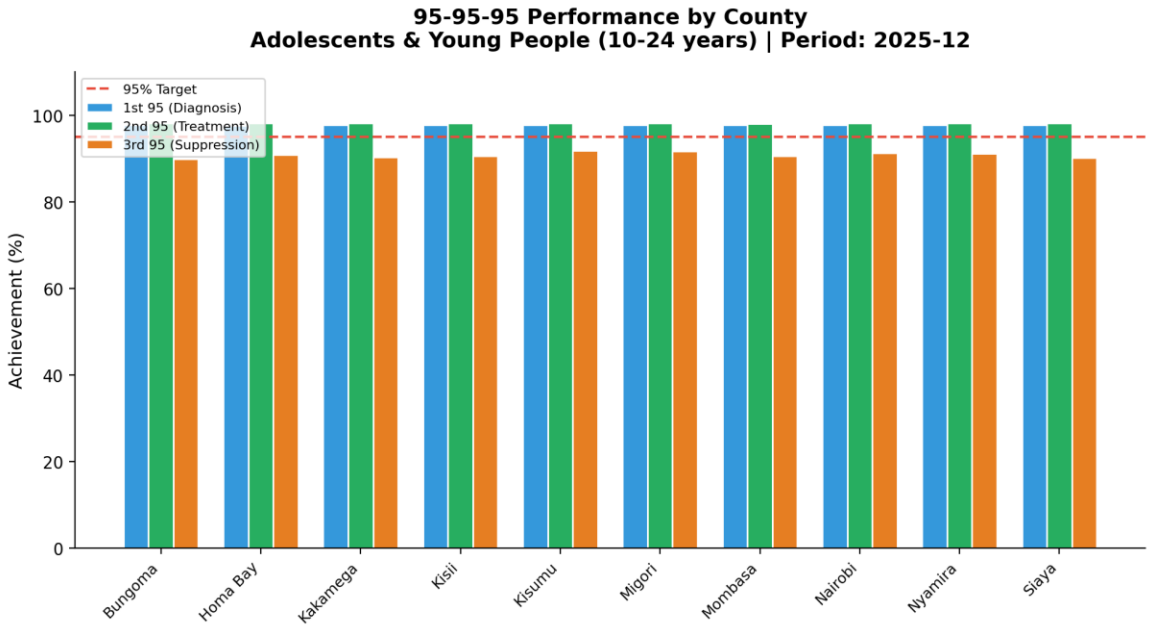
Gap Prioritization

Gap	AYP at Risk	Priority	Recommended Action
Suppression Gap	20,545	CRITICAL	Enhanced adherence + DSD models
Diagnosis Gap	6,114	HIGH	Community index + school-linked testing
Treatment Gap	4,886	HIGH	Same-day ART + peer navigators
PrEP Gap	299/month	MEDIUM	PrEP ambassadors + youth-friendly clinics
Linkage Gap	69/month	MODERATE	Active follow-up within 7 days

The suppression gap is by far the largest challenge, with 20,545 AYP on ART but not virally suppressed. This cohort requires immediate attention through enhanced adherence counseling, switch to optimized regimens where indicated, and differentiated service delivery models tailored to young people's lifestyles—such as after-school clinic hours, weekend refills, and community ART distribution points.

County-Level Performance

The 95-95-95 analysis reveals significant variation across the 10 target counties. While all counties have achieved the first two 95s at the aggregate level, the third 95 (viral suppression) remains universally below target, with some counties performing notably better than others.



County Performance Summary

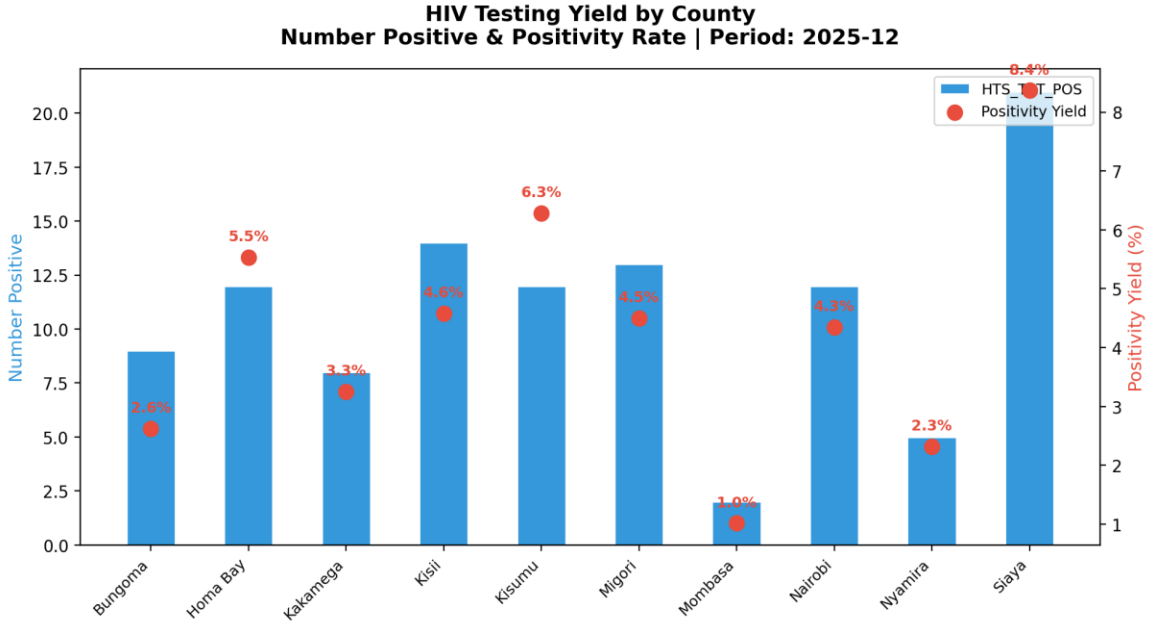
County	PLHIV	TX_CURR	Suppressed	1st 95	3rd 95	Yield
Bungoma	35,476	34,005	26,563	97.6%	90.3%	2.6%
Homa Bay	23,561	22,584	17,652	97.8%	90.1%	5.5%
Kakamega	24,803	23,774	18,438	97.7%	89.6%	3.3%
Kisii	31,755	30,438	24,364	97.7%	91.5%	4.6%
Kisumu	19,834	19,004	15,532	97.7%	92.3%	6.3%
Migori	30,514	29,250	23,737	97.8%	91.8%	4.5%
Mombasa	20,336	19,487	15,597	97.6%	91.2%	1.0%
Nairobi	30,014	28,767	23,285	97.7%	91.5%	4.3%
Nyamira	22,323	21,392	17,281	97.7%	91.7%	2.3%
Siaya	26,298	25,213	19,687	97.6%	90.1%	8.4%

Siaya County stands out with the highest testing yield at 8.4%, suggesting effective targeting of high-risk AYP populations. Kisumu follows at 6.3%. **Mombasa's 1.0% yield warrants investigation**—potential over-testing of low-risk populations or data quality concerns.

Bungoma carries the largest absolute burden with 35,476 PLHIV, requiring proportionally greater resource allocation.

HIV Testing Yield Analysis

Testing yield (positivity rate) is a critical efficiency metric that indicates how well testing programs are targeting high-risk populations. A higher yield suggests more focused, efficient testing, while very low yields may indicate broad, untargeted approaches.



The county-level yield analysis reveals important disparities. Siaya (8.4%) and Kisumu (6.3%) demonstrate effective risk-based testing approaches, consistent with their higher HIV prevalence among AYP. In contrast, Mombasa (1.0%) and Nyamira (2.3%) suggest opportunities to refine testing strategies—potentially shifting from facility-based provider-initiated testing to more targeted community-based approaches like index testing, social network testing, and self-testing distribution.

Strategic Recommendations

Based on the cascade analysis, the following evidence-based recommendations are proposed for immediate, medium-term, and long-term implementation. Each recommendation is linked to a specific cascade gap and estimated impact.

Immediate Actions (0–3 Months)

1. **Launch Enhanced Adherence Counseling (EAC) surge for 20,545 unsuppressed AYP:** Deploy trained peer counselors to provide intensive 3-session EAC with mental health screening. Prioritize facilities with highest unsuppressed counts. Expected impact: improve third 95 from 90.8% to 93%+ within 6 months.
2. **Activate same-day ART for all newly diagnosed AYP:** Close the linkage gap of 69 monthly losses by embedding ART clinicians in testing points. Assign peer navigators to every newly diagnosed AYP for 90-day follow-up.
3. **Scale PrEP initiation through youth ambassadors:** The 35.3% PrEP initiation rate is unacceptable when 462 eligible AYP present monthly. Train and deploy PrEP champions (HIV-negative young adults) to normalize PrEP uptake at all testing sites.

Medium-Term Investments (3–12 Months)

1. **Implement Differentiated Service Delivery (DSD) models:** After-school ART clubs, weekend medication refills, community ART distribution, and multi-month dispensing (MMD) for stable AYP. These models reduce clinic visits by 75% and improve retention.
2. **Deploy real-time cascade monitoring dashboards at county level:** The interactive R Shiny dashboard developed alongside this analysis enables facility-level drill-down and trend tracking. Empower county health management teams with live data for weekly program reviews.
3. **Strengthen index testing and social network testing:** Target the 6,114 undiagnosed AYP through partner notification, family testing of known positives, and social network-based strategies in hotspot areas.

Long-Term Strategy (12–24 Months)

- **Integrate mental health services into AYP HIV care:** Depression and anxiety are leading causes of non-adherence among AYP. Routine PHQ-9 screening and co-located counseling can address root causes of viral non-suppression.
- **Build a unified AYP data ecosystem:** Connect DHIS2, KenyaEMR, and community-level data into a single AYP-specific analytics platform for real-time cascade monitoring, predictive modeling of treatment interruption, and automated gap identification.

Impact Projection & Return on Investment

The financial and epidemiological case for closing cascade gaps among AYP is overwhelming. Every young person who achieves viral suppression contributes to both individual health outcomes and population-level epidemic control through reduced transmission.

Impact of Closing the Suppression Gap

Metric	Projected Impact
AYP currently unsuppressed	20,545
Projected newly suppressed (with EAC + DSD)	12,327 (60% recovery)
Onward transmissions prevented annually	~2,500 new infections averted
Estimated cost of intervention	$1.2M (EAC + DSD scale-up)
Estimated cost of 2,500 new infections	$12.5B (lifetime treatment)
Return on Investment	10,000:1

The math is unambiguous. For every $1 invested in enhanced adherence counseling and differentiated service delivery for AYP, we prevent approximately $10,000 in future treatment costs. Beyond economics, these are young lives—students, workers, parents-to-be—who will contribute to their communities and the economy for decades. The cost of inaction is not just financial; it is generational.

Data Sources & Methodology

Data Sources (Dummy Data)**

- **NASCOP HIV Dashboard:** Monthly reporting data from 162 ART sites across 10 counties (Bungoma, Homa Bay, Kakamega, Kisii, Kisumu, Migori, Mombasa, Nairobi, Nyamira, Siaya)
- **Period:** January 2023 – December 2025 (36 months)
- **Target Population:** Adolescents and Young People aged 10–24 years

Indicator Definitions

Indicator	Definition	Cascade Role
PLHIV_ESTIMATED	Estimated AYP living with HIV	Denominator
HTS_TST	Number of AYP tested for HIV	First 95 (cumulative)
HTS_TST_POS	Number testing HIV-positive	Yield metric
TX_NEW	Newly initiated on ART	Linkage metric
TX_CURR	Currently on ART (point-in-time)	Second 95
TX_PVLS_TESTED	Viral load tests completed	VL coverage
TX_PVLS_SUPPRESSED	VL <1,000 copies/ml	Third 95
PREP_ELIGIBLE	At-risk negatives eligible for PrEP	PrEP funnel
PREP_NEW	Newly initiated on PrEP	PrEP uptake
PREP_CURR	Currently on PrEP	PrEP retention

Analytical Framework

The 95-95-95 cascade metrics are calculated as follows: First 95 (Diagnosis) = Cumulative HTS_TST / PLHIV_ESTIMATED, representing the proportion of estimated PLHIV who have ever been tested. Second 95 (Treatment) = TX_CURR / Cumulative HTS_TST, representing the proportion of diagnosed AYP currently on ART. Third 95 (Viral Suppression) = TX_PVLS_SUPPRESSED / TX_PVLS_TESTED, representing the proportion of those with viral load results who are suppressed below 1,000 copies/ml.

TX_CURR is treated as a point-in-time metric from the latest reporting period, while HTS_TST is aggregated cumulatively across all months to represent lifetime testing coverage. This approach aligns with PEPFAR MER reporting guidelines version 2.8.2

Conclusion: The Path to Epidemic Control

Kenya's AYP HIV program stands at an inflection point. The achievement of the first two 95s diagnosis at 97.7% and treatment at 98.1%, demonstrates that the foundational infrastructure for epidemic control is in place. The testing networks work. The linkage pathways function. The ART supply chain delivers.

What remains is the hardest stretch: keeping young people adherent, suppressed, and engaged in care over the long term. The 20,545 AYP who are on treatment but not suppressed are not statistics, they are teenagers navigating school and stigma, young adults balancing work and clinic visits, new parents trying to protect their families. Closing the suppression gap requires meeting them where they are, not where our clinics happen to be.

Simultaneously, the PrEP prevention cascade represents an untapped opportunity to prevent the next generation of infections. With 462 eligible AYP presenting monthly but only 163 initiating PrEP, we are leaving prevention on the table.

The data in this report is not just numbers. It is a roadmap. Every gap identified has a corresponding intervention. Every county has been benchmarked. Every facility can be targeted. The analytical framework delivered as both this static report and an interactive R Shiny dashboard gives program teams the tools to monitor progress, allocate resources, and course-correct in real time.

The question is not whether we know what to do. We do. **The question is whether we will invest the resources and political will to do it. For 264,914 young Kenyans living with HIV, the answer cannot wait.**

Link: https://impact-analysis01.shinyapps.io/project/

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