

Emerging Adaptations and Innovations in HIV Testing for Prevention and Treatment

October 8, 2026

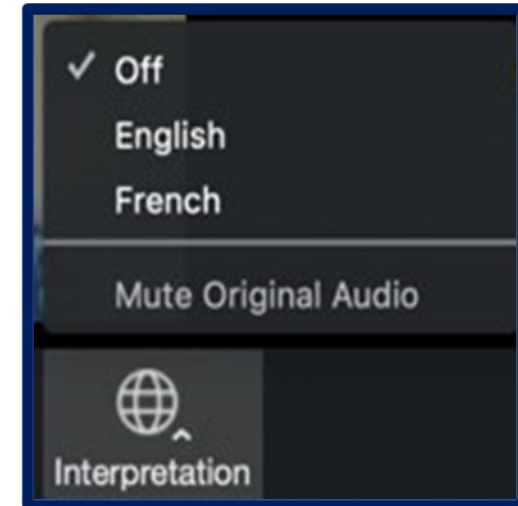


Welcome/Bienvenue



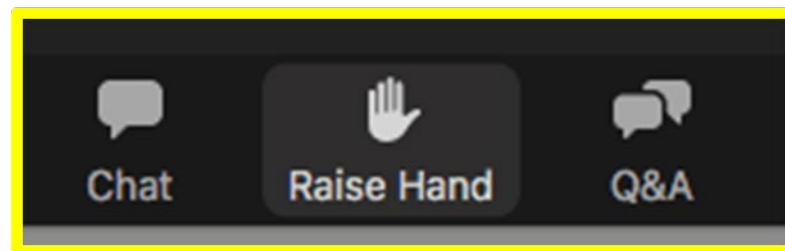
Violet Oramisi
Regional Strategic
Information Advisor
ICAP in Kenya

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Housekeeping

- 90-minute webinar with presentations followed by a panel discussion with Q&A
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- Slides and recordings will be available on the CQUIN website (cquin.icap.columbia.edu)



Agenda

CQUIN Framing Remarks:

- Maureen Syowai, Program Director, CQUIN/HIVE

WHO Update:

- Cheryl Johnson, Technical Officer, WHO

Country Case Studies:

- **Eswatini Case Study** - Setsabile Gulwako, National Monitoring & Evaluation (M&E) Analyst, MOH Eswatini
- **South Africa Case Study** - Alarice Marsh, HIV Testing Services (HTS) program lead, NDOH South Africa

Q&A /Panel Discussions

- Cheryl Johnson
- Setsabile Gulwako
- Alarice Marsh
- Ndivhuwo Rambau, Ritshidze, South Africa

Closing Remarks:

- Maureen Syowai, Program Director, CQUIN/HIVE

Presenters/Panelists



Maureen Syowai
CQUIN/HIVE Program
Director
ICAP in Kenya



Cheryl Johnson
Technical Officer
World Health
Organization, Geneva



Setsabile Gulwako
National M&E Analyst
MOH Eswatini



Alarice Marsh
HTS Program Lead
NDOH South Africa

HIV Testing for Prevention and Treatment in CQUIN Countries: Emerging Adaptations in the Context of Reduced Funding

Dr. Maureen Syowai, CQUIN/HIVE Program Director

Thursday, October 8, 2026



Outline

- Importance of sustaining HIV testing services (HTS) in the current environment
- Emerging opportunities and innovations
- Adaptations reported by CQUIN countries
 - Expanded HIV self-test (HIVST) use
 - Other cost-saving strategies – flexible, low-cost kit use
 - Other implementation strategies, including digital interventions
- Summary and webinar focus

HIV Testing Remains Pivotal for Both HIV Treatment and Prevention Services

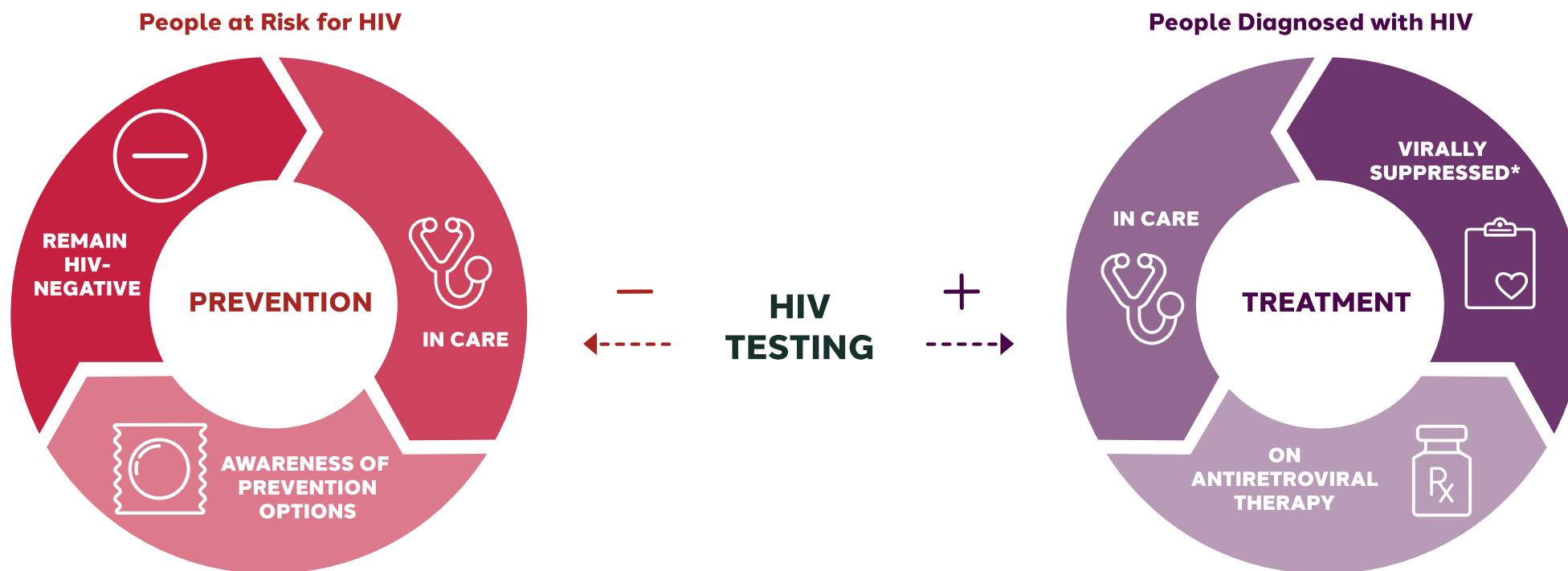


Image source: Gilead, adapted from Myers et al., 2018

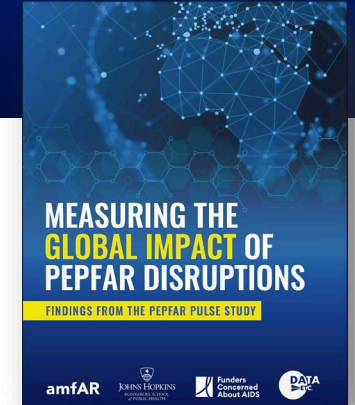
The HIV Network for Coverage, Quality and Sustainable Impact

Impact of PEPFAR Funding Cuts

Table 5: HIV Testing Services Reduced or Stopped by IPs as a Result of PEPFAR Disruptions, Among Partners That Previously Offered Each Service, % (n).

Testing: Among IPs Previously Offering Service (n)	Reduced	Stopped Temporarily	Stopped Permanently	Any Disruption
Community-based Testing (61)	42.6% (26)	14.8% (9)	24.6% (15)	82% (50)
Self Testing (50)	32.0% (16)	10.0% (5)	24.0% (12)	66.0% (33)
Facility-based Testing (54)	25.9% (14)	14.8% (8)	18.5% (10)	59.3% (32)

Note: Data include all IPs with terminated or delayed awards, excludes fully funded IPs.



- Survey of 166 PEPFAR Implementing Partners (IPs) from 46 countries
- 77% of IPs surveyed worked in Sub-Saharan Africa

22% reduction in PEPFAR spending on HTS from FY24 to FY25

Reduced HTS in CQUIN Countries and Impacts on ART and PrEP Cascades in 2025

Receiving HIV Testing

Country	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean Change
EC1													-11.4%
EC2													-16.2%
EC3													-10.5%
EC4													18.5%
EC5													-14.1%
S1													-14.7%
S2													-1.8%
S3													-16.1%
S4													-25.0%
S5													2.8%
S6													-7.7%
WC3													-22.7%
WC5													-40.1%
WC7													2.1%
WC8													44.6%

New on ART

Country	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean Change
EC1													-19%
EC2													-15%
EC3													6%
EC4													0%
EC5													0%
S1													-20%
S2													-7%
S3													-14%
S4													-4%
S5													-20%
S6													-20%
S7													-12%
WC3													-14%
WC5													-12%
WC7													19%
WC8													7%

≥20% reductions in volume of HTS, testing positive, ART initiations and PrEP initiations in many countries

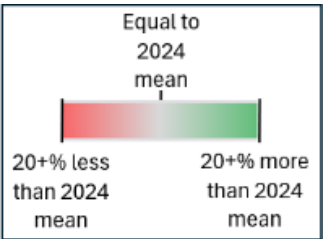
% Testing HIV Positive

Country	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean Change
EC1													-9%
EC2													3%
EC3													14%
EC4													-18%
EC5													-7%
S1													-8%
S2													-2%
S3													4%
S4													24%
S5													-22%
S6													-13%
WC3													7%
WC5													26%
WC7													10%
WC8													-30%

New on PrEP

Country	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Mean Change
EC2													-46%
EC3													-4%
EC4													-3%
EC5													-9%
S1													-46%
S2													-35%
S3													-66%
S4													10%
S5													-26%
S6													-16%
WC3													-74%
WC8													4%

Key



Notes: results are displayed as regions:

- “Western and West-Central” (WC);
- “Eastern and East-Central” (EC);
- “Southern” (S)

Emerging Opportunities: AI-Powered Entry Points

Conversational AI platforms, such as chatbots, are shifting from information delivery to measurable entry, triage and linkage across the HIV/SRH continuum.

45%

of Aimee users who chatted with AI took up HIV testing and/or PrEP

WEPEE534

Rethinking entry and access to care: AI-enabled self-care as HIV service infrastructure

N. Mtshali¹, A. Spyrelis², D. Rech³, P. Potsane¹, S. Smedinghoff⁴, N. Maricich⁵, C. Sokhela¹, S. Cooper⁵, W. Delva⁶, D. Roberts⁶, C. van Heerden⁶, S. Morris⁵, N. Tata¹, S. Frade⁷, J. Ratevosian⁸

95.8%

on-site HIV testing completion in a hybrid AI-human model using a WhatsApp chatbot at university residences

WEPEE472

Feasibility and acceptability of a hybrid AI-human model for HIV prevention among adolescent girls and young women in South African university settings

S. Thulare¹, N. Tata¹, L.P. Potsane¹, C. Sokhela¹, N. Mtshali¹

99.8%

resolution of support-linkage requests among 10,155 CHOMI users

THPEE565

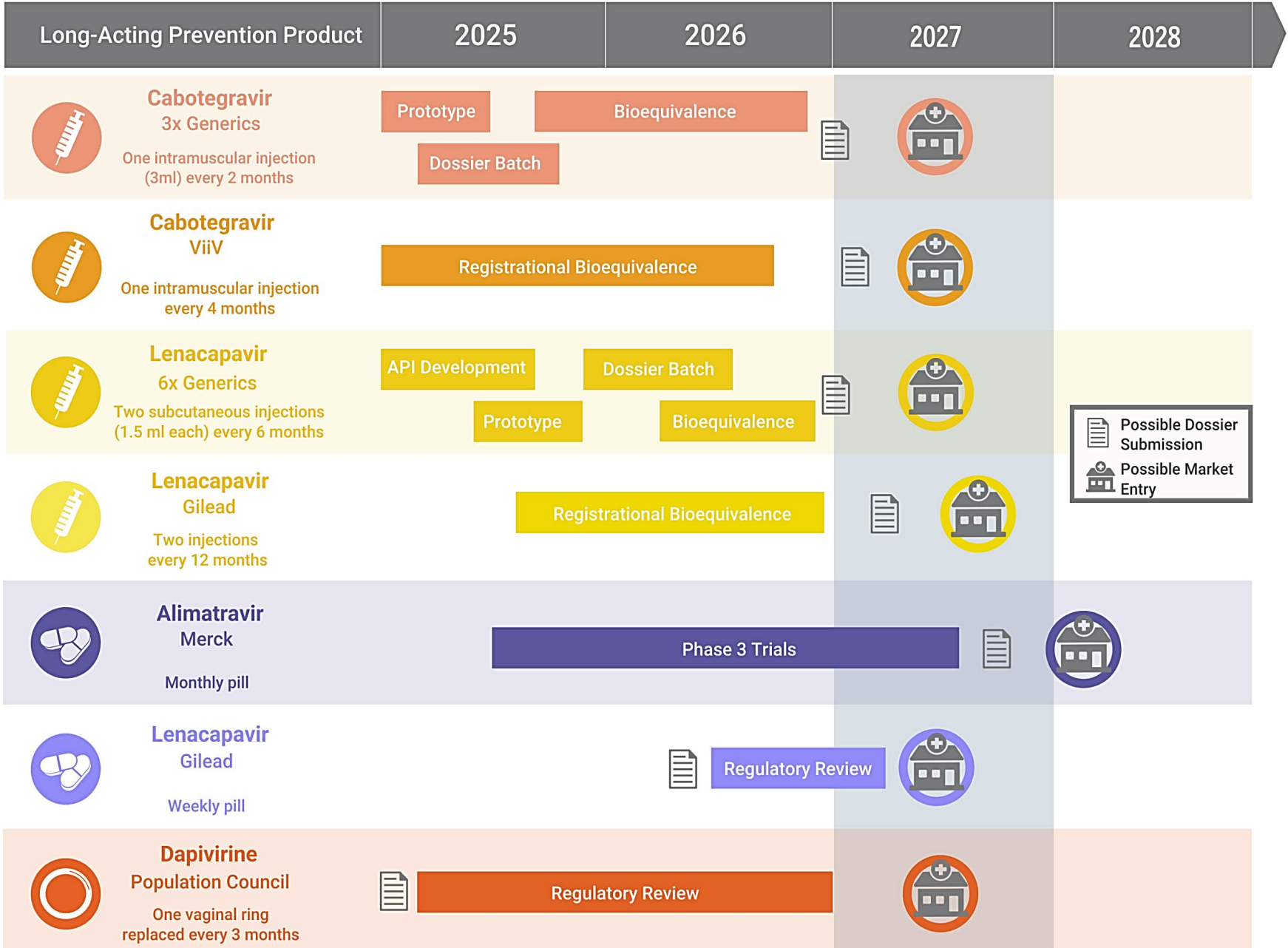
CHOMI: a scalable multilingual digital model for high-volume GBV case identification and integrated HIV/SRH service linkage in South Africa

V. Skiti¹, N. Tata¹, L.P. Potsane¹, C. Sokhela¹, N. Mtshali¹

AI products are increasingly the service pathway itself. These tools generate demand, support risk assessment and connect users to testing, prevention, treatment and human care

Source: AIDS 2026 Abstracts: WEPEE534, WEPEE472, THPEE565. Summarized by Duke Global Health Institute

The HIV Network for Coverage, Quality and Sustainable Impact



Emerging Opportunities: Expanding PrEP Options

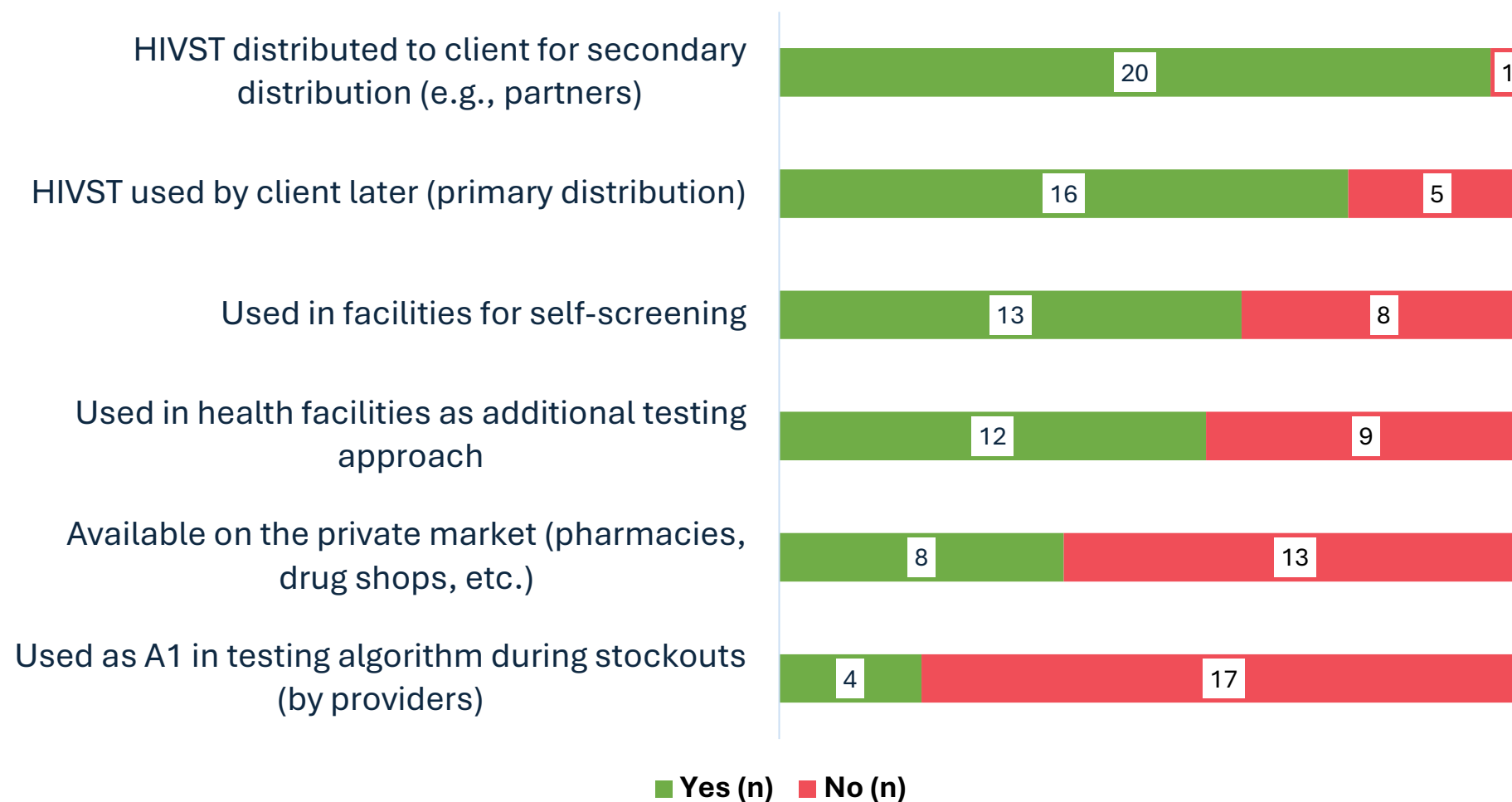
- Alimatravir (AMI) has two ongoing phase 3 efficacy trials:
- EXPrESSIVE-10 among cisgender women aged 16–30 in Kenya, South Africa and Uganda.
 - EXPrESSIVE-11 among men who have sex with men, transgender and gender non-binary individuals in 17 countries in the Americas, Africa, Asia and Europe.

AMI could be sold for as low as \$3 per person per year.

CQUIN Country Adaptations

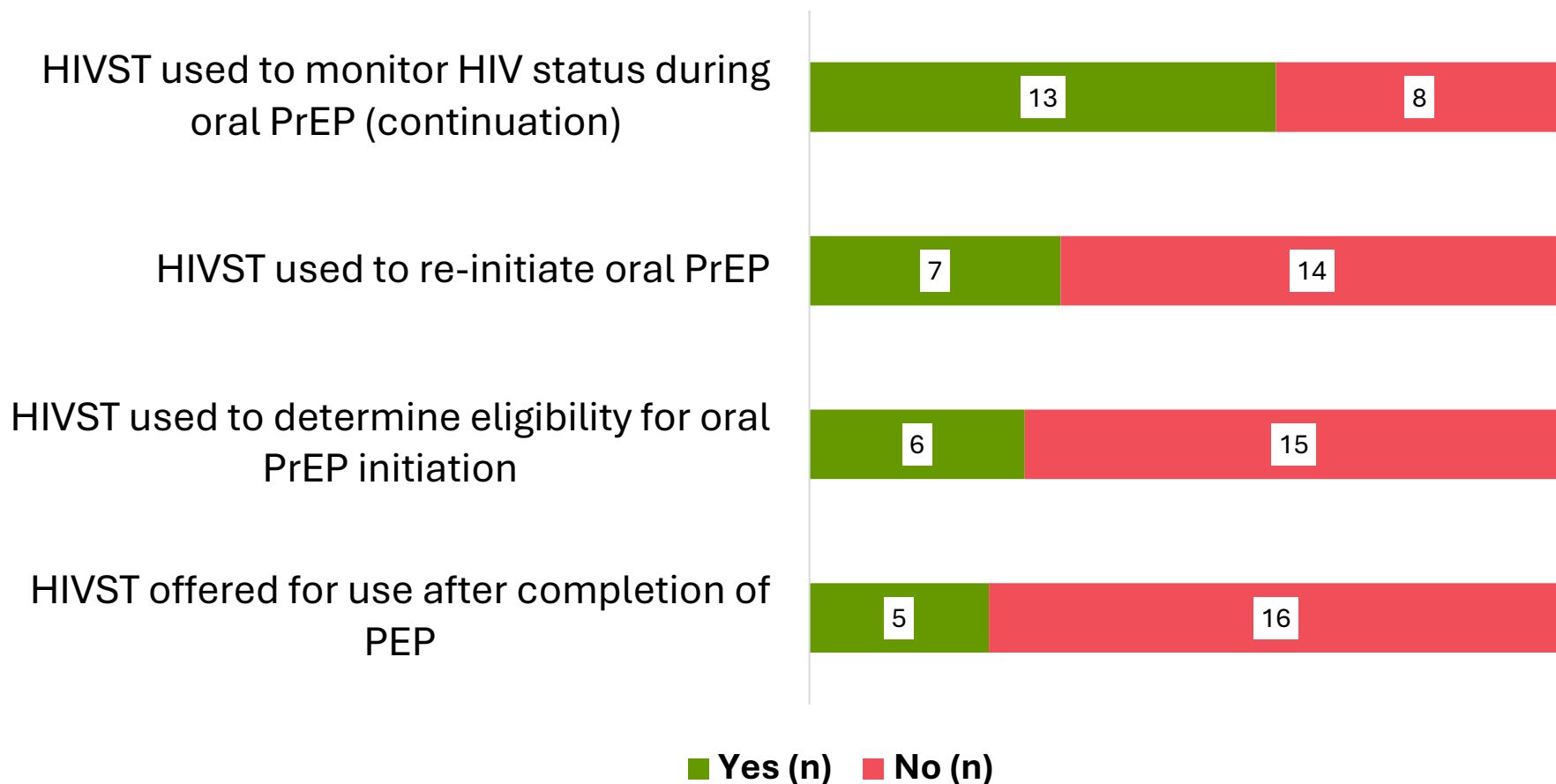
- CQUIN conducted an online HTS assessment of all 21 member countries from June-July 2026
- HTS coordinators submitted one response per country, working closely with MOH teams
- Questions assessed:
 - HIVST implementation, including the scale-up of blood-based HIV self-testing (BBHIVST).
 - Other cost-saving measures, including adoption of low-cost A1 HIV test kits and redesign of HIV testing algorithms.
 - Other adaptations and strategies to sustain HTS, including changes out of necessity and innovative approaches.

HIVST For Case Finding (N=21)



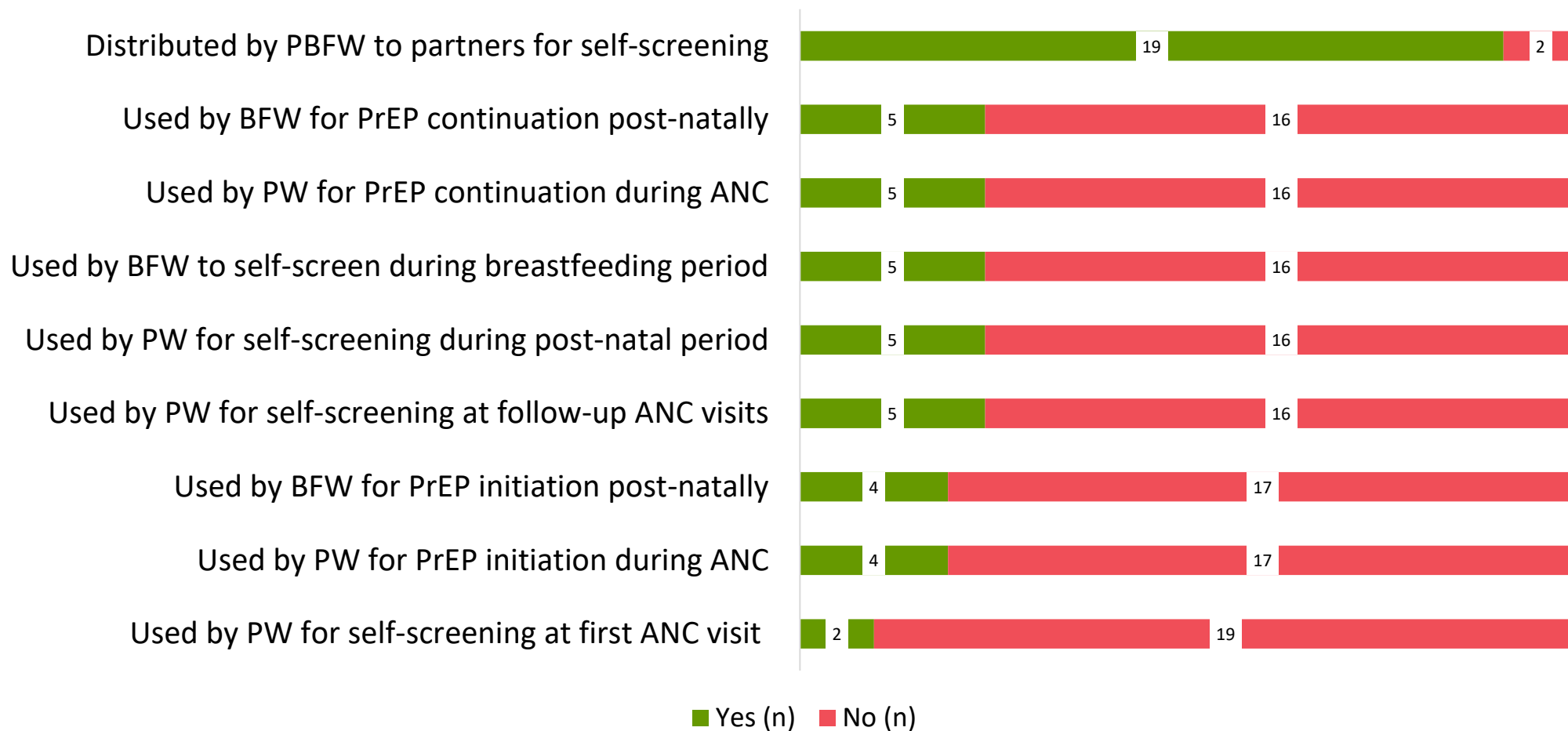
- Most commonly used via primary and secondary distribution by clients.
- Opportunities to expand HIVST use in HFs and the private sector

HIVST For Prevention (N=21)



- HIVST most often used for PrEP continuation.
- Opportunities to expand HIVST use across prevention, including for PrEP initiation.

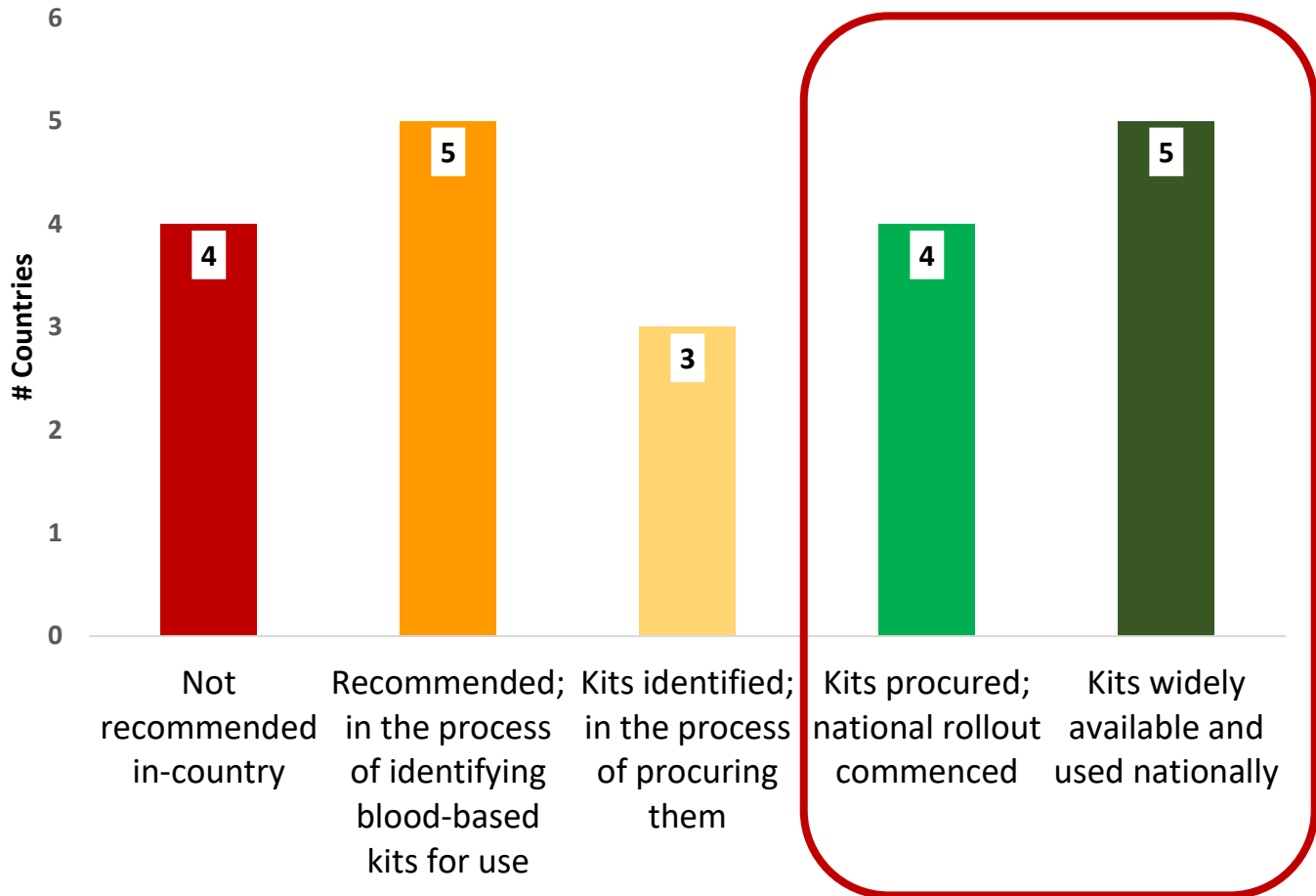
HIVST Use for Vertical Transmission Prevention (N=21)



- HIVST use predominantly focused on partner testing
- Opportunities to expand use throughout VTP services

Adoption and Scale-up of Blood-Based HIVST

Status of BBHIVST Rollout (N=21)



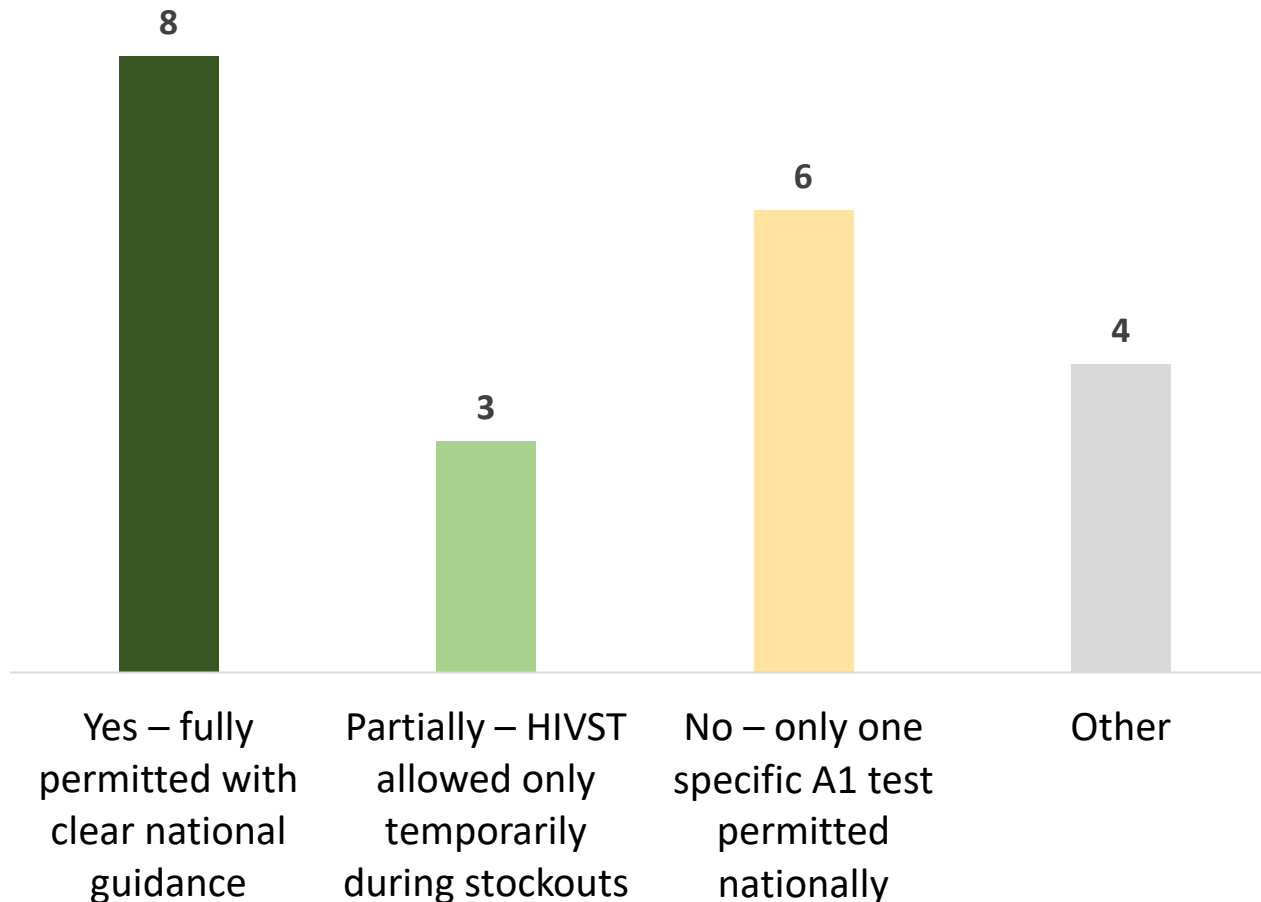
Why BBHIVST?

- Effective: sensitivity and specificity comparable oral-based HIVST
- Efficient: up to 2.5x cost reduction

BBHIVST is fully rolled out in Rwanda, Nigeria, Uganda, Tanzania and South Africa

National Algorithm Allowance for Alternative/Replacement of the A1 Screening Kit

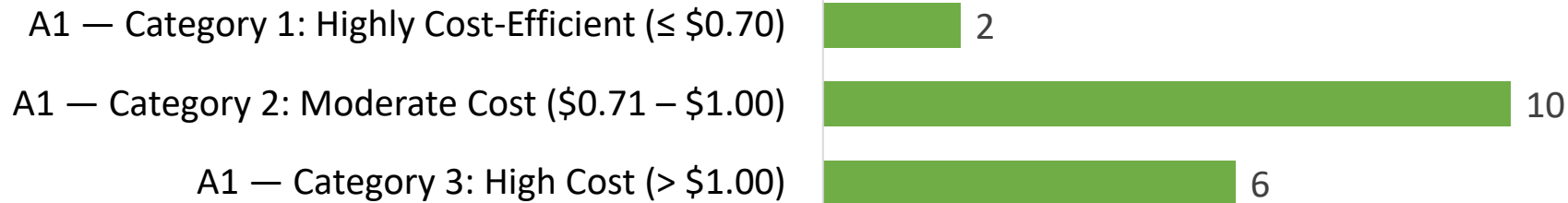
Flexibility to substitute the A1 screening kit (N=21)



- Substituting with a different WHO-prequalified screening kit is recommended when the preferred first-choice kit is unavailable.
- Only 11 of the 21 network countries permit full or partial replacement of the A1 screening kit.
- Four countries reported use of HIVST by a provider is permitted as a temporary screening option within the algorithm during A1 stock-outs or shortages.

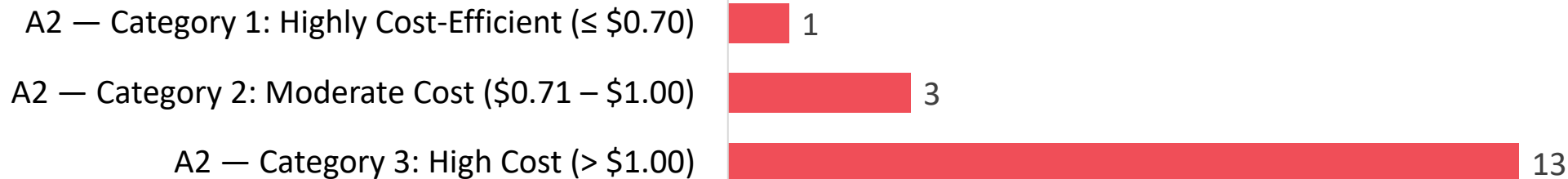
Opportunities to Reduce HIV RDTs Costs in National Algorithms

A1 (N=18)

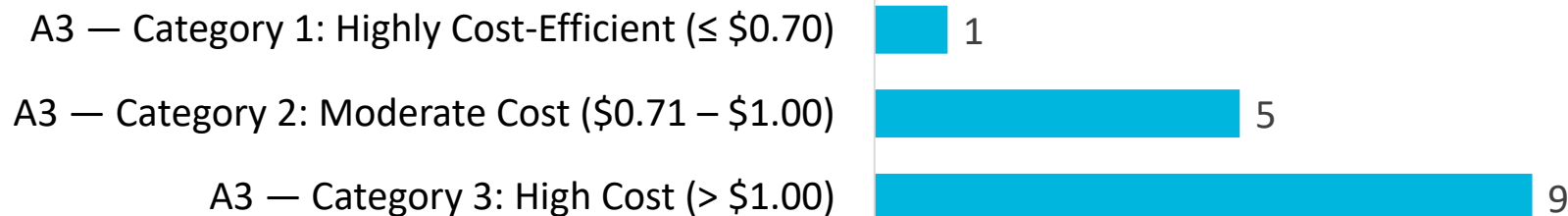


Category 1 RDTs:
Uni-Gold/Mylan
Geenius

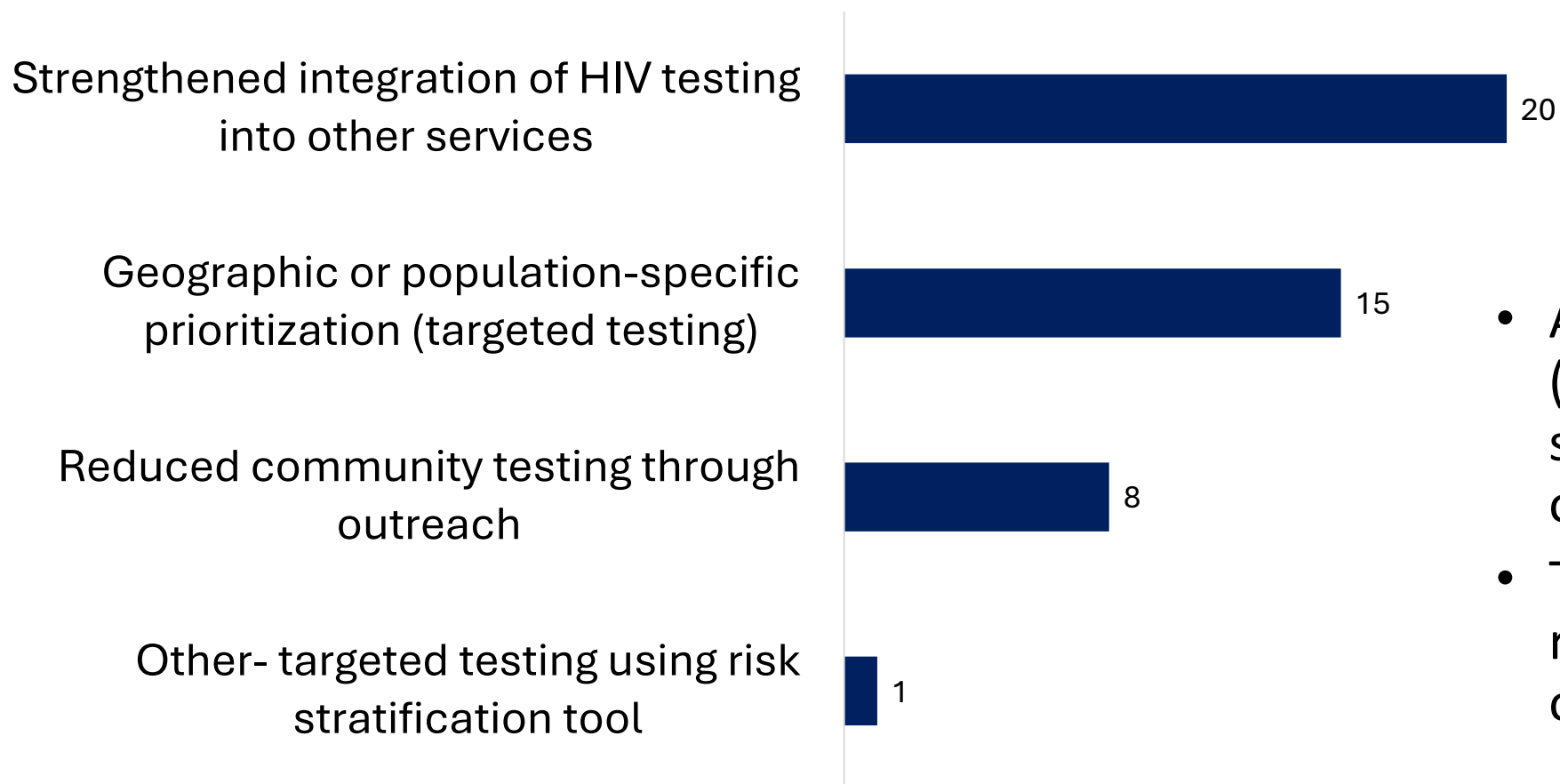
A2 (N=17)



A3 (N=15)

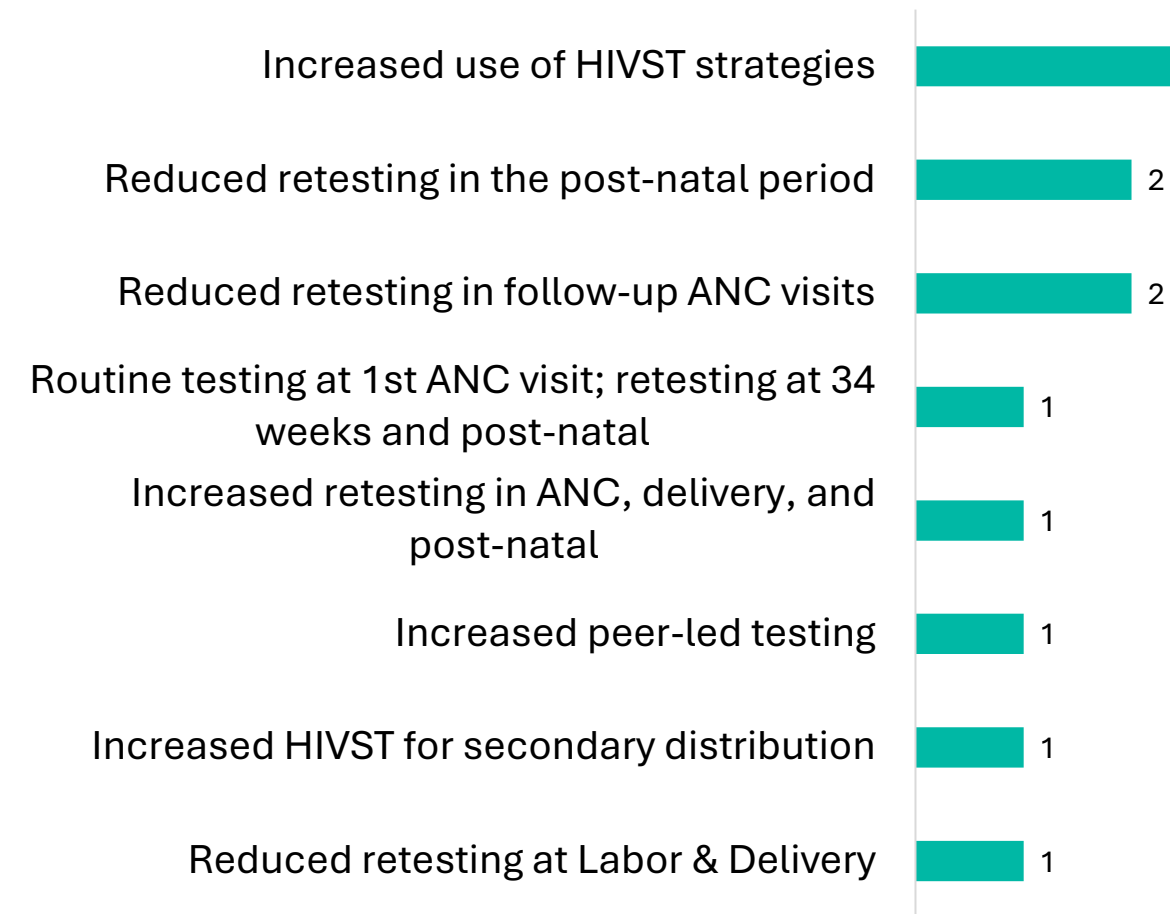


Adaptations to HTS for General Populations (N=21)



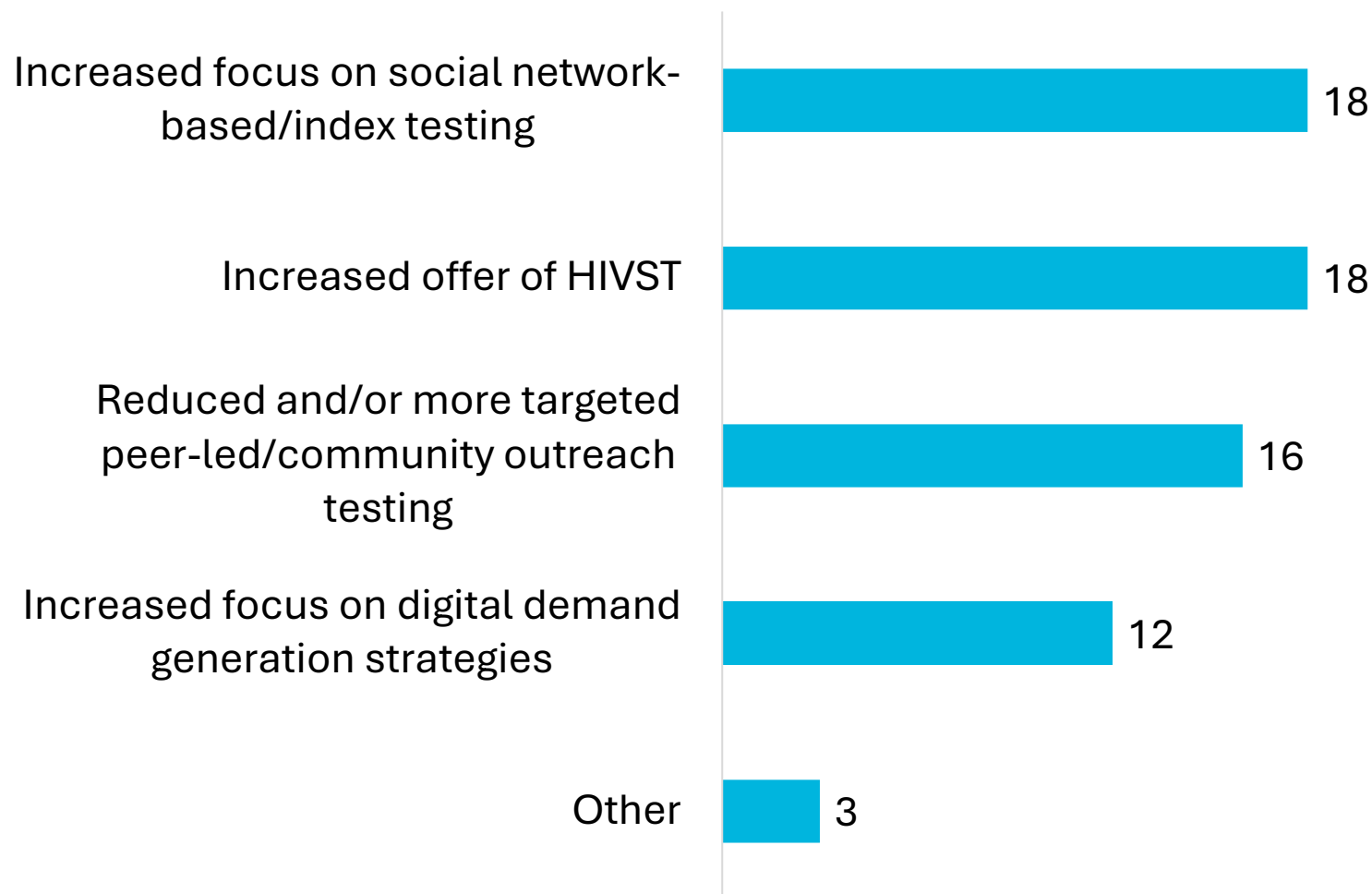
- Almost all countries (20/21) reported strengthening integration of HTS into other services.
- The majority (15/21) reported more prioritized or targeted testing.

Adaptations to Sustain HTS for PBFW (N=21)



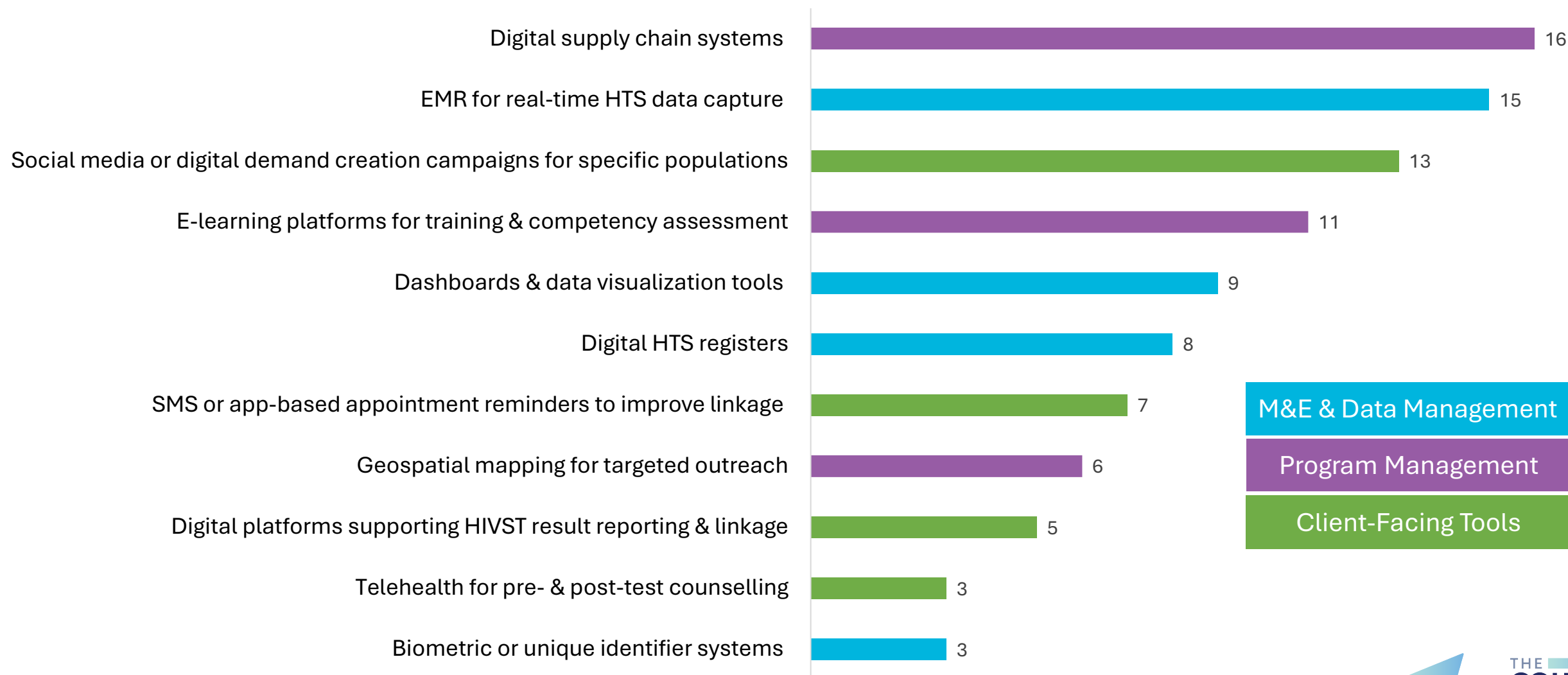
- Fewer adaptations reported among PBFW, most common was expanded HIVST use.
- Despite HR, commodity and funding cuts, the majority of countries did not reduce retesting within the ANC and PNC period.

Adaptations to HTS for Key Populations (N=21)



Key strategies include more targeted testing, expanded HIVST use and digital demand generation

Use of Digital Health Technologies to Support HTS Program Performance (N=21)



Summary

- HIV testing remains a pivotal strategy for achieving both HIV prevention and treatment targets.
- As financial resources shrink and new products and technologies emerge, countries must adopt novel approaches that leverage both available resources *and* innovations to improve access to HIV testing and linkage.
- This webinar will:
 - Share current WHO guidance on optimizing HIV testing, and priorities for self-care and use of digital/AI-enabled interventions.
 - Showcase two countries that are leveraging innovative digital tools to overcome barriers and inefficiencies, expanding access to HIV testing for treatment and prevention.

Thank You



Optimizing HIV testing for prevention and treatment

WHO guidance, self-care, AI and what comes next...

Dr Cheryl Case Johnson
Global HIV, Hepatitis and STI Programmes, WHO Geneva
CQUIN Webinar – 8 October 2026



Global context

- Budgets down globally
 - \$2.1 billion reduction in external funding for HIV
- Shifts in testing – including reductions in HIV testing emerging
 - Varies by country but commodity & commodity shortages globally
 - HIV-only rapid tests down 33%
 - HIV self-testing down 66%
- Integrated testing growing
 - ANC testing largely unchanged driving trends
 - Dual HIV/syphilis testing (+ triplex & bundles) up at least 47%



STOCK STATUS

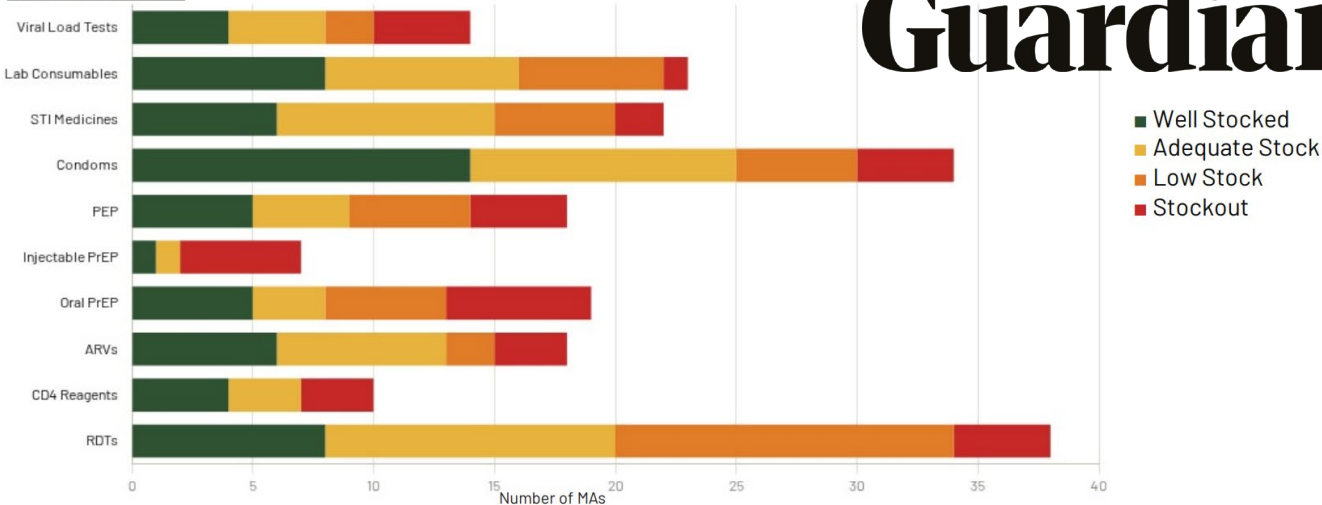


Table 1. Changes in Key HIV Service Indicators Across Reporting Countries, 2024–2025

Indicator	Prevention	Testing	Adults on Treatment		Pediatrics on Treatment		Monitoring	Advanced Care
	Number of Oral PrEP initiations	Number of Tests run	Number of new ART initiations	Total number on ART	Number of new ART initiations	Total number on ART	Viral Load tests run	CD4 tests run
Percent change 2024 to 2025	-42% (10 countries)	-12% (8 countries)	-9% (8 countries)	+0.6% (8 countries)	-15% (8 countries)	-11% (9 countries)	-21% (10 countries)	-35% (6 countries)

Note: Percentage change calculated as aggregate across all reporting countries, comparing full-year 2024 totals to full-year 2025 totals, except for total number on ART, which is calculated using Q4 2024 totals compared to Q4 2025 totals.

severe decline moderate decline increase



Country example: South Africa

If declines in HIV testing continue means:

- 29,098 fewer people diagnosed
- 24,928 fewer ART initiations
- Increased # of people presenting later with greater risk of AHD
- Costs of reduced testing don't disappear but shift and grow

HIV testing mix shifts?

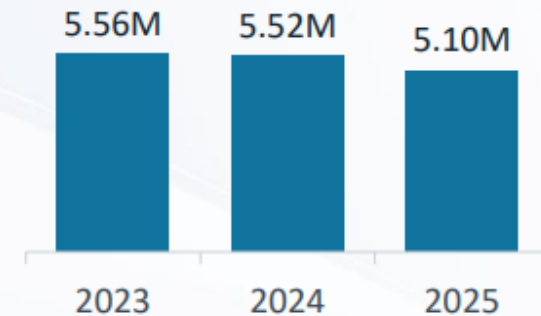
- ANC retained
- Uneven facility-based testing without self-testing
- Scaled-back network testing, community testing and self-testing



HIV-positive results and ART initiations declined disproportionately

Gauteng Province, annual totals, 2023–2025

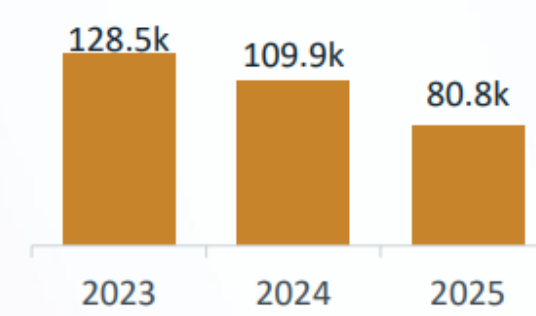
HIV tests



-7.7% in 2025 vs. 2024

423,239 fewer HIV tests

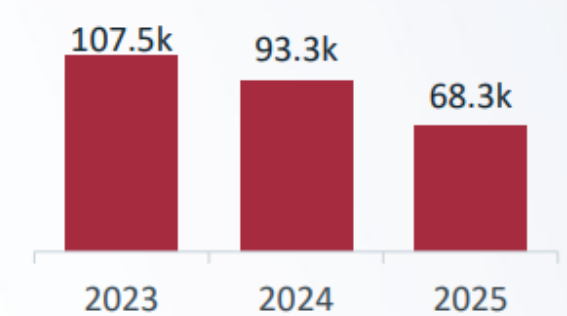
HIV-positive tests



-26.5% in 2025 vs. 2024

29,098 fewer HIV positive tests

ART initiations



-26.7% in 2025 vs. 2024

24,928 fewer ART starts

In comparison 2024 vs 2023:

HIV tests -0.8% · HIV-positive tests -14.5% · ART initiations -13.2%

RESULTS

ve | ams



WHO recommended HIV testing approaches



Facility-based: Offering HIV testing in a facility, e.g. VCT, in-patient and out-patient clinics, ANC, **TB, STI, family planning/contraceptive services**



Community-based: Offering HIV testing in natural setting of the community, e.g. outreach, CBOs, workplace, clubs, bars.



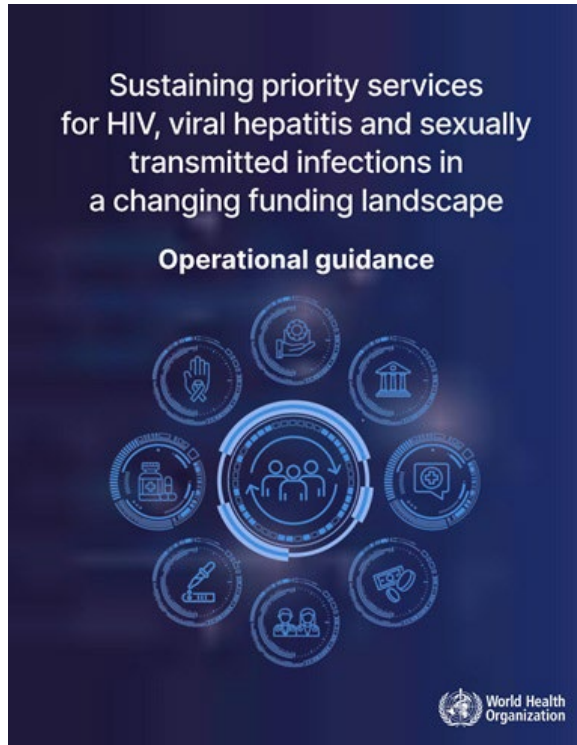
Network-based testing services: Range of approaches (partner services, social network, family/household testing) that extend testing, as well as offer of prevention and treatment, by supporting individuals to disclose to, refer for testing, and/or distribute self-tests to partners, families, and other members of their social networks.



HIV self-testing: Offering self-test kit for individual, and/or their partner, enabling them to collect their sample (oral or blood), perform test, and interpret results in private. All reactive results need confirmation.



WHO prioritization guidance – HIV testing considerations



Tier 1

- Facility based HIV testing (symptomatic and priority populations)
- Targeted community-based testing
- Flexible self-testing

Tier 2

- More routine facility-based HIV testing – including for hepatitis
- New multiplex (more guidance and evidence pending)

Focus on self-tests & low cost Dx, reduced testing or monitoring frequency including PrEP; Deprioritize unnecessary tests (e.g. recency & NAT for adult Dx (>18 months))

Average weighted price for HIV RDTs & HIVST has largely been stagnant despite availability of low-cost options compared to WHO catalogue. Most countries paying more than 100% times the lowest cost WHO prequalified or ERPD option.

Three shifts to operationalize for WHO guidance on HIV testing

1

Low-cost quality tests

Choose WHO-prequalified rapid tests and self-tests on price as well as performance. Pool volumes and widen the supplier base.

Lowest cost HIV RDTs: \$0.41-0.53

2

Interchangeable algorithms & HIVST

Verify more than one product for each step of the three-test strategy, so a stockout or price change never stops testing. HIVST for A1 where needed.

3

Self-care: leaner systems & workforce

Task sharing with trained lay providers, blended and on-the-job training, and self-care including self-testing in facilities to free provider time and reduce workload.

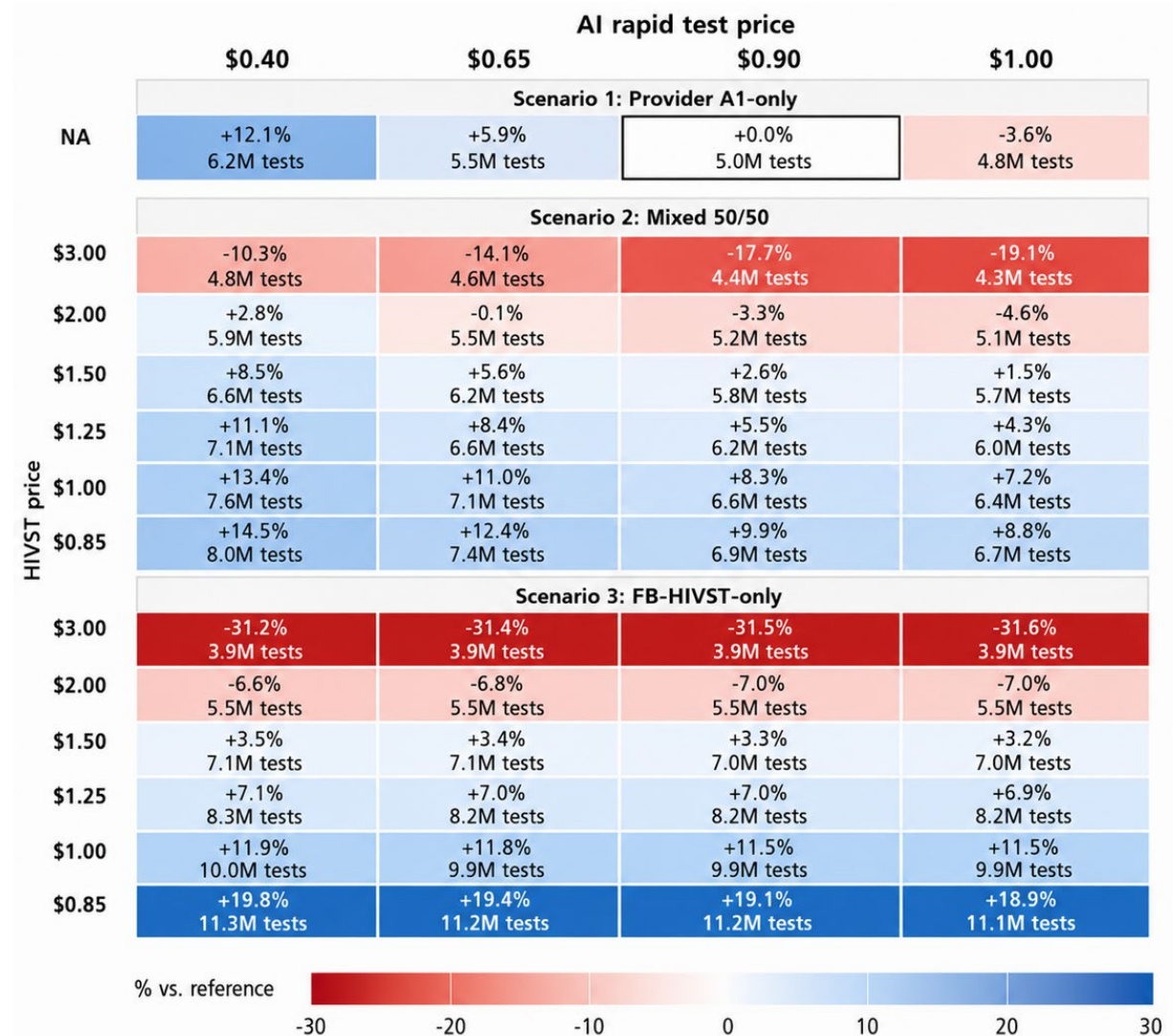
Low-cost HIV diagnostic tests: Why now?

- **Test price reduction was the most robust strategy** for increasing ART initiations within a fixed testing budget.
- **FB-HIVST can improve efficiency when sufficiently inexpensive** — approximately **≤\$1.50/test at current A1 prices** — or where workforce constraints make self-testing particularly valuable.
- **Procurement is a programme intervention**: lowering commodity prices can preserve testing coverage and maximize impact per dollar.

BEFORE CUTTING HIV TESTING, CUT THE PRICE OF THE TESTS

Lower commodity prices can increase ART initiations within existing budgets while protecting testing coverage. Programmes and procurers should prioritize price negotiation and access to low-cost, quality-assured

products.



Source: Grimsrud et al Sept 2026

How much could we save by a move to a less costly testing?

*By moving to the lowest price tests (± 0.55 for an RDT and ± 1.00 for an HIVST), **across the 13 priority countries** (excluding South Africa), we could save **\$13 million/year on HIVST, and \$25 million/year on RDTs***

That amount of savings could pay for antiretroviral medication for >800,000 people for one year.

Simple WHO quality management systems (QMS) testing tool kit

WHO's QMS toolkit for non-lab settings*

- Simple, multi-disease tools - essential activities where QMS is donor-funded (e.g. RTCQI+)
- Continue to prioritize pushing industry to cover more QA/QC and training costs

Optimized and sustainable QMS priorities

Decentralize tasks

- Local simplified + streamlined training + competency-based assessments (eg: by site supervisor)
- Regional/district lab staff conduct annual site visits (site prioritization)

Simplify documentation

- Update SOPs and aids annually or when tests change

Simplified or periodic testing prior to ART initiation or deprioritize

- Single RDT (not full algorithm before ART), periodic instead of routine, and/or only low performing sites/testers
- Deprioritize if not feasible or no funds

External quality assessment (EQA)/PT scheme

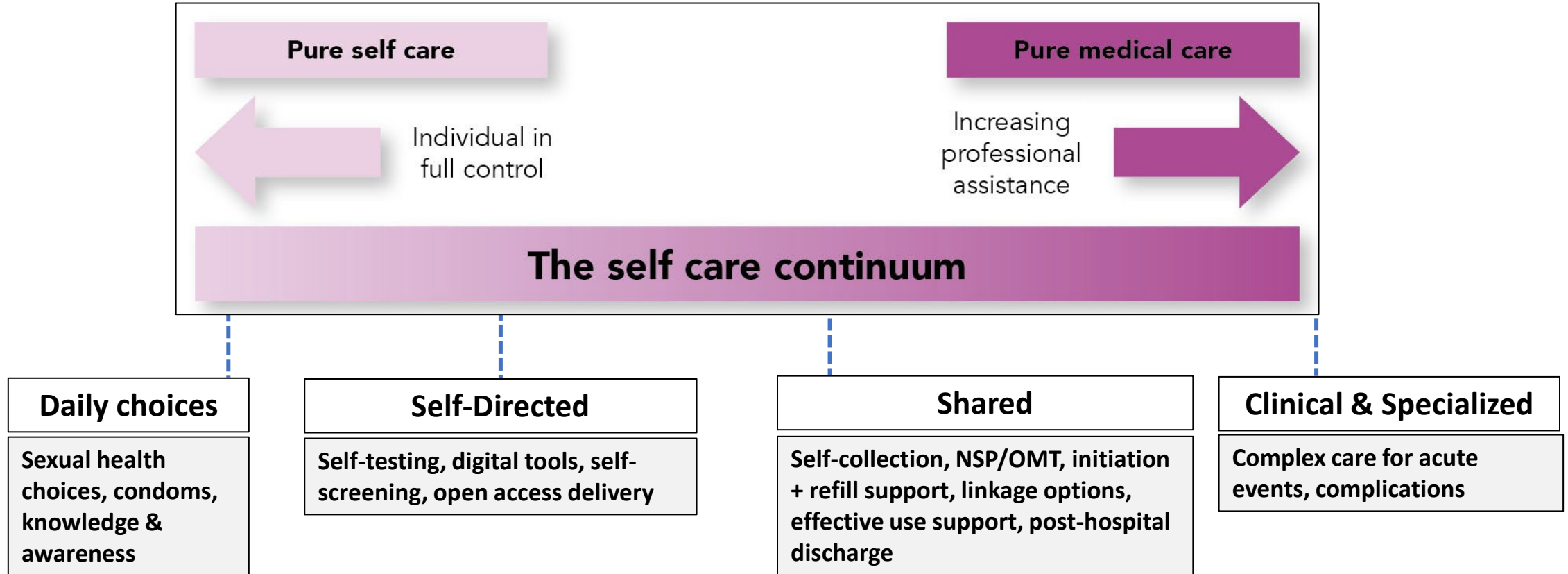
- Frequency: 1x per tester, 1x per year
- Use ISO-certified, or local dried tube specimens (DTS), or blinded site samples

External quality control/use of known positive and negative samples (QC)

- Frequency: new batches, new staff, or following test exposure to environmental conditions
- Use commercial sample or local DTS or site-characterized and stored samples
- M&E: collect testing data, core indicators on-site analysis (Number of tests, %pos, %invalid, % inconclusive)
- Occurrence management and PMS: in case of unexpected results, conduct root cause analysis and action PMS

Self-care delivery is dynamic

Self-care delivery operates on a continuum



What is self-care?

- “Redistributes aspects of monitoring, decision-making, and health management toward individuals, families and communities”
- Examples include:
 -  Self-testing
 -  Digital tools
 -  Self-management
 -  Self-directed decisions

Self-care asks: What can people safely do for themselves?

Not a transfer of responsibility away from health systems

DSD ≠ Self-Care

But lots of common ground

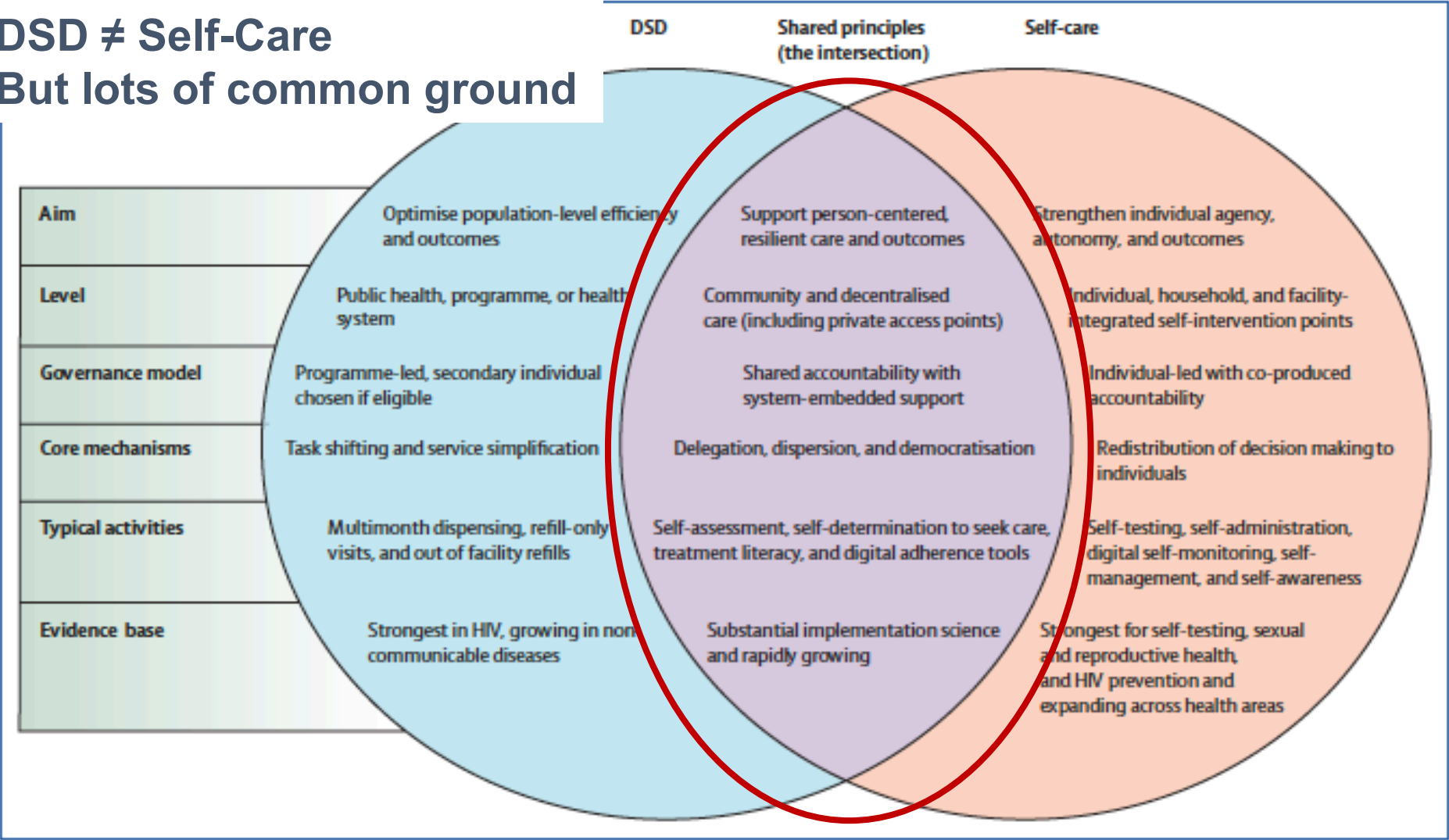
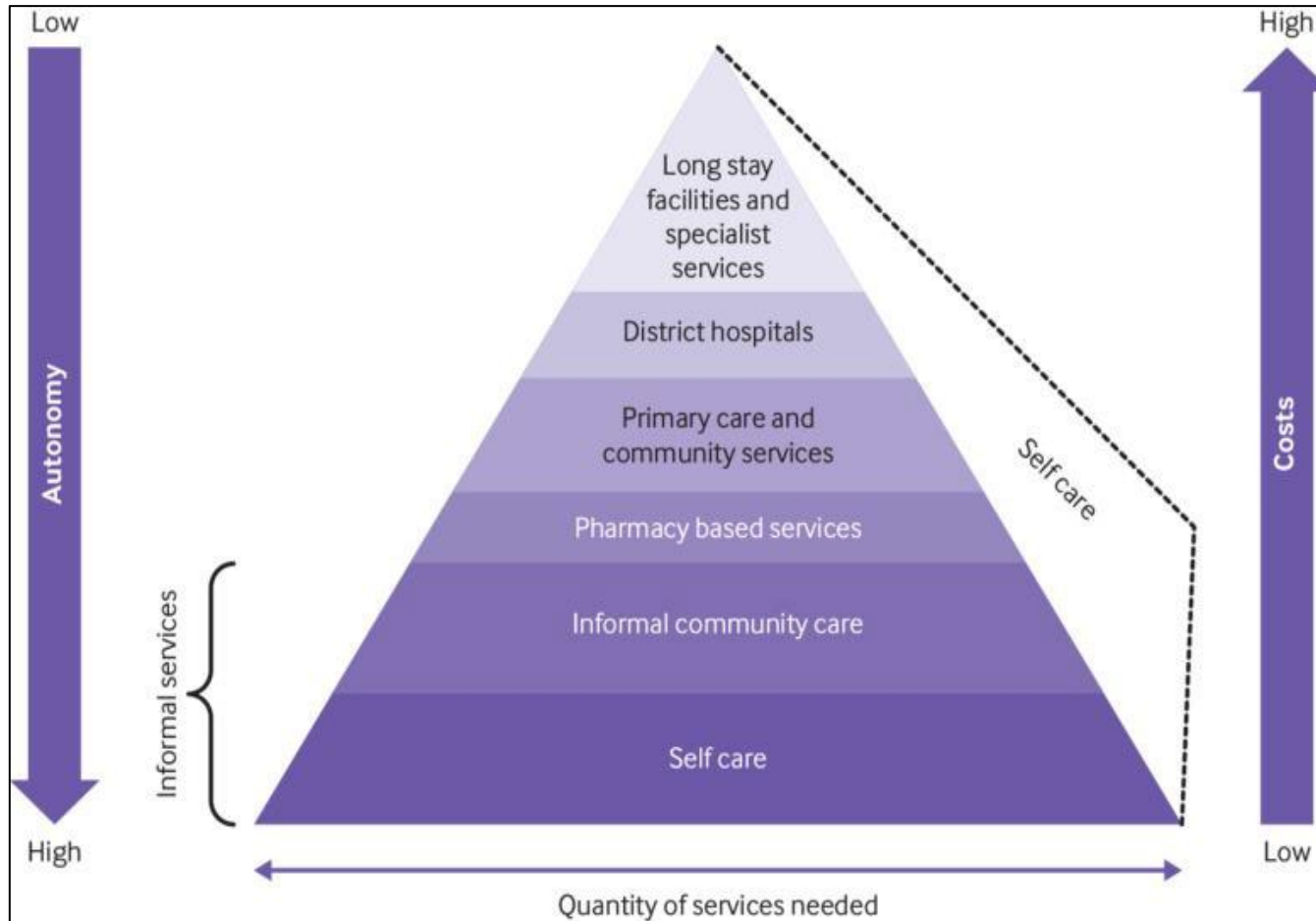


Figure: Conceptual convergence of DSD and self-care in HIV
The diagram illustrates the distinct yet overlapping domains of programmatically driven DSD and individual-led self-care. The intersection highlights shared principles, including delegation, decentralisation of care, digital health, and shared accountability, in person-centred HIV services. DSD=differentiated service delivery.

Self-care adds:

- 👤 Individual-centered & -led approach
- 💛 Recognizes & strengthens agency
- 📱 Harnesses decision-making power
- ⚠️ Confronts external requirements, permissions, verification & policing-like systems

Self-care at any level



Self-care ≠ home-based everything

Self-care can fit across service delivery points

Examples like facility-based self-testing

What we know about HIV self-care so far?

Testing

ESTABLISHED

- ✓ HIV self-testing proven & somewhat scaled (varies by setting but >100 countries)
- ✓ **HIVST as first test in algorithm (still emerging)**

⚠ Equity & scale-up barriers

Prevention

ESTABLISHED & EMERGING

- ✓ Condoms self-directed
- ✓ Harm reduction self-directed
 - ✓ PEP self-directed
- ✓ Oral PrEP self-directed with multi-month dispensing

LA-PrEP self-directed (forthcoming)

⚠ Gatekeeping, policy lag, regulation & scale-up barriers

Treatment

EMERGING & NASCENT

- ✓ Tx multi-month dispensing
- ✓ STI self-sampling & FP self-directed
 - ✓ Disclosure self-directed
- ✓ Co-morbidity self-management (e.g. BP, mental health, diabetes)

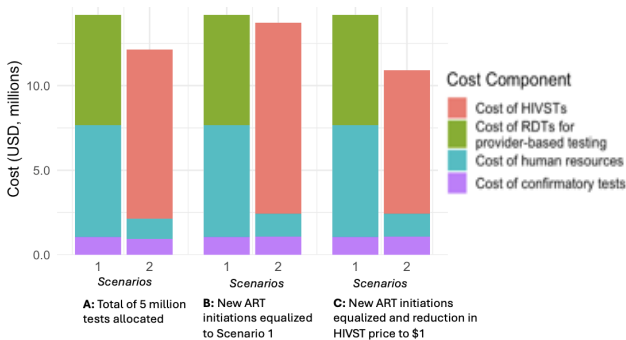
Tx self-directed (nascent)
Tx self-monitoring & management (emerging)

⚠ Gatekeeping, policy lag, regulation & literacy barriers

Digital and AI-tools that improve demand, self-efficacy, refill timing, follow-up and self-monitoring (emerging)

Potential cost-effectiveness of HIVST scale-up?

- Multiple modelling studies indicate HIVST could be cost-effective and introduce programme savings



Country-facing calculator in development for local planning for optimal savings for HRH and HIVST

- Routine HIVST use in facilities overall can **save ~15-23% with up to 85% reduction in staff-time** (most impactful with HIVST \$1 or less)
- HIVST + PrEP modalities could **avert 11% of new HIV infections in South Africa**, 2026-2036, with a cost-effectiveness ratio of US\$652/DALY, and savings could fully fund tailored services for MSM and FSW and still reduce total provider costs by 1% in South Africa
- Could **cut programme costs by 7%** and avert DALYS and **cost-effective at threshold of \$300 per DALY** if embedded in African pharmacies deploying HIV self-care (self-test + ARVs including PrEP)
- Pharmacy-based approach can also: more than **doubled testing coverage, reduced HIV-related deaths by 18%** and **HIV incidence by 27% over 10 years, reduce programme costs by US\$6 million over 50 years**, has strongest value in higher-prevalence contexts and can further reduce costs by **preventing advanced HIV disease and avoiding expensive clinical care**.

ARTICLE IN PRESS

Articles

Sustaining progress in HIV care in Africa with a transition to enabled self-care: a modelling study

Andrew N Phillips, Kanyo Mwangi, Valerienne Condo, Lwendo David Ndlovu, Jennifer Smith, Eugénie Sibanda, Cheryl Johnson, Brooke C Nichols, Graham Smith, Frances A Cowie, Fred Bwala

Summary

Background The funding crisis for HIV services in east, central, southern, and west Africa means that innovative strategies for continuing prevention and care for HIV are needed. One such strategy is enabled self-care: the provision of free HIV self-tests, pre-exposure prophylaxis (PrEP), tenofovir-dolutegravir (TLD) for post-exposure prophylaxis (PEP), and antiretroviral therapy (ART) provided in local pharmacies and by community-based health workers. We modelled the introduction of a policy of transition to enabled self-care compared with continuation of current service provision.

Methods We used an established individual-based model (HIV Synthesis) to simulate HIV epidemics in 1000 setting scenarios representing diversity in setting characteristics across east, central, southern, and west Africa, and uncertainty in parameter values. For each setting-scenario, we simulated 100,000 people aged 2-15 years between 1990 and 2020. The model incorporates ART access informed by studies of barriers to accessing clinics. Our main outcomes included the number of adults testing for HIV in a 5-month period, PrEP and PEP use, coverage of people on ART, HIV-related deaths, HIV incidence, perinatal transmission, DALYs, and costs. We chose 50-year time horizons to capture the full effects of the policies. For each setting-scenario, we performed three replicate runs for each of the two policies and for each policy took the mean across the three runs.

Findings Our model estimated that transitioning to enabled self-care would lead to increases in testing from a median of 5.0% (95% range 2.3-11.5) of adults testing per 1 month to 12.7% (8.2-21.3), an increase in PrEP and PEP use (+8.5% of adults (8.4-2.2)), and an increase in ART coverage for people with diagnosed HIV (+1% (0-3)) with enhanced benefits in those previously without access to PrEP and testing services. Enabled self-care was predicted to result in a median 18% (95% range 4-33) fewer HIV deaths, and a relative rate of 0.73 (0.52-0.94) in terms of HIV incidence per 100 persons-years over 10 years. Overall, over a 50-year time horizon, enabled self-care was predicted to cut discounted programme costs by \$6.9 million (5.6-8.4), a 7% discount, avert 14,000 (12,200-15,800) disability-adjusted life-years (DALYs), and be cost-effective (at a cost-effectiveness threshold of US\$500 per DALY averted) in 95% of setting scenarios. The mean undiscounted annual cost per adult in the population per year across setting scenarios was US\$12 (median \$11 (95% range 9-23)). The higher the HIV prevalence was in a setting scenario, the more cost-effective the policy was found to be (p-value < 1.0E-5; 1.25-1.40 per 1% higher HIV prevalence).

Interpretation Introduction of community access to self-tests and antiretroviral drugs through a transition to enabled self-care is very likely to be cost-effective in most settings in east, central, southern, and west Africa, enable incidence declines to be sustained at reduced cost, and improve equity of access to HIV services. Policy makers when to consider such a policy will need to evaluate its feasibility in their own country settings.

Funding UCL and Gates Foundation.

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Introduction

HIV incidence in east, central, southern, and west Africa has declined over the past 20 years, although approximately 900,000 new infections occur per year. One key reason for the decline has been the improvements in the HIV care cascade, as countries have moved towards achieving the UNAIDS 90-90-90 and, more recently, 95-95-95 targets: whereby 95% of people living with HIV know their status, 95% of those diagnosed receive ART, and 95% of those on treatment achieve viral suppression. A major challenge now for ministries of health in the region is how to maintain or even accelerate this progress when donor funding is substantially reduced. The acute funding crisis comes after a period of positive development. The introduction of dolutegravir has substantially decreased the risk of resistance development, and the cost of branded dolutegravir-dolutegravir (TLD) has declined to less than US\$15 per year. Branded HIV self-tests with high sensitivity, which are prequalified by WHO, are also now available at \$1 per test or less. Antiretroviral development is the



Source: Nichols et al IAS 2025, Phillips et al 2026, Mital 2023, https://hivst-hst-tradeoff.shinyapps.io/hivst_deployed/

Potential value add of AI and digital?

For clients

Optimizes engagement, virtual outreach, chat-based guidance, support and navigation.

For providers

Smooths workflow, capacitates non-expert providers, flags re-engagement, avoid unnecessary recall, retesting and bi-directional services.

For programmes

Better targeting, forecasting and placement of testing, using data countries already hold.

Considerations: Does it solve a real bottleneck? Is it locally validated, accessible and aligned?

Potential digital and AI along pathway – including self-tests

Step	What the tool does	Technique	Evidence
Reach	Online outreach and self-test ordering; e-coupons track network referrals	Audience mapping and targeting	In WHO guidance since 2022
Guided care, including self-tests	Questions and prompts; pre-test information and step-by-step instructions	Chatbot, language models	Supported by completed trials
Result reading	A photo of the test strip is read and verified before a clinician reviews it	Computer vision	Supported, with clinician review
Linkage	Reactive result to confirmatory testing; negative result to a PrEP or PEP offer	Telehealth, decision support	Emerging; few tools validated locally
Reporting	Self-test results flow into DHIS2 and client records, with real-time quality checks	Connected diagnostics	Emerging
Cross-cutting	Nudges, bookings, referrals, reminders; support	Combination – scaled up or down across techniques	AI nurses and triage tools, supported

Considerations and action steps

- | | |
|---|---|
| 1 | Make self-testing routine in facilities, pharmacies and communities |
| 2 | Bring focus back to network-based testing + non-ANC testing in target areas |
| 3 | Keep it simple + opt for low-cost quality tests |
| 4 | Simplify testing requirements – embrace flexibility + quality |
| 5 | Adopt digital and AI tools that are country-owned and locally validated |

KEY MESSAGES

Focus on impact

Keeping testing simple & affordable

Make it easy to do the right thing

Enabled self-care is the future

FOR THE DISCUSSION

Which testing approaches could your programme change tomorrow?

What requirements could you drop ?

What would it take for low-cost Dx and self-testing to be the default, not the exception?

Thank You

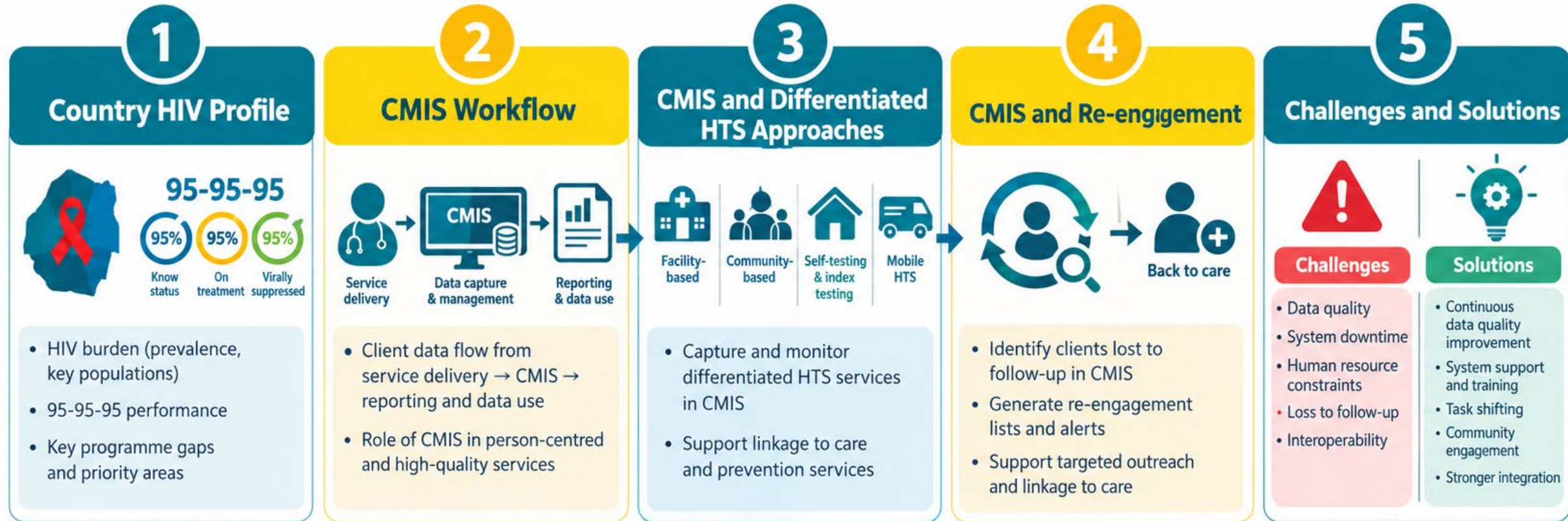


EMR-driven monitoring and workflow redesign for differentiated HTS

Setsabile Gulwako
M&E Coordinator, MOH Eswatini
Thursday, October 8, 2026



Presentation Outline



Eswatini 95-95-95

HIV Treatment Cascade – All Ages



2025

More people knowing.
More people on treatment.
More people living healthy.



Estimated PLHIV

220,792

people living with HIV
in Eswatini (all ages)



Known HIV+
Status

216,376

98%

Target $\geq 95\%$



On ART

214,117

99%

Target $\geq 95\%$



Suppressed VL

193,314

98%

Target $\geq 95\%$



Eswatini has achieved the 95-95-95 HIV treatment cascade in 2025, with **98%** knowing their status, **99%** on treatment and **98%** virally suppressed.



Data sources: HIV Estimates | Laboratory Information System (LIS) | Client Management Information System (CMIS)

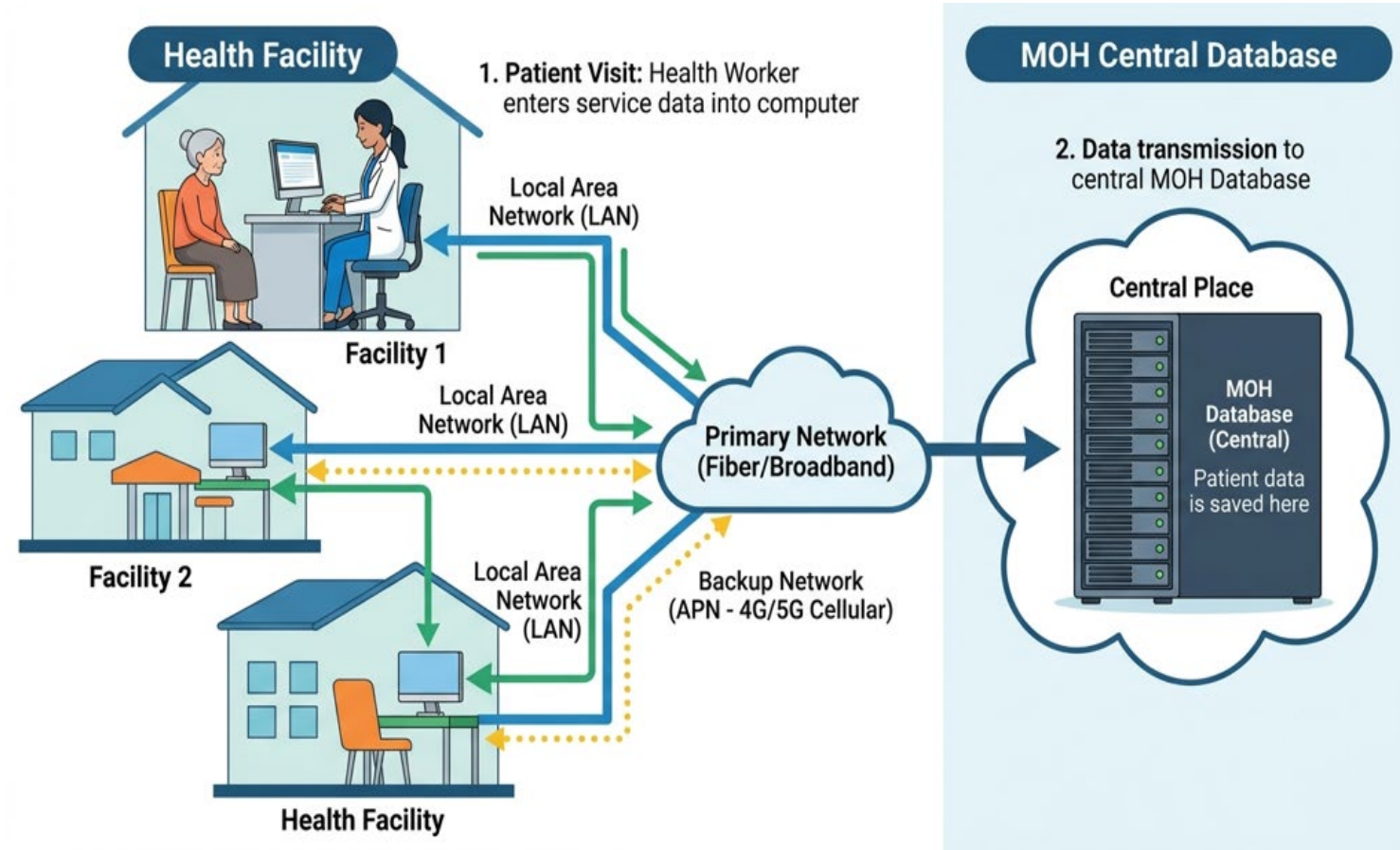
Gaps in 1st 95 – Who are missing?

The remaining undiagnosed PLHIV are concentrated among people who are less likely to access routine facility-based HIV testing, particularly:

- Men (25-34 years)
- Adolescents and young people (15-24 years)
- Key populations, including prisoners
- Mobile populations
- People living with disabilities

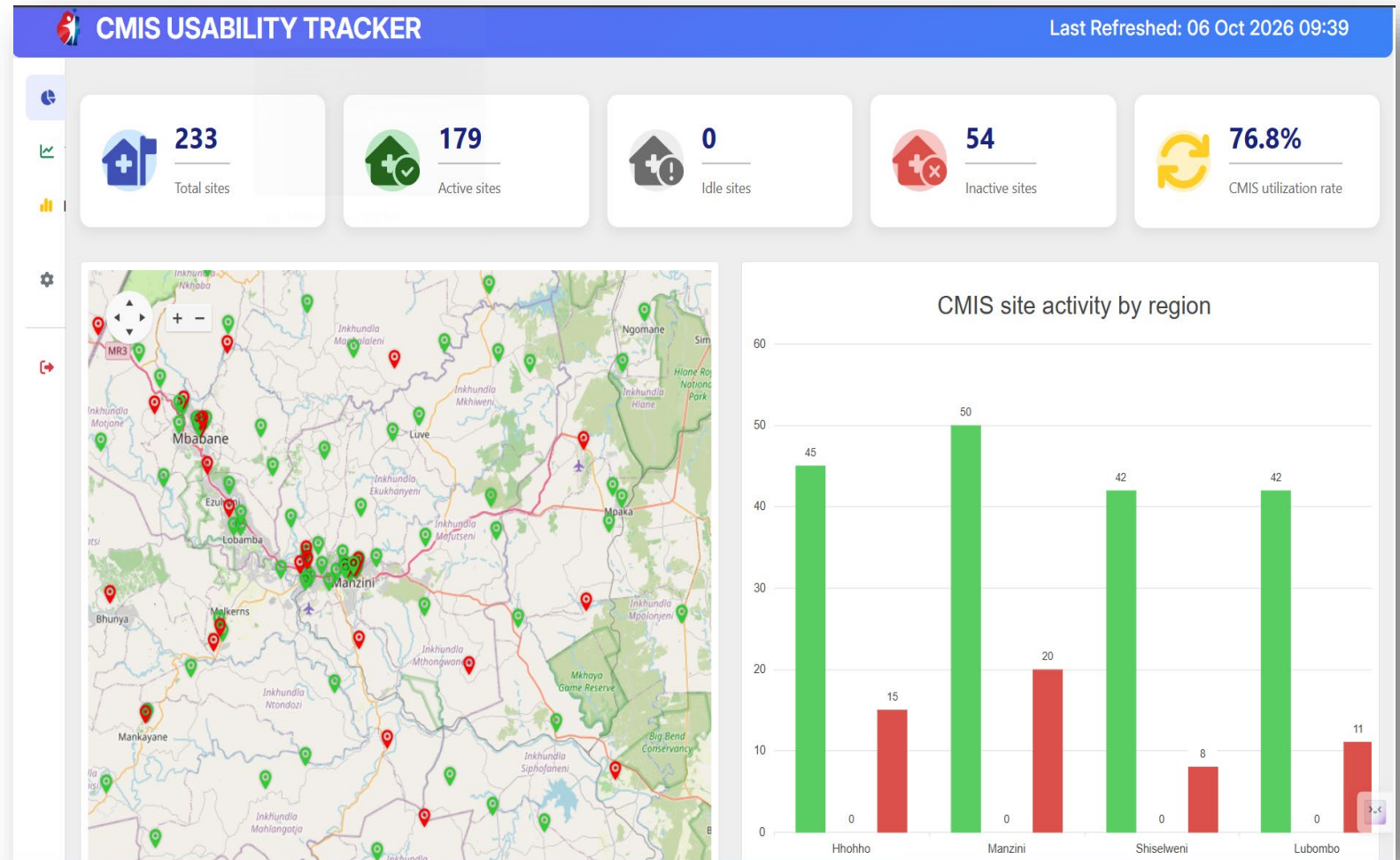
Understanding the Client Management Information System (CMIS) Services

- CMIS is a live, web-based Electronic Medical Record (EMR).
- It supports integrated patient management, clinical service delivery, and national health reporting.
- It integrates with the Population Register Database to validate & reduce duplication.
- CMIS supports visit-based documentation, including vitals, assessments, and treatment decisions.



Current CMIS Coverage

- Deployed in 249/327 health facilities in Eswatini – 76% coverage.
- The platform includes ~37 clinical modules covering:
 - HIV services
 - TB services
 - Maternal and child health
 - Non-communicable diseases, and other services



The HTS CMIS Workflow

- **Longitudinal Patient Tracking:** from registration to confirmatory testing and linkage without losing data continuity.
- **Automated Cascade Actions:** Triggers immediate next steps based on diagnostic results, such as prompting Index Testing protocols and verification of HIV-positive results for positive cases.
- **Service Integration:** Connects high-risk negative testers to prevention services and links positive testers to treatment or partner HIV self-testing (HIVST) kit distributions

CMIS - Index Testing with HIVST

1. CLIENT REGISTRATION & ROUTINE TESTING

Register Client & Assess Eligibility

Initiate client profile and evaluate history in CMIS

If Eligible Straight-Away Routine Tester

HTS Page enabled $\rightarrow$ Conduct test & record on CMIS

UPON SAVING TEST RESULT

POSITIVE

Verification Test Required

- Conduct verification test
- Record verified result in CMIS
- Redirect page to index testing

Action Triggers:

Opens Index Testing & HIVST Kit Distribution Mod

NEGATIVE

Prevention Linkage

- Enable prevention service page
- Offer prevention service to client

If Client Accepts:

Link to Prevention Service

If Client Refuses:

Close page session

2. INDEX TESTING & HIVST DISTRIBUTION CASCADE

Follow-up path for verified positive HTS clients

1

Page Redirect to Index Testing

Automatically route user upon confirming positive HTS verification result

2

List Contacts

Document biological, sexual, and biological children contacts in CMIS

3

Go to HIVST Distribution

Access self-test kit distribution interface for contact testing

4

List HIVST Recipients

Assign distributed kits to specific contact profiles or secondary distributors

5

Follow-up on Distributed Kits

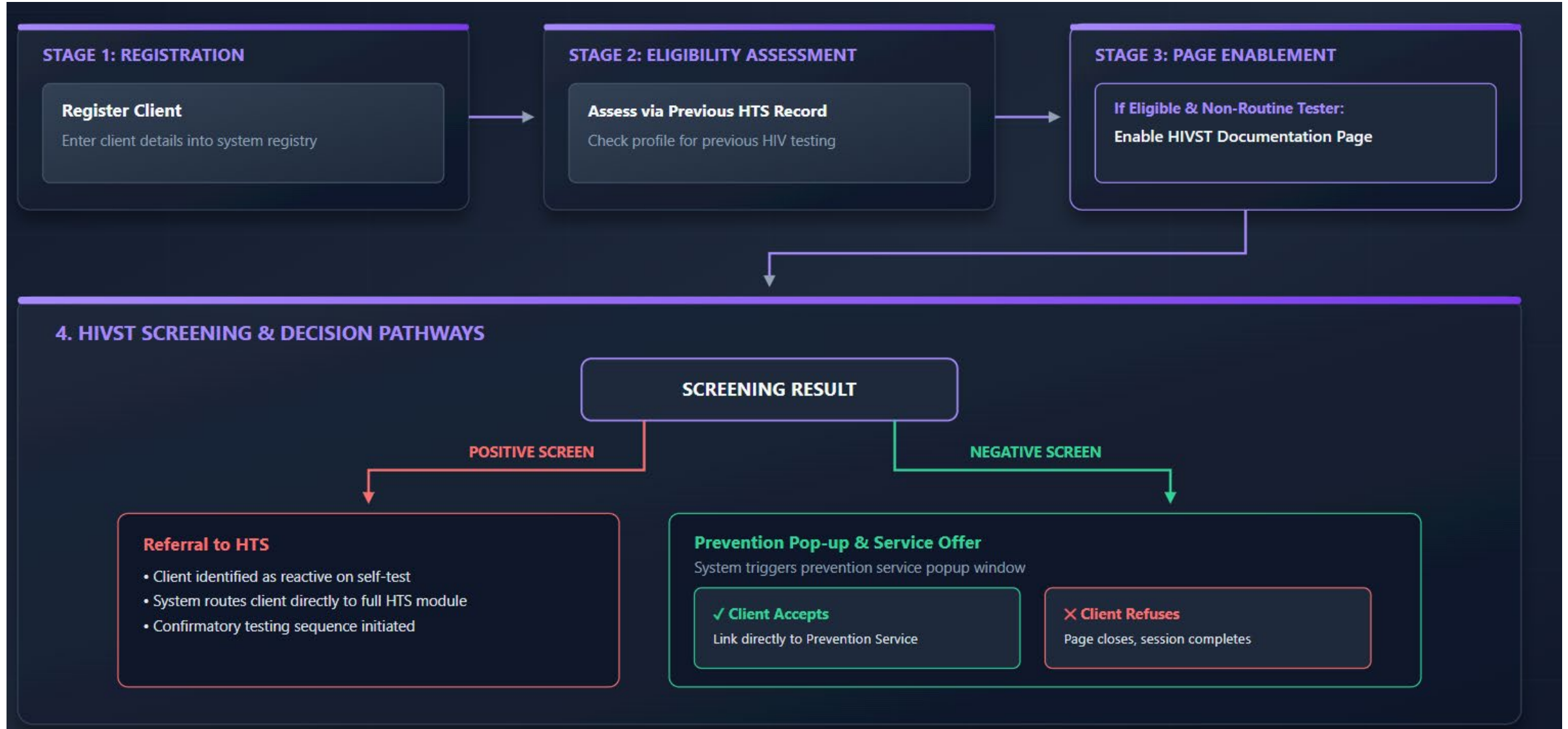
Track usage, feedback, and kit confirmation status

6

Record Results / Outcome

Log test outcomes and link contacts to care or prevention

CMIS - HIV Self Testing



CMIS as a Longitudinal EMR: Re-engagement Tracking

1. INTAKE & VERIFICATION

1 Register Client

Initiate client lookup and profile creation in system



2 Go to HTS to Verify History

Cross-reference client record with historical HTS database



PREVIOUS POSITIVE FLAG DETECTED

- Client previously diagnosed positive
- Triggers mandatory potential retester sequence
- Prevents duplicate baseline entry
- Re-engages client back into care continuum



2. RETESTER MANAGEMENT & DOCUMENTATION PROTOCOL

A. Determine Reason for Retesting

Assess and document client's specific underlying motivations:

- Disbelief of prior result / Seeking second opinion
- Institutional requirements (travel, employment, insurance) or gap in care



B. Provide Targeted Counseling

Deliver tailored counseling interventions focused on:

- Reinforcing prior test validity and addressing psychological barriers
- Supporting ART enrollment, adherence, or treatment re-engagement



C. Document on Potential Retester Page

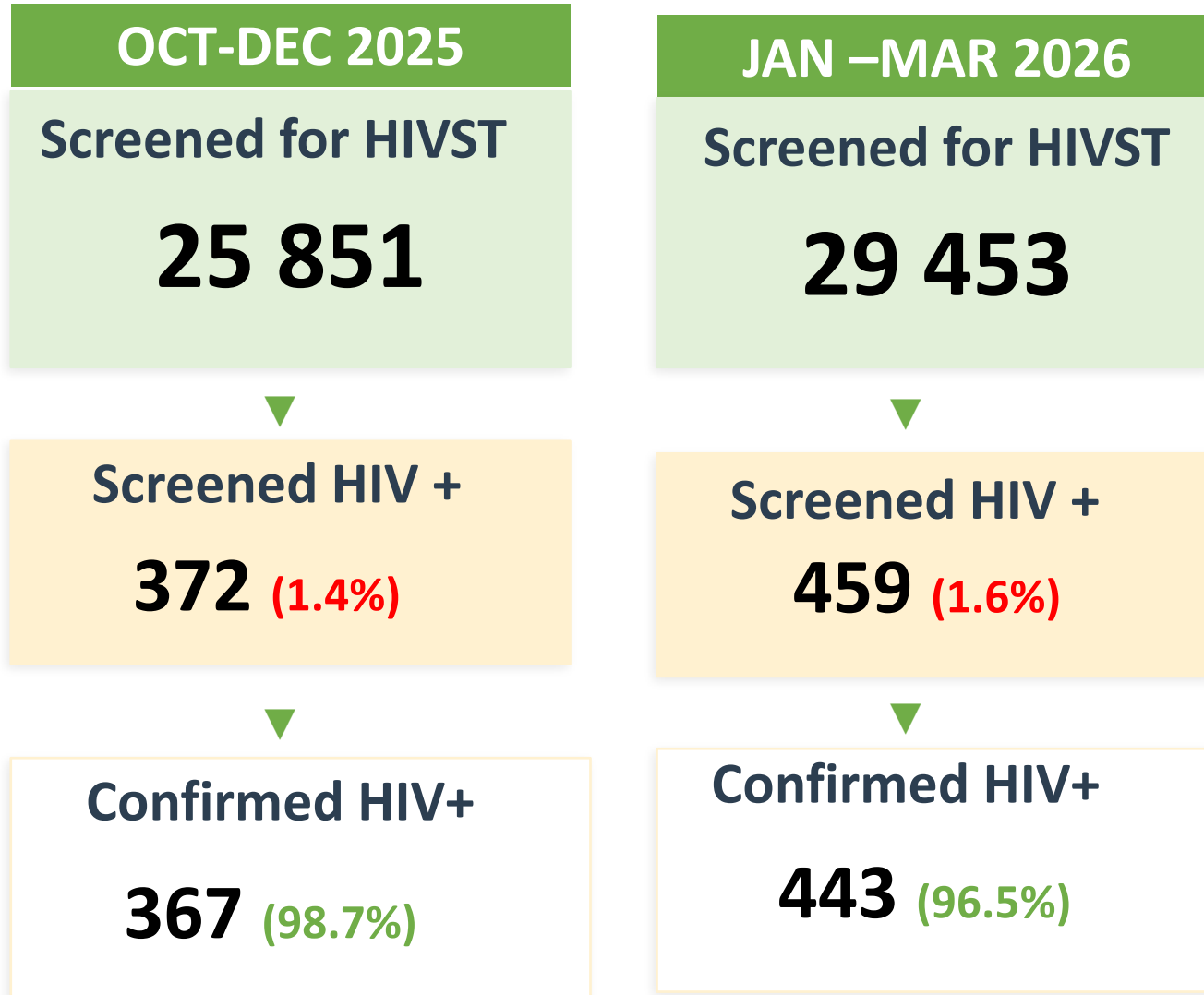
Execute specialized documentation in CMIS:

- Save details into the dedicated Potential Retester module page
- Securely lock page and route client to treatment linkage officer

Why the Re-engagement Workflow Matters?

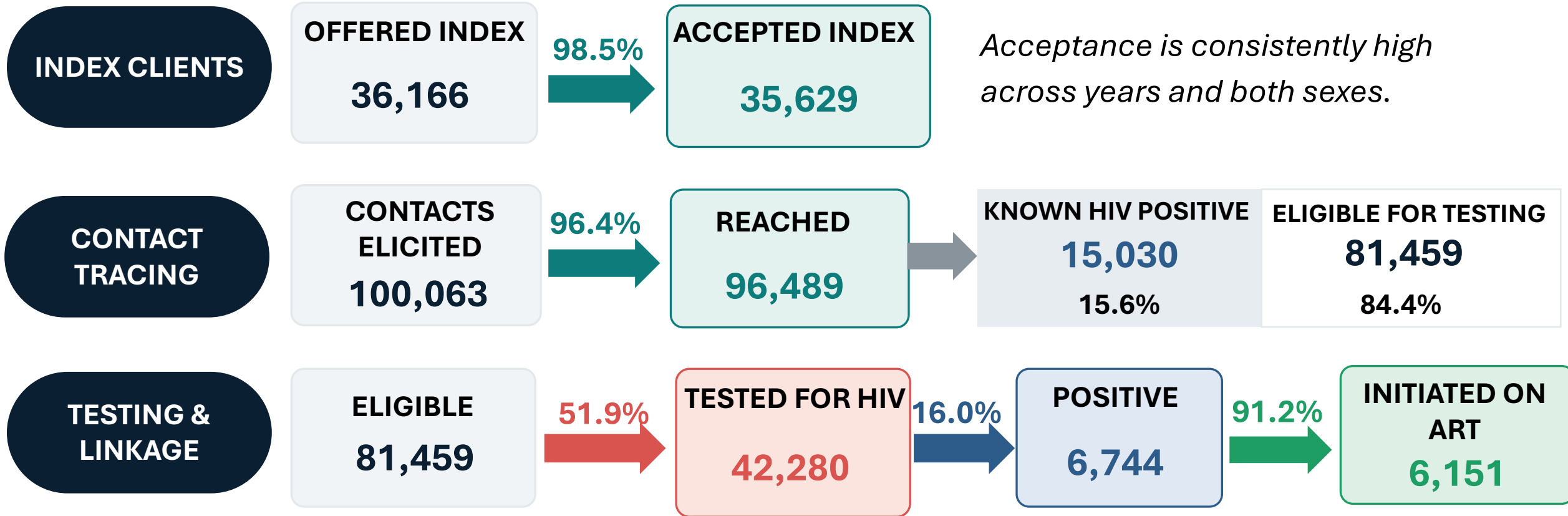
- ✓ Reduce missed opportunities for return to treatment
- ✓ Prioritise clients who need active follow-up
- ✓ Avoid treating previously known clients as "new positives"
- ✓ Reduce unnecessary repeat testing
- ✓ Reduce associated testing and commodity costs
- ✓ Improve continuity of care

Increase in HIVST Screening at OPD



- **HIVST uptake** increased by **13.9%** (+3,602 kits screened).
- Increase in uptake resulted in increase in number identified as HIV+
- The positivity yield remained relatively stable across quarters with ▲ **0.2%**
- Confirmatory testing above **95%** but a **2.2%** drop noted between two-
quarters
 - Facility-based verification needs strengthening to ensure no positive individuals are missed.

Overall Index Cascade: Testing Conversion



MAIN OPERATIONAL GAP: 39,179 eligible contacts were not tested (48.1% of eligible contacts)

AGGREGATE CASCADE | 2020–2026

Challenges & Solutions

Challenges:

1. **Connectivity Delays** – Rural offline gaps delay real-time APMR verification.
2. **Secondary HIVST Tracking**- Incomplete outcome reporting for unassisted kits.

Solutions:

1. **Scale CMIS Lite** - Deploy offline tablets to all mobile outreach teams.
2. **Automate EMR Alerts**- Trigger index elicitation prompts during ART visits

Summary: Eswatini's CMIS EMR is a powerful digital tool for real-time client monitoring across services *and* for guiding healthcare workers to provide quality services

Thank You



Leveraging AI and digital platforms for HIV testing services in South Africa

Testing, linkage and re-engagement across the life course

Ms. Alarice Marsh

NDOH South Africa

Thursday, October 8, 2026



Leveraging AI and digital platforms for HIV testing services in South Africa

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Outline - Five messages in ten minutes

IN BRIEF AI is already extending HIV testing – government leadership will make it last



1

PLATFORMS

Two generations of digital tools – rules-based messaging and generative AI companions – already reach South Africans at scale

176,618

have messaged an AI companion

2

HTS MODELS

AI strengthens every HTS model and reaches men, first-time testers and people at higher risk, including with LEN

2.24×

more likely never to have tested

3

FUNDING CONSTRAINTS

AI absorbs routine counselling as the HIV workforce shrinks – at a fraction of the cost

~US\$1

per client per year

4

LESSONS & CHALLENGES

What works is clear; the risks are the 2027 funding cliff, fragmentation and unlinked data

2027

donor funding cliff

5

WAY FORWARD

With NDoH leadership, one unified platform can give every South African a trusted digital front door by 2030

2030

one front door for all

One person. One journey. Unified platform.

In developing AI interventions, South Africa plans to adopt the life-course approach – this shows where current digital platforms that includes HTS, so that no one is left behind.



Adolescent & youth

10 – 24

B-Wise · Self-Cav

SRHR, mental health, HIV self-testing · PrEP & LEN invitation · social network testing



Pregnancy & child health

antenatal, postnatal & 0 – 9

MomConnect

ANC & postnatal retesting · partner testing · PMTCT · child health: a channel for index testing of children



Adult, women's & men's health

25 – 59

ContactNDoH (SMS)

Social network testing reaches the averse population · index & partner testing · re-engagement



Older persons

60+

Coach Mpilo

Confidential advice and support on HIV, TB, sexual health, relationships, love and general wellbeing



Across all life course approaches: people living with HIV – are linked to ART, reminders are sent out to return to care through the versatile, AI-powered platforms that inform and link clients to care and support.

Six types of AI and digital platforms support HIV testing and PrEP services



1 | PLATFORMS Two generations: rules-based messaging and generative AI companions



Generative AI companions

Coach Mpilo & Self-Cav: WhatsApp chat 24/7 in isiZulu, English and Afrikaans



Computer vision

Self-Cav reads photos of self-test results across all WHO-prequalified kits, with clinician review for any mismatches.



Predictive risk models

Self-Cav & B-Wise host HIV vulnerability scores flagging higher-risk clients, alongside the LEN candidate model currently in testing



Rules-based messaging

MomConnect, ContactNDoH & B-Wise: scheduled alerts on testing, PrEP and LEN



Human-in-the-loop portal

Clinical portal flagging risks and tasks; clients can directly request a nurse within the chat.



Network referral tools

Self-Cav & Coach Mpilo power personal refer-a-friend links offering R10 airtime for successful referrals

176,618

South Africans have messaged an AI companion

~21,000

new AI-companion clients a month

660,000

receive weekly ContactNDoH alerts

Coach Mpilo and Self-Cav combined, data as of 2 October 2026 (preliminary). Date period is from 2025 – 2nd October 2026

Digital tools strengthen each HTS model along the cascade

2 | HTS MODELS Each approach mapped to the life course

HTS MODEL	HOW AI / DIGITAL SUPPORTS IT	LIFE-COURSE STAGE	EARLY SIGNAL
 Social network testing	Personal refer-a-friend links and R10 airtime nudges (Self-Cav & Coach Mpilo)	Youth · adults · men	Referrals ~1.5% → >7%
 Index & partner testing	Safe chat spaces for disclosure, partner referrals, and self-test kits for partners/children (Coach Mpilo & ContactNDoH)	All stages	45.6% of chatting clients shared HIV status
 Guided HIV self-testing	Step-by-step guidance in user's own language, AI result-reading, and direct links to confirmatory testing (Self-Cav)	Youth · adults	Works with all WHO-prequalified self-tests
 PrEP invitation & choice counselling	Counseling on PEP, oral PrEP, the vaginal ring, and LEN, utilizing risk scores plus nurse outreach (B-Wise/ Self-Cav)	Youth · AGYW · pregnancy	73% of high-risk flagged users took up PrEP
 ANC & postnatal retesting	Pregnancy-stage messages, chat support, and PMTCT follow-through (MomConnect)	Pregnancy · child	18.9% linked to HIV testing after birth
 Linkage & re-engagement	Refill, appointment, and return-to-care reminders alongside missed-visit follow-ups (ContactNDoH & Coach Mpilo)	People living with HIV	29,782 active reminders set

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Demand Generation & Community Engagement Strategy

In-Facility & Point-of-Care Integration:

- Physical touchpoints across clinics, including triage stations, waiting area posters, and queue-management QR codes that instantly onboard waiting clients into Coach Mpilo and ContactNDoH.
- Healthcare workers and frontline counselors actively introducing digital platforms during routine consultations.

Peer-to-Peer & Social Network Referrals:

- Digital refer-a-friend links deployed via Self-Cav and Coach Mpilo, incentivized by automated R10 airtime nudges upon successful platform engagement.
- Leveraging female clients and postnatal mothers to successfully reach male partners and non-clinic-visiting peers (9 in 10 referrers are women, driving a 1.45 x increase in male tester reach).

Digital & Community Marketing Campaigns:

- Targeted digital outreach across social media platforms (TikTok, Instagram, Meta) directing youth to B-Wise and Self-Cav WhatsApp channels.
- Community Health Worker (CHW) door-to-door and mobile outreach campaigns distributing digital self-test locators and chat links.

AI offers informed prevention choices, including LEN

2 | HTS MODELS AI understands each client's circumstances before it counsels



Understand

HIV status, recent exposures, prior PrEP use and barriers; vulnerability score flags higher risk; LEN targeting model in testing



Counsel on choice

PEP after exposure; PrEP basics for new users; oral PrEP, ring or LEN for those ready; HIV-positive clients linked to care



Keep people on PrEP

Refill and LEN injection reminders; clinic finder; nurse outreach for high-risk clients; adherence check-ins

INSIGHTS

7% → 41%

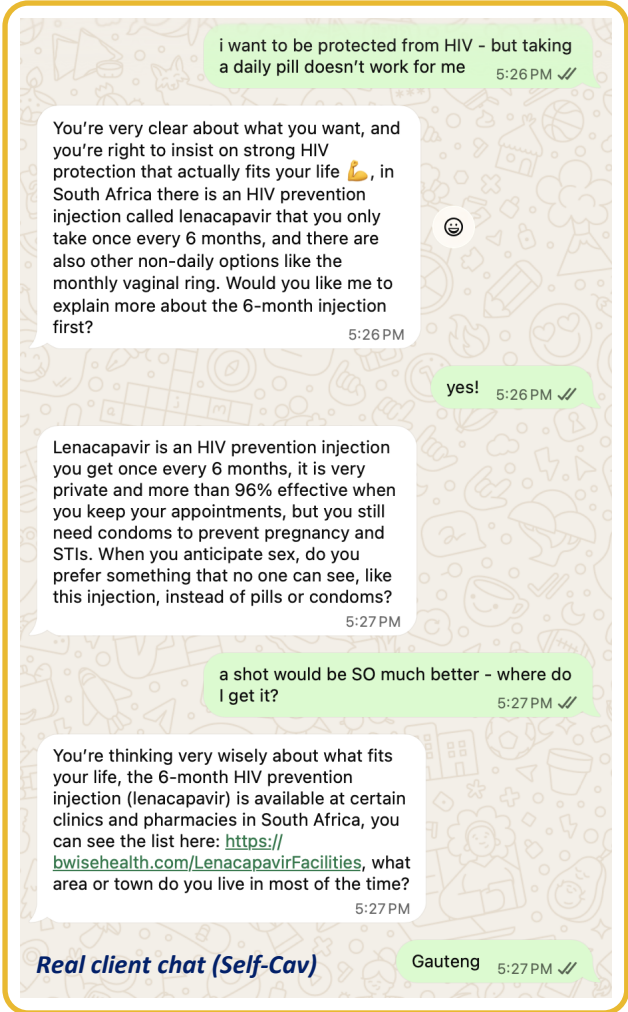
HIV testing uptake, single-session vs 14+ active-day users (Aimee AGYW study)

73%

of users flagged high risk took up PrEP after AI chat plus nurse outreach (Aimee AGYW study)

394 + 1,604

users report LEN, or injectable PrEP without naming it, since April 2026 (Coach / Self-Cav)



Digital HTS reaches men and first-time testers

2 | HTS MODELS What the early data show

Reach & Demographics

2.24×

Clients referred through a friend's link are 2.24x **more likely to have never tested for HIV.**

1.45×

Network referrals are 1.45x **more likely to be male**

9 in 10 referrers are women

45.6%

45.6% of chatting clients shared their HIV status

Enables linkage and retention

Engagement & Retention

87%

87% of multi-message users came back on another day (Coach Mpilo, eThekwini)

Coach Mpilo, eThekwini

93.7%

93.7% thumbs-up rating on "Has our chat been helpful?" (Coach Mpilo, eThekwini)

Coach Mpilo, eThekwini

18.9%

18.9% linked to HIV testing after birth—the highest of any stage (family planning clients)

Coach Mpilo KZN

Coach Mpilo / Self-Cav data preliminary and under embargo (CROI 2027) – not for distribution. eThekwini as of 31 Aug 2026; KZN family planning mid-Aug 2026.

The HIV Network for Coverage, Quality and Sustainable Impact

AI absorbs routine counselling, freeing stretched HTS staff

3 | **FUNDING CONSTRAINTS** Simplifying HTS delivery as resources shrink

8,061 PEPFAR-funded HIV programme staff lost their jobs in 2025 – about half of 15,539 posts in 27 districts

BEFORE

One in-person session per concern

- Pre-test information and self-test demonstration
- Result interpretation and post-test counselling
- PrEP options and side-effect questions
- Follow-up calls for missed visits



NOW

Support before and after the clinic visit

- Answers HIV, testing and PrEP questions 24/7, in three languages
- Learns each client's context and barriers
- Sends refill, appointment and return-to-care messages
- Refers to the clinic, or a nurse in chat, when needed

83%

of clients supported fully in chat; ~17% escalated to clinicians

7,721

clients asked to chat with a health worker

~US\$1

per client per year – a fraction of the cost of replacing counsellors

“Sometimes mothers... are awake at 3am, they're worried, so they chat to Coach.”

– KZN health worker

Job losses: Minister of Health, May 2025. Chat data: Coach eThekwin analysis. Quote: KZN provider interviews, June 2026.

The HIV Network for Coverage, Quality and Sustainable Impact

Clear lessons, real risks: funding, fragmentation and data

4 | **LESSONS & CHALLENGES** *What we have learned – and what stands in the way*



Lessons

- **Clinics drive uptake**
Referral works best as part of the clinic's daily routine – at triage, the gate, the queue
- **Networks reach men**
Women's referrals bring in men and first-time testers
- **Clients disclose to AI**
Nearly half share their HIV status, enabling linkage and retention
- **Human in the loop**
AI resolves ~83% of queries; nurses take the ~17% that need them



Challenges

- **2027 funding cliff**
Most AI platforms are donor-funded; bridge funding is needed for the transition
- **Fragmentation**
Overlapping AI tools across partners risk a disjointed client journey
- **Data linkage**
Outcomes stay self-reported until linked to SyNCH and eLabs / NHLS
- **Privacy and access**
Protection of People Information Act (POPIA), language coverage, data costs and disability access

Sources: Coach Mpilo, Self-Cav and Aimee programme data; NDoH Digital Health Partner Landscape Analysis, February 2026.

The HIV Network for Coverage, Quality and Sustainable Impact

Government leadership makes digital HTS sustainable

5 | **WAY FORWARD** *The Department owns the ground; partners keep running their shops*



Leadership & governance

NDoH owns the platform, number, brand and data; Digital Health Steering Committee; national AI standards, ethics and POPIA compliance



Sustainable financing

Dedicated NDoH budget line (~US\$1 per client per year); aligned with NHI; donor co-financing to bridge the 2027 transition



Integration

SyNCH, eLabs / NHLS and facility systems linked, so testing, linkage and treatment outcomes are verified – not self-reported



Health workforce

Nurses and CHWs supervise AI through the clinical portal; digital skills in training; clear escalation protocols



Evidence & accountability

National dashboard tracking testing, linkage, PrEP and LEN uptake against 95-95-95; independent evaluation of AI safety and impact



Equity & inclusion

More official languages, low-data options, disability-accessible design and outreach to older persons – no one left behind

Costing from partner data (~US\$1 per client per year). Governance recommendations: NDoH Digital Health Partner Landscape Analysis, February 2026.

Next steps: a phased roadmap to 2030

5 | **WAY FORWARD** *Stabilise, integrate, institutionalise*



PHASE 1 · NOW – MAR 2027

Stabilise & transfer

- Secure bridge funding for current platforms
- Agree NDoH ownership and transition plan
- Constitute Digital Health Steering Committee
- Coach Mpilo in all KZN facilities; HIVST kit locator

PHASE 2 · 2027 – 2028

Integrate & scale

- One NDoH WhatsApp number for all services
- SyNCH and eLabs / NHLS integration
- National roll-out across provinces
- Close child-health and older-person gaps; evaluate LEN targeting model

PHASE 3 · 2028 – 2030

Institutionalise

- Budget line in the NDoH baseline
- Aligned with NHI benefits and systems
- Integrated life-course platform: HIV, TB, SRHR, NCDs, mental health
- National AI standards in routine use

ASKS OF NDoH LEADERSHIP · NEXT 90 DAYS

- 1** Endorse the unified-platform model
- 2** Nominate an NDoH platform owner
- 3** Approve pending SyNCH, eLabs and ContactNDoH data requests
- 4** Start 2027/28 budget planning for digital HTS

Our 2030 vision: one trusted digital front door

5 | **WAY FORWARD** South Africa can lead the world in people-centred, AI-enabled health

BY 2030

By 2030, every South African has one trusted digital front door to HIV testing, prevention, and care—owned by government, linked to health systems, and designed around the person rather than individual programs

Owned by government. Linked to our health systems. Designed around the person, not the programme.

No one left behind.

FIVE SHIFTS

Fragmented partner pilots



One national, NDoH-owned platform

Donor-funded projects



Government-financed, aligned with NHI

Self-reported outcomes



Verified clinic and laboratory data

HIV-only conversations



Integrated life-course health: HIV, TB, SRHR, NCDs, mental health

Reactive services



Predictive, precision prevention that finds people before they are missed

Clear lessons, real risks: funding, fragmentation and data

4 | LESSONS & CHALLENGES *What we have learned – and what stands in the way*



Lessons

- **Clinics drive uptake**
Referral works best as part of the clinic's daily routine – at triage, the gate, the queue
- **Networks reach men**
Women's referrals bring in men and first-time testers
- **Clients disclose to AI**
Nearly half share their HIV status, enabling linkage and retention
- **Human in the loop**
AI resolves ~83% of queries; nurses take the ~17% that need them



Challenges

- **2027 funding cliff**
Most AI platforms are donor-funded; bridge funding is needed for the transition
- **Fragmentation**
Overlapping AI tools across partners risk a disjointed client journey
- **Data linkage**
Outcomes stay self-reported until linked to SyNCH and eLabs / NHLS
- **Privacy and access**
Protection of People Information Act (POPIA), language coverage, data costs and disability access

Sources: Coach Mpilo, Self-Cav and Aimee programme data; NDoH Digital Health Partner Landscape Analysis, February 2026.

The HIV Network for Coverage, Quality and Sustainable Impact

Government leadership makes digital HTS sustainable

5 | **WAY FORWARD** *The Department owns the ground; partners keep running their shops*



Leadership & governance

NDoH owns the platform, number, brand and data; Digital Health Steering Committee; national AI standards, ethics and POPIA compliance



Sustainable financing

Dedicated NDoH budget line (~US\$1 per client per year); aligned with NHI; donor co-financing to bridge the 2027 transition



Integration

SyNCH, eLabs / NHLS and facility systems linked, so testing, linkage and treatment outcomes are verified – not self-reported



Health workforce

Nurses and CHWs supervise AI through the clinical portal; digital skills in training; clear escalation protocols



Evidence & accountability

National dashboard tracking testing, linkage, PrEP and LEN uptake against 95-95-95; independent evaluation of AI safety and impact



Equity & inclusion

More official languages, low-data options, disability-accessible design and outreach to older persons – no one left behind

Costing from partner data (~US\$1 per client per year). Governance recommendations: NDoH Digital Health Partner Landscape Analysis, February 2026.

Next steps: a phased roadmap to 2030

5 | WAY FORWARD *Stabilise, integrate, institutionalise*



PHASE 1 · NOW – MAR 2027

Stabilise & transfer

- Secure bridge funding for current platforms
- Agree NDoH ownership and transition plan
- Constitute Digital Health Steering Committee
- Coach Mpilo in all KZN facilities; HIVST kit locator

PHASE 2 · 2027 – 2028

Integrate & scale

- One NDoH WhatsApp number for all services
- SyNCH and eLabs / NHLS integration
- National roll-out across provinces
- Close child-health and older-person gaps; evaluate LEN targeting model

PHASE 3 · 2028 – 2030

Institutionalise

- Budget line in the NDoH baseline
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Acknowledgements

WITH THANKS The partners whose platforms, data and field insights informed this presentation



SHOUT-IT-NOW

Youth-focused HIV testing, prevention (PrEP, LEN, PEP) and digital self-care for adolescents and young people



Audere Africa

AI health companions and digital HIV self-testing support



PSI

Digital health innovation for HIV prevention, linkage and care

AI PROGRAMMES



And the clients and health workers who shared their experiences – and the NDoH teams leading this work.

One person. One journey. Unified platform.

AI and digital platforms help South Africa find, test, link and keep people in care at every stage of life – at about US\$1 per client per year. Sustaining them depends on NDoH ownership, integration and governance.



Questions and discussion

Thank You



Panel Discussion & Q & A

Moderators



Violet Oramisi
HTS SI Lead
ICAP CQUIN



John Bosco Matovu
HTS Clinical Lead
ICAP CQUIN



Cheryl Johnson
Technical Officer
WHO

Panelists



Setsabile Gulwako
National M&E Analyst
MOH Eswatini



Alarice Marsh
HTS Program Lead
NDOH South Africa



Ndivhuwo Rambau
Project Coordinator
Ritshidze, South Africa

Thank You!

