WHO PSI Webinar
Innovating with HIV Self-Testing for Impact in Southern Africa: Lessons Learned from the STAR (Self-Testing Africa) Initiative

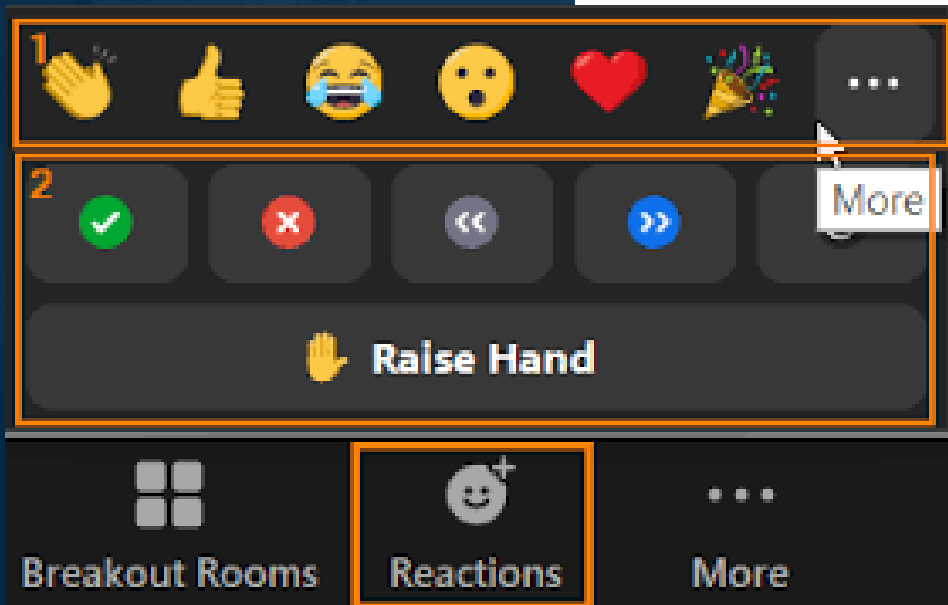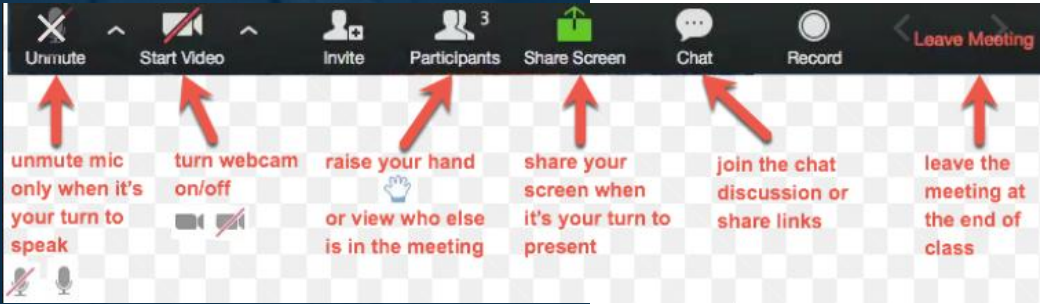Test. Adapt. Deliver. - Webinar Series

7th of August, 2025

Testing, Prevention, and Populations Unit
Global HIV, Hepatitis and STIs Programmes

Population Services International

Housekeeping

Introduce yourself

- Say hi in chat and update your name (name, country and affiliation)

- We will record for note keeping and sharing content internally.

- Slides will be shared after webinar.

- Translation options in English and French—click "Interpretation"

We want to hear from you – but time is limited

- Ask questions ask in the Q&A or chat – or raise your hand

- Be concise and provide space for others to share and talk

- Stay muted and keep videos off unless presenting and speaking

- No AI bots for notetaking allowed

We are available for further follow-up

- Cheryl Johnson: johnsonc@who.int

- Jamil Muhammad: mjamil@who.int

- Karin Hatzold: Khatzold@psi.org

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Webinar objectives

- To launch the new BMC Infectious Diseases supplement highlighting lessons from the Self-Testing Africa (STAR)s implementation across Africa.

- To showcase how innovative delivery models and early investments in implementation research helped normalize HIV self-testing and laid the foundation for broader self-care approaches.

- To share the lessons learned and how they can be adapted, now even more relevant considering the funding constraints.

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Today's programme

TIME	SESSION DETAIL	PRESENTER
2:00–2:10 PM	Welcome and objectives session	**Thato Chidarikire, WHO** **Vincent Wong, former branch chief for Behavioral and Structural Interventions at the USAID Office of HIV/AIDS**
2:10–2:20 PM	WHO framing on normative guidance and evidence generation HIV Self-Testing	Cheryl Johnson, WHO
2:20–2:30 PM	Innovating with HIV self-testing for impact in southern Africa: Lessons learned from the STAR (Self-Testing Africa) Initiative	Muhammad Jamil, WHO
2:30–2:40 PM	Offering choice: blood-based HIVST	Pitchaya Indravudh, LSHTM
2:40–2:50 PM	Community-led approaches for delivering HIVST	Euphemia Sibanda, CeSHHAR Zimbabwe/LSTM
2:50–3:00 PM	Partner-delivered HIVST driving access in West-Africa	Joseph Larmarange, IRD Anthony Vautier, SOLTHIS
3:00–3:25 PM	Questions and answers	Vincent Wong Thato Chidarikire, WHO
3:25–3:30 PM	Summary and Closing Remarks	Karin Hatzold, PSI Liz Corbett, LSHTM

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HIV self-testing

WHO framing: normative guidance and evidence generation
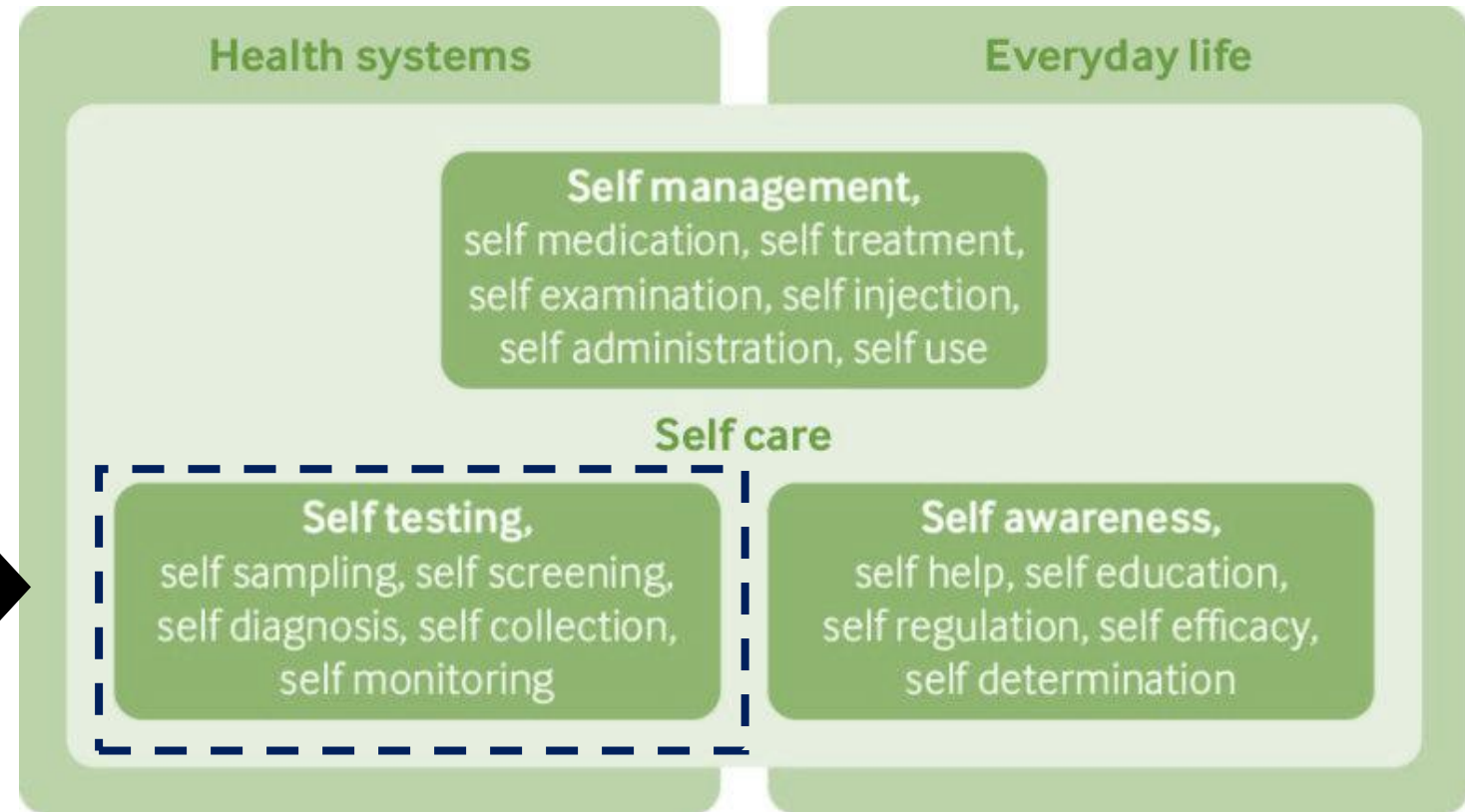
5 August 2025

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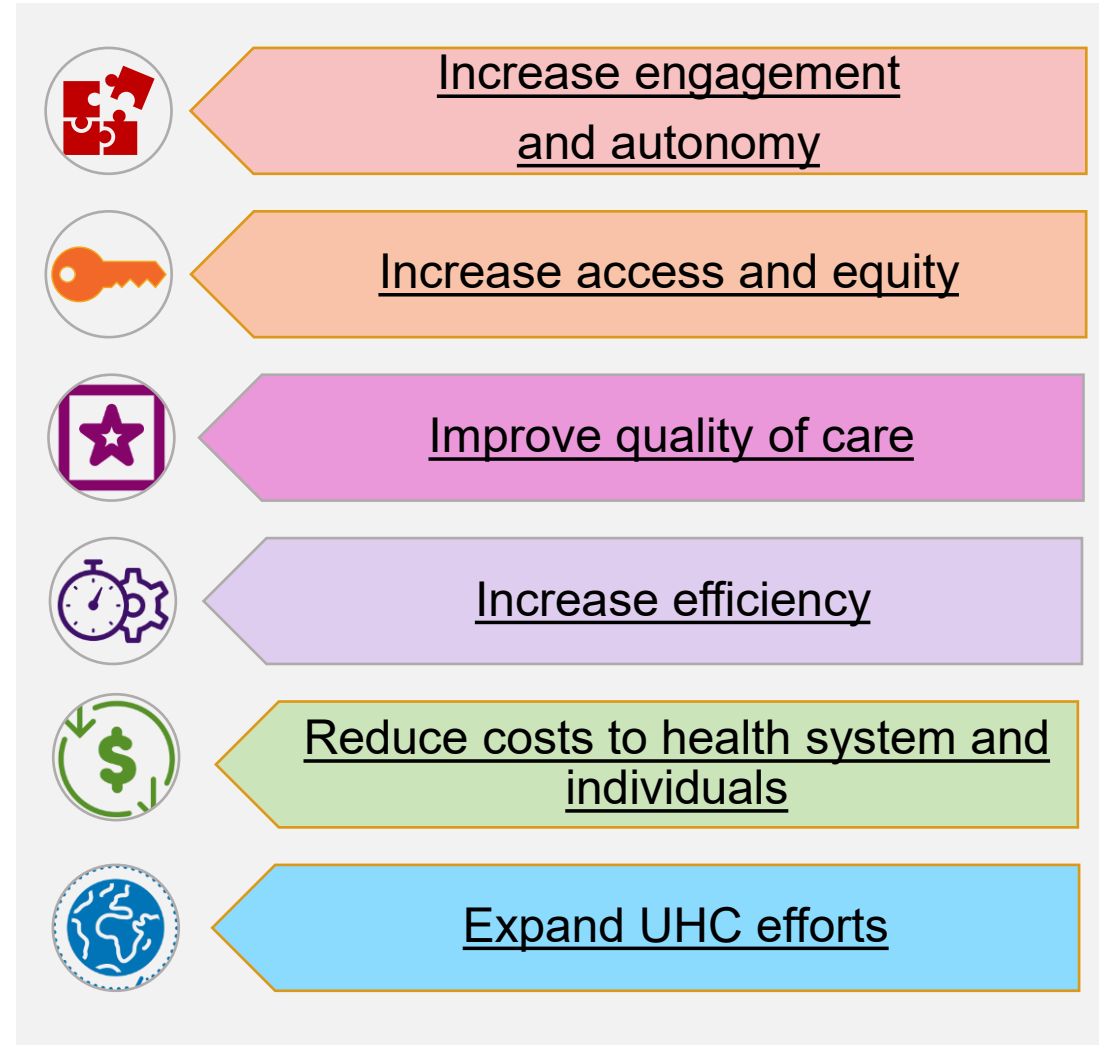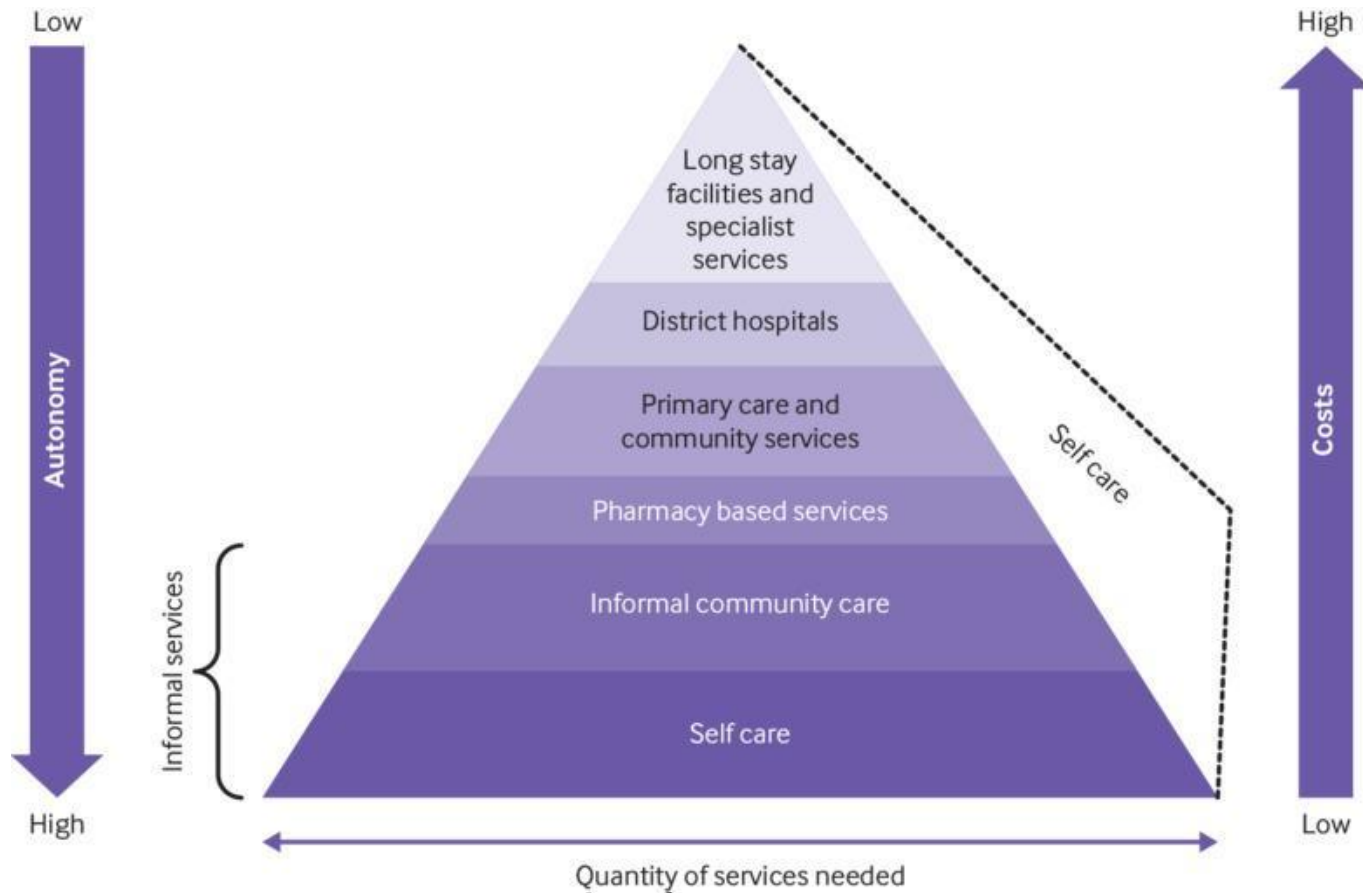
Self-testing and self-care

Self-care

The ability of individuals to promote health, prevent disease, maintain health, and cope with illness and disability with or without support of a healthcare provider.

Health systems

Everyday life

Self management,
self medication, self treatment, self examination, self injection, self administration, self use

Self care

Self testing,
self sampling, self screening, self diagnosis, self collection, self monitoring

Self awareness,
self help, self education, self regulation, self efficacy, self determination

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Source: WHO, 2019, https://www.who.int/reproductivehealth/self-care-interventions/access-health-services/en/

Self-care and self-testing: critical to health system

Source: Remme 2019, https://www.bmj.com/content/365/bmj.l1228

HIVST investment framework

World Health Organization

| MOBILIZING | DIRECT ACTION | DIRECTIMPACT | ADDITIONAL IMPACT |

Acceptability

Willingness to Pay

Usability

Uptake HIV+/High risk

+

−

Link to ART

Re-link to ART

Disclosure/Shared knowledge of status

Link to and continue HIV prevention

Triaged out of Health System

Health for PLHIV: Reduced Morbidity & Mortality

Reduced HIV Transmission & Infections Averted

Cost and Time Savings (Health System & Users)

Social & Economic

Population Productivity & Growth

Social Benefit Social Harm

Health Systems

Efficiency

Expanded Coverage

Equity of Health

WHO adapted framework based on BMGF & UNITAID HIVST Meeting in January 2017

DIFFERENT POPULATIONS

DIFFERENT CONTEXTS

DIFFERENT GEOGRAPHIES
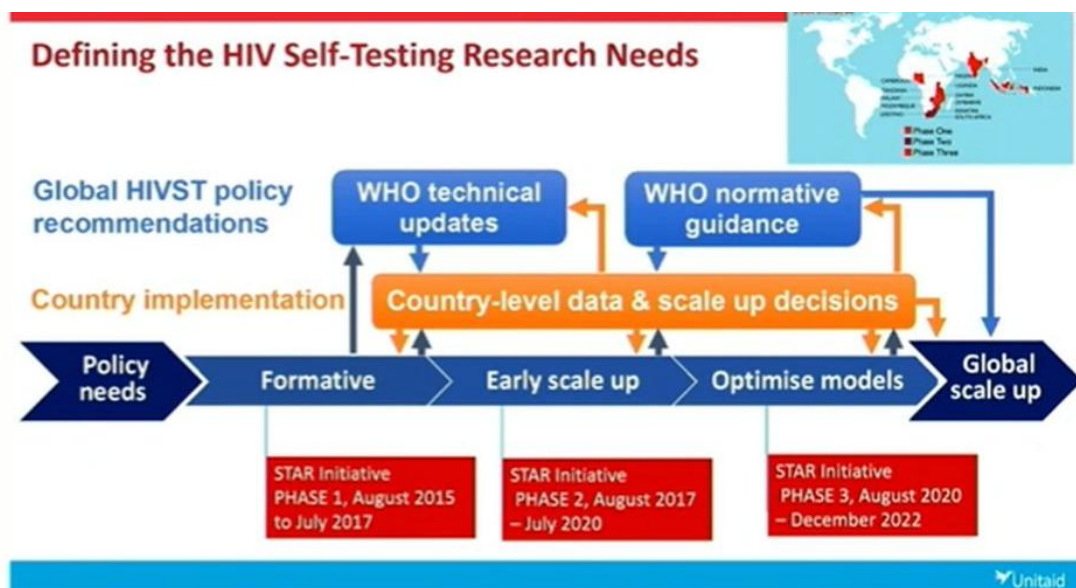
Over 5 million HIVST distributed across 16 countries 2015-2022

Self-Test Africa (STAR)

Also expanded to HCV & COVID-19

Le Project ATLAS

HIVST evidence and impact

Key evidence shows HIVST:

- **Safe** and **accurate** (7 WHO PQ products ~$1-3)

- Highly **acceptable** and **feasible**

- Increases programme **flexibility**

- Increases **access**, **uptake** and **frequency** of testing – including those at **high risk** and **unreached**

- Achieves **good case finding** and **linkage to ART**

- **Empowering** with <u>no social or clinical harm</u>

- **Fills HRH and testing gaps** when needed

- **Effective enabler of HIV prevention** – including **PEP** and **PrEP**

- **Affordable**, **cost-effective** and can even lead to **substantial cost-savings when adapted**
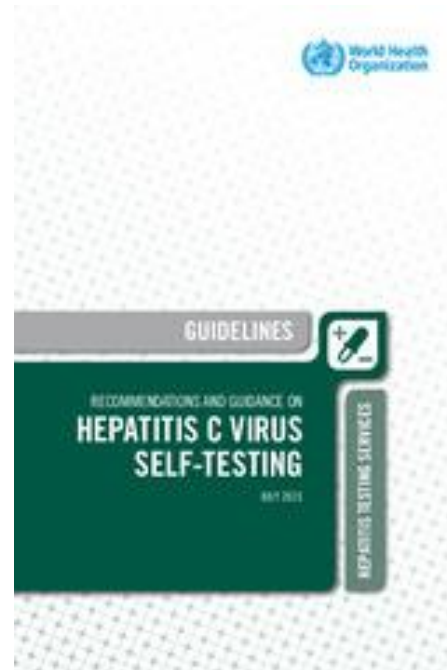
WHO recommendation:

HIVST should be offered as an approach to HIV testing services

- Can be used to maintained essential health services

- Low-cost HIVST should be prioritized

- May be offered as an additional option for testing at facilities

- May be used to deliver PrEP, (initiation, re-initiation and continuation)

- May be used as part of PEP delivery

Source: Johnson 2017, Jamil 2021, Witzel 2020, Eshun-Wilson 2021, McGee 2024, Kiptiness 2023, WHO 2016, WHO 2019, WHO 2024, WHO 2025
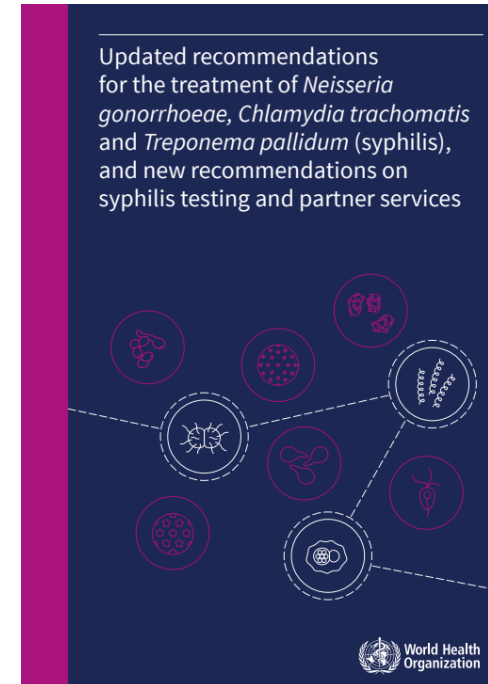
HIVST has informed other areas and WHO guidelines

COVID-19 self-testing recommended

HCV self-testing recommended

Self-testing for syphilis and dual HIV/syphilis self-testing recommended

HPV and trichomonas self-collection and self-testing in pregnancy recommended

HIVST use increasing in Africa

23 countries in Africa reported distributing 6.3 million HIVST kits in 2024

- Mostly east and southern Africa

Modelled estimates across 27 African countries suggests between 2012 and 2024

- HIVST use increased from 1% to 6%

- Uptake approaching 10% in east and southern Africa; greatest among 25–34-year-olds

- Greater uptake in men, including 35–49-year-olds, group with largest number of undiagnosed PLHIV.

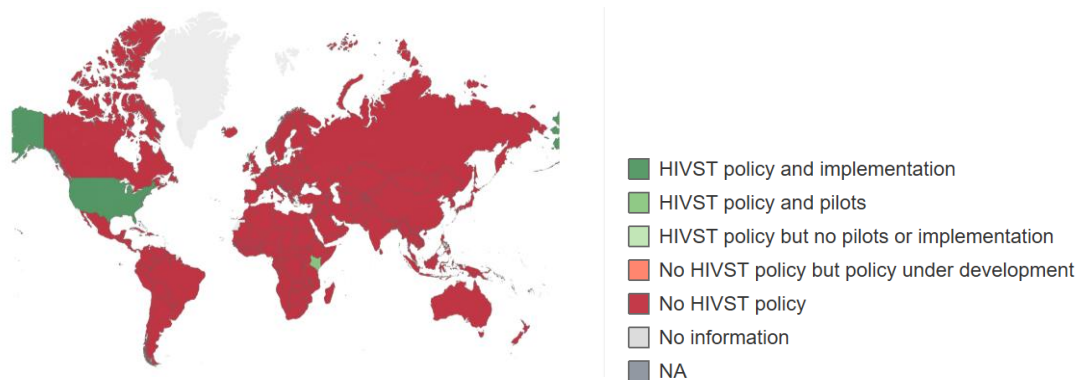- Uptake varies widely: **0.3% in Burkina Faso to 43% in Lesotho**

Source: WHO/Global AIDS Monitoring 2025, Aratrika et al IUSTI 2025
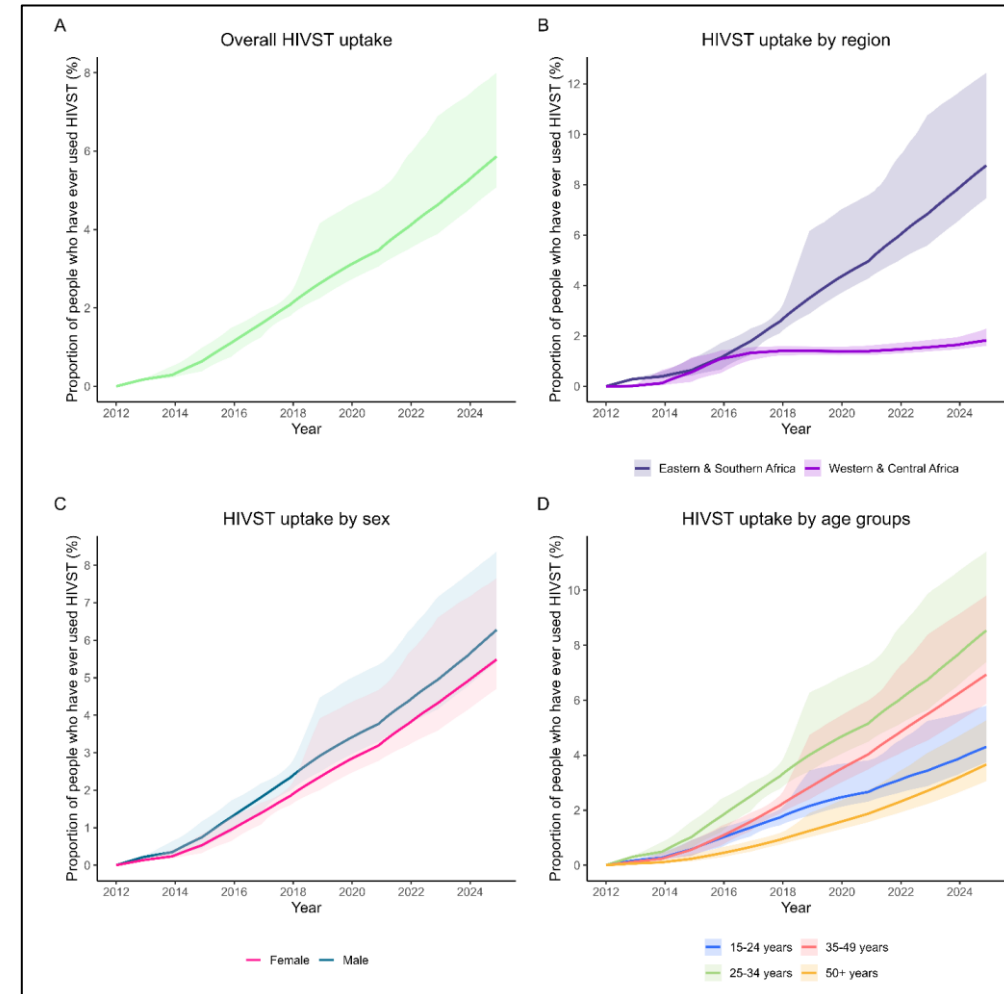
HIVST progress over a decade

2012-2025 - 5000% increase in HIVST policy over 13 years

2012

Legend:
- HIVST policy and implementation
- HIVST policy and pilots
- HIVST policy but no pilots or implementation
- No HIVST policy but policy under development
- No HIVST policy
- No information
- NA

2025

Legend:
- Data not reported
- No policy on HIVST
- Policy on HIVST but still not implemented
- Policy on HIVST routinely implemented
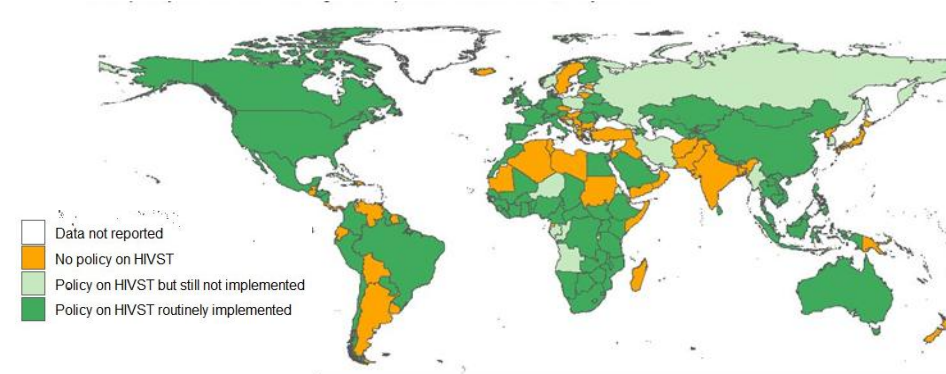
Policy: 2 countries

Implementation: 1 country, only private sector

Quality-assured products: 1, no WHO PQ

Procurement: ~1 million HIVST kits annually (high-income and research only)

Cost: High cost, wide variability ($5-40)

Policies: 109 countries

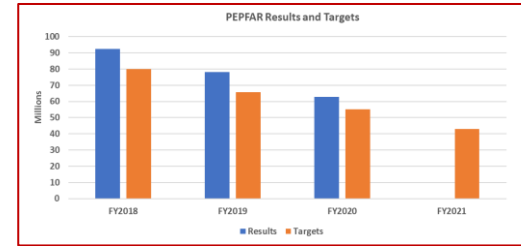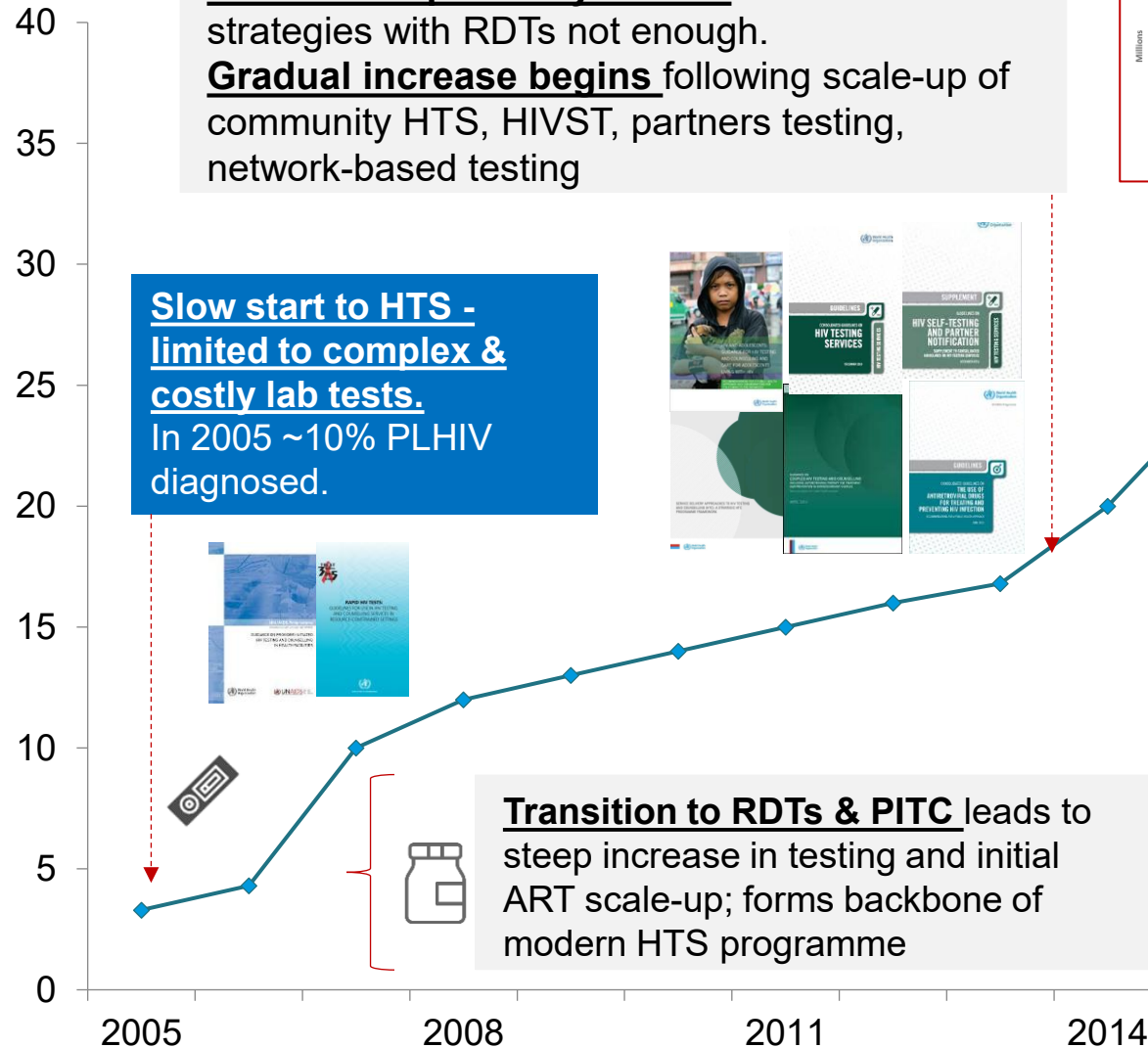**Implementation:** +100 countries, range of models

Quality-assured products: 10 (8 PQ, 2 ERPD)

Procurement: > 30 million HIVST kits annually (domestic, donor and private sector)
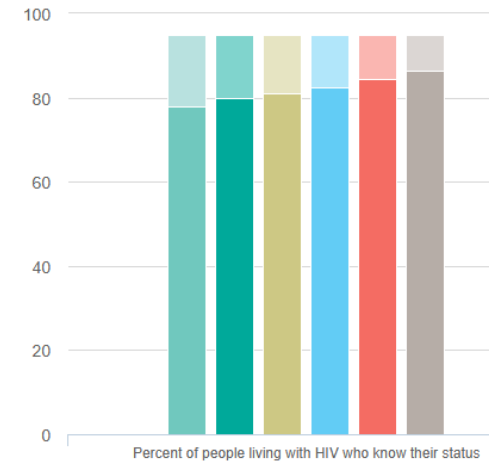
Cost: Moderate to low in LMICs ($1-3), wide variability, high costs remain in some settings

Source: WHO/Unitaid landscape, Global AIDS Monitoring and ARV Survey, AMDS report

HIVST has played a role in ART scale-up

 # PLHIV Diagnosed (Millions)

HTS scale-up initially slows. Traditional strategies with RDTs not enough.
Gradual increase begins following scale-up of community HTS, HIVST, partners testing, network-based testing

RDTs & HIVST centered >86% of PLHIV diagnosed – **further simplification still needed and gaps remain**

PEPFAR Results and Targets

Slow start to HTS - **limited to complex & costly lab tests.** In 2005 ~10% PLHIV diagnosed.

Transition to RDTs & PITC leads to steep increase in testing and initial ART scale-up; forms backbone of modern HTS programme

HTS slow down: Decreased donor targets, COVID-19 & delayed testing rebound

Self-testing becomes critical in many settings

Percent of people living with HIV who know their status

Source: UNAIDS special analysis, 2024

2005   2008   2011   2014   2017   2020   2023

HIVST has the power to transform HIV prevention

PrEP initiation
- Self-testing opens avenues for non-traditional service delivery models
- Eliminates the need for initial physical attendance at clinics

Effective PrEP use and continuation
- Self-testing can enhance effective use of PrEP and support PrEP continuation
- Could simplify or provide alternative means for reinitiation of PrEP (eg, using telePrEP options)

Role of HIV self-testing in strengthening HIV prevention services

Linkage to PrEP
- Self-testing creates an opportune moment to direct people towards effective HIV prevention
- There is mixed evidence for an effect on linkage

PEP Some acceptability and feasibility for PEP
- No trials have examined self-testing and linkage to PEP, or the follow-up of PEP users

Voluntary medical male circumcision
- Self-testing is frequently incorporated into circumcision programmes in the African region
- Self-testing might be used to generate demand for voluntary circumcision; however, existing evidence does not show that self-testing mobilises demand

~1.3 million new HIV infections annually

2030 goal: achieve < 335 000 HIV

HIVST helps us get there with flexible, low-cost, simplified services

Implementation research remains a priority – including for LA-PrEP

Source: Zhang, Johnson, Nguyen, Ong Lancet HIV 2025

Uptake of WHO recommendations on HIVST for PrEP is growing

HIVST for PrEP demand creation

Nepal: Gyani, a 28-year-old woman from Nepal's Rautahat district, is a PrEP champion. Gyani has inspired more than 40 of her peers, at substantial HIV risk to self-test, enroll in and take PrEP.

HIVST for PrEP initiation

Thailand: Pangpond, a 26-year-old man, was attracted to the convenience of self-testing for PrEP. "It was so simple. The clinic sent me the HIVST kit. I had to ask the clinic for advice online when I first used it, then I sent them the result, and they sent me PrEP to initiate. This was incredibly convenient, and I quickly regained control, feeling ready to enjoy life again."

HIVST for PrEP re-initiation

Brazil: João Luis, a TelePrEP user, reported that, "Self-testing is simple and quick, with clear instructions and results available in less than 20 minutes. This convenience ensures that tests are regular, protecting me against HIV. With a significant reduction in the time spent at health facilities."

HIVST for PrEP continuation

Eswatini: Sandra, a 29-year-old woman, explains her experience self-testing for PrEP. "This is a perfect arrangement. After self-testing negative, the nurse provided me with PrEP right away. I felt confident and took 2 tests kits for my partners so they could test themselves".

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HIVST in facilities can fill HRH gaps and lead to savings

- **Updated WHO operational guidance**
  - Low cost HIVST in facilities can fill gaps

- **Routinely using HIVST in facilities**
  - ~15-23% savings if using HIVST with up to 85% reduction in staff-time

- **If considering local economic impact (putting $$ toward jobs versus commodities)**
  - Return of investment is favorable using $1 HIVST

- **Cost of change and scale-up?**
  - Costs still 1.5–3.0% lower
  - Staff-time still falls by 40% and 80% respectively, when considering scale-up costs

Country-facing calculator in development for local planning for optimal savings for HRH and HIVST
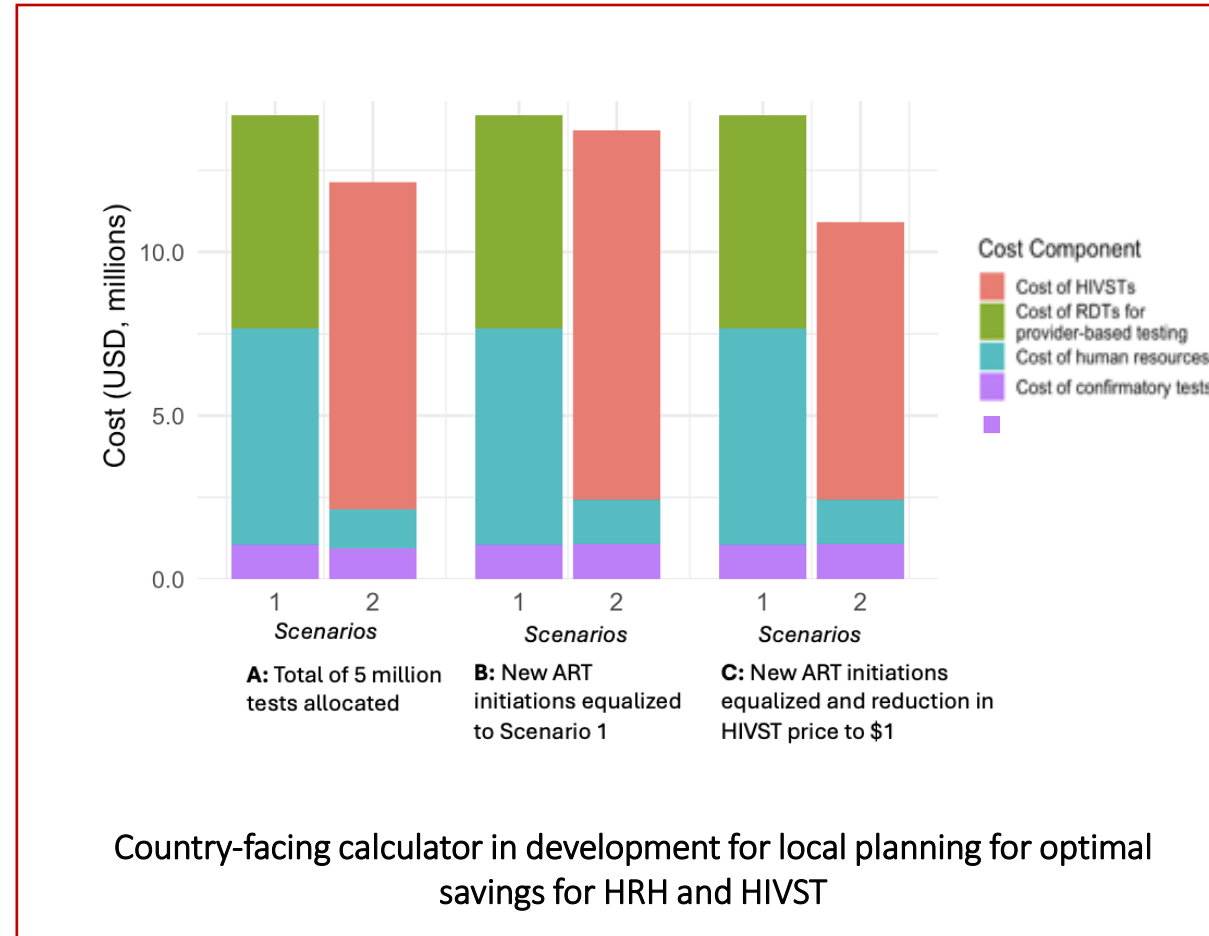
HIVST: from innovation to necessity

- **Self-care and self-testing**: one of the most powerful innovations to advance public health

- **Less funding** requires more flexible, resilient, local resource-driven self-care and   self-testing models

- **HIVST safeguards hard-won gains** and key to reimagining service delivery

Acknowledgements

Ministries of Health, communities, partners and the incredible colleagues from the STAR and ATLAS consortiums

Funders: Unitaid, BMGF, CIFF, PEPFAR/USAID and Global Fund

WHO 2024 HTS GL

WHO HIV Testing Services Dashboard

Self-testing tool kit

Network-based testing tool kit

For more information
Contact johnsonc@who.int

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Innovating with HIV self-testing for impact in southern Africa: Lessons learned from the STAR (Self-Testing AfRica) Initiative

Supplement guest editors

Consortium leads and co-authors

BMC Infectious Diseases

EDITORIAL   **Open Access**

HIV self-testing – the path from an innovation to a necessity

Muhammad S. Jamil[1*], Cheryl Johnson[2], Karin Hatzold[3], Thato Chidarikire[4,5], Elizabeth L. Corbett[6], Rachel Baggaley[2] and Vincent J. Wong[7]

Keywords HIV testing services, Self-test, Diagnosis

Self-care and self-testing have emerged amongst the most powerful innovations and tools to advance global public health. The concept of self-testing is not new—early applications such as home-based glucose monitoring for diabetes, pregnancy tests, and cholesterol testing set the path for adoption in infectious disease [1]. The transformative potential of self-testing was demonstrated during the COVID-19 pandemic as a breakthrough enabled by lessons learned from self-testing adoption in the HIV response [2]. The HIV community led the way in pioneering diverse distribution models that expanded access, increased acceptability, promoted autonomy, and enhanced impact by embracing this empowering, person-centered approach to service delivery. Crucially, early investments in implementation research during the introduction and scale-up phase helped establish a strong and credible evidence base. In doing so, self-testing was not only normalized, but laid the groundwork for broader self-care across disease areas. These advancements would not have been possible, or available in low- and middle-income countries, without the Self-Testing Africa Initiative (STAR) [3].

Launched in 2015 with support from Unitaid, STAR united governments, policymakers, regulators, scientists, implementers and communities to catalyze a shift in HIV service delivery. STAR was implemented through three distinct phases across 15 countries on three continents, and generated a robust body of evidence on accuracy, acceptability, client preferences, feasibility, safety, impact and cost-effectiveness of self-testing. These findings were instrumental in informing global policy development and advocacy. STAR delivered measurable results through distribution of more than 100 million HIV self-testing kits, primarily in Africa, significantly expanding testing coverage and access among underserved populations.

Evidence from STAR directly informed the first WHO self-testing guidelines in 2016 [4], as well as subsequent updates and global market-shaping efforts [5]. This evidence base was instrumental in catalyzing the WHO prequalification of seven HIV self-test products as of May 2025 and driving prices down to nearly $1 per test for low- and middle-income countries [6, 7]. These advances

STAR Initiative contributed to self-testing expansion globally

- STAR pioneered robust evidence generation and field experiences (>100 m distributed)
  - Catalyzed rapid C19 ST adoption (>100 countries), HCV and syphilis ST
  - Normalized ST and provided groundwork for broader self-care adoption
- Market shaping to improve access
  - 8 products WHO prequalified
  - Oral, blood and urine
  - Price below $1
- WHO normative/operational guidance supported country adoption and implementation
- Supplement gathers evidence on innovative approaches and models to achieve impact
  - 15 papers, 8 countries (ESA and WCA)

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A wide range of distribution models can be adapted

- Effective in **reaching priority populations** (men, key populations, first-time/non-recent testers)

- **Secondary distribution** highly effective and identifies undiagnosed HIV infections (5-25% positivity)

- Improves testing uptake during **STI consultations**

- **Community-based and community-led models**

  - Role of household heads influential

  - Community-led model identified more HIV-positives in communities with greater social cohesion*

*the degree to which an individual finds trust, solidarity, connectedness, and sense of belonging within a group in society

HIVST performance and client preferences

- In early studies, oral HIVST achieved acceptable performance in real work settings
  - Need to optimize national algorithms
- Blood-based ST achieved high performance in recent studies
- **Both oral and blood-based HIVST acceptable**
  - Oral fluid: 61% in Malawi, 50% in Zimbabwe
  - Blood: 39% in Malawi, 35% in Zimbabwe
  - Global review: similar uptake, acceptability, usability, and accuracy
  - Blood-based ST can offer opportunities for savings and scale-up
- Need for tailored support and strategies to improve performance in some contexts

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Costs and cost-effectiveness

- Costs per kit distributed

  - $7.9 - 14.8, secondary dist in South Africa

  - $18.9, community/workplace dist in Eswatini

- HIVST may achieve lower cost per person tested

  - self-test: $12.8 vs. standard testing: $14.1; median: $10.13

- Cost varied by distribution model

- Higher uptake, linkage and scale improve cost-effectiveness
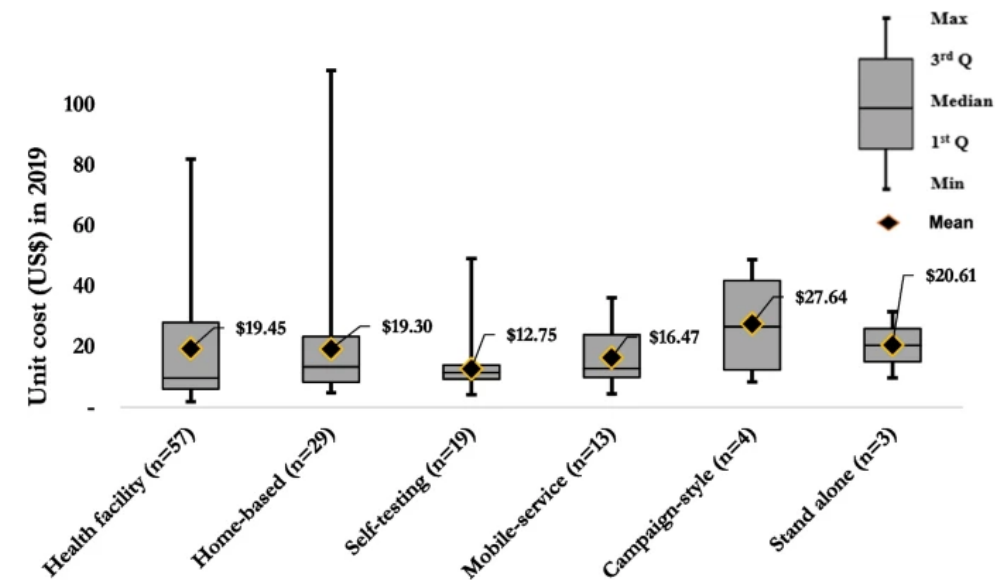
Mean and distribution of the incremental cost per person tested by mode of HTS in 2019 US$

Key takeaways

- HIVST has emerged as a scalable, resilient and evidence-based tool for driving impact

- Urgent need to institutionalize ST/self-care models as the standard of care in public health programmes

- Declining global funding requires efficient delivery models - STAR offers a proven roadmap for success

- **ST – no longer an innovation, but a necessity!**

Thank You

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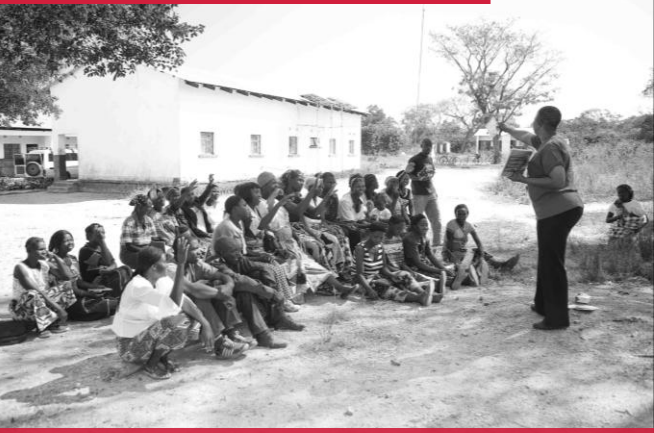
UNITAID ♦ PSI
HIV SELF-TESTING AFRICA

Offering choice: Blood-based HIV self-testing

Pitchaya Peach Indravudh
London School of Hygiene & Tropical Medicine

Why compare oral-fluid vs blood-based HIVST?

- Oral-fluid HIVST kit (OraSure) was the dominant test used in STAR

  - First to have WHO approval

  - Easy to use, with mouth swab and no specimen transfer

  - High accuracy despite potential for user errors

 - Contributed to willingness to support HIVST as a concept

Why compare oral-fluid vs blood-based HIVST?

- Oral-fluid HIVST kit (OraSure) was the dominant test used in STAR
  - First to have WHO approval
  - Easy to use, with mouth swab and no specimen transfer
  - High accuracy despite potential for user errors
  - Contributed to willingness to support HIVST as a concept

- BUT
  - Higher production costs
  - 'Second generation' HIV test
    - Oral mucosal transudate means no detection of acute HIV (IgM) antibodies
    - No detection of virus particles
    - Longer 'window period' that other tests
  - Healthy markets and innovation need multiple products for competition

STAR special issue

Accuracy of and preferences for blood-based versus oral-fluid-based HIV self-testing in Malawi: a cross-sectional study

Ailva O'Reilly[1*], Webster Mavhu[2,3], Melissa Neuman[4], Moses K. Kumwenda[1,3], Cheryl C. Johnson[5], George Sinjani[1], Pitchaya Indravudh[6], Augustin Choko[1,3], Karin Hatzold[7] and Elizabeth L. Corbett[1,8]
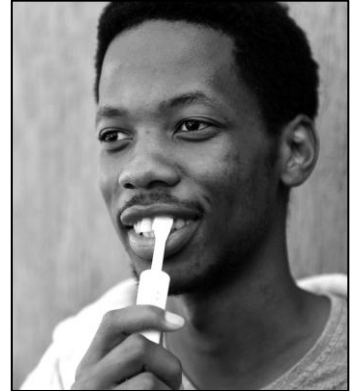
Preferences for oral-fluid-based or blood-based HIV self-testing and provider-delivered testing: an observational study among different populations in Zimbabwe

Webster Mavhu[1,2], Memory Makamba[1], Karin Hatzold[3], Galven Maringwa[1], Albert Takaruza[1], Miriam Mutseta[4], Getrude Ncube[5], Frances M. Cowan[1,2] and Euphemia L. Sibanda[1,2*]

Options for HIV self-testing
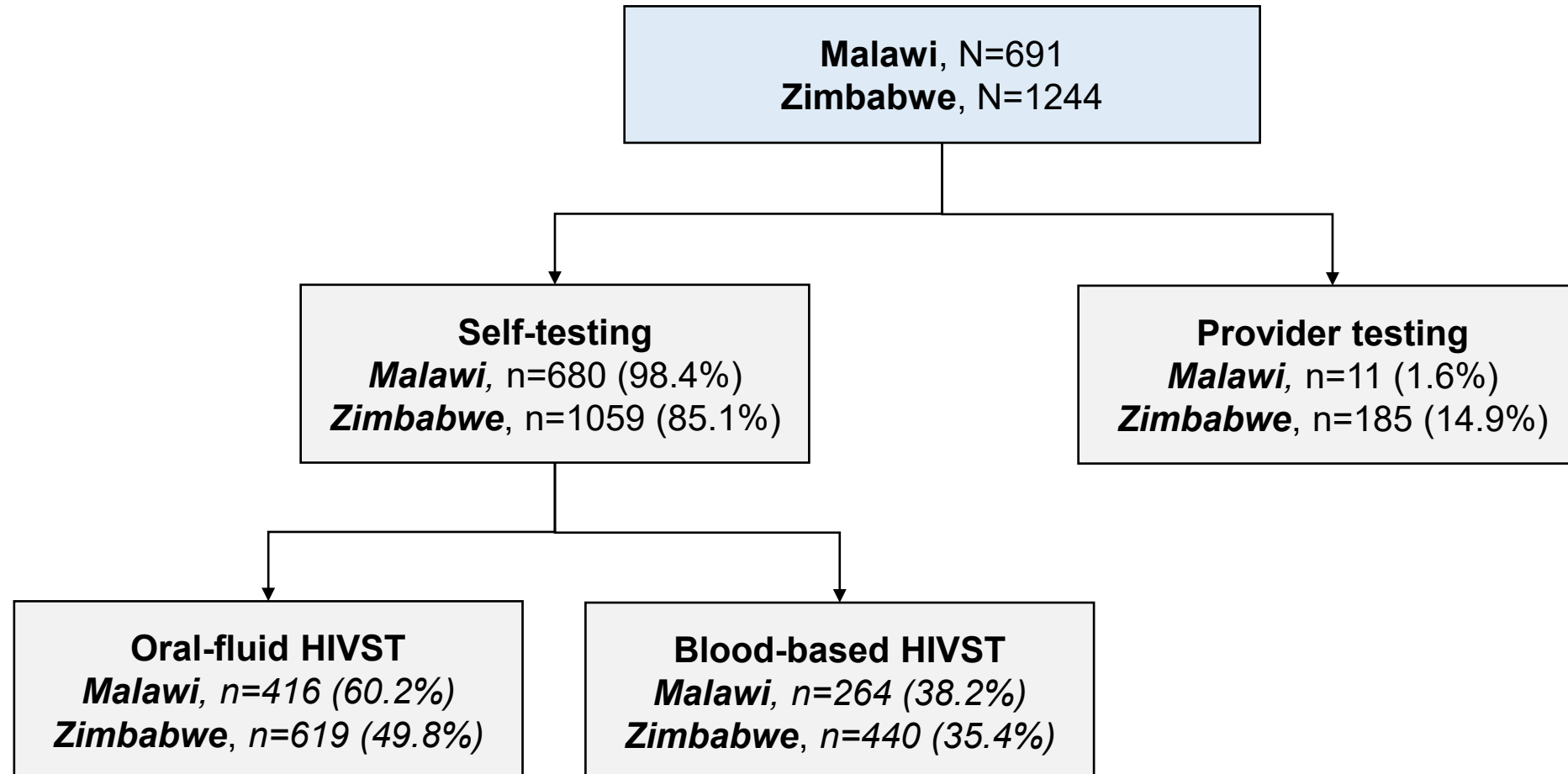

Sensitivity: 99.3%
Specificity: 99.8%

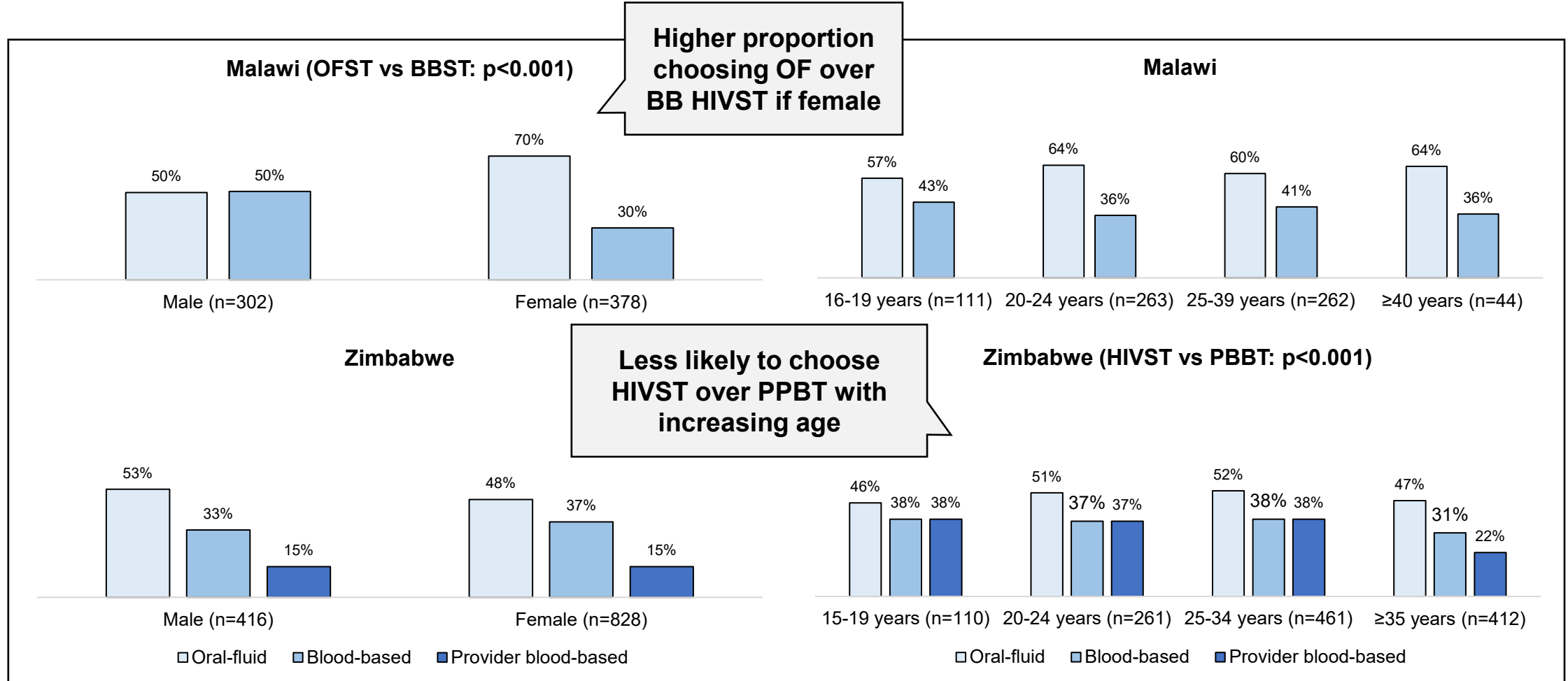**Sensitivity:** 99.8%
Specificity: 99.5%

Study design

	Malawi	Zimbabwe
Setting	Blantyre 4 government health centres	Harare 2 government health centres, 1 VMMC clinic, 1 WESW clinic
Population	≥16 years old and not aware of HIV status	≥15 years old and not aware of HIV status
Choice of test	1. OraQuick HIVST 2. INSTI HIVST 3. Provider BBT using national algorithm	1. OraQuick HIVST 2. INSTI HIVST 3. Provider BBT using national algorithm
Support for HIVST	Instructions-for-use and demonstration	Instructions-for-use and demonstration
Outcomes	Choice of HIV testing and self-testing Accuracy of HIVST against national algorithm	Choice of HIV testing and self-testing
Data collection	Pre and post-test questionnaire at visit	Pre-test questionnaire at visit 2-week post-test phone questionnaire 3-month post-test in-depth interview

Choice of HIV testing and self-testing

Malawi, N=691
Zimbabwe, N=1244

Self-testing
Malawi, n=680 (98.4%)
Zimbabwe, n=1059 (85.1%)

Provider testing
Malawi, n=11 (1.6%)
Zimbabwe, n=185 (14.9%)

Oral-fluid HIVST
Malawi, n=416 (60.2%)
Zimbabwe, n=619 (49.8%)

Blood-based HIVST
Malawi, n=264 (38.2%)
Zimbabwe, n=440 (35.4%)
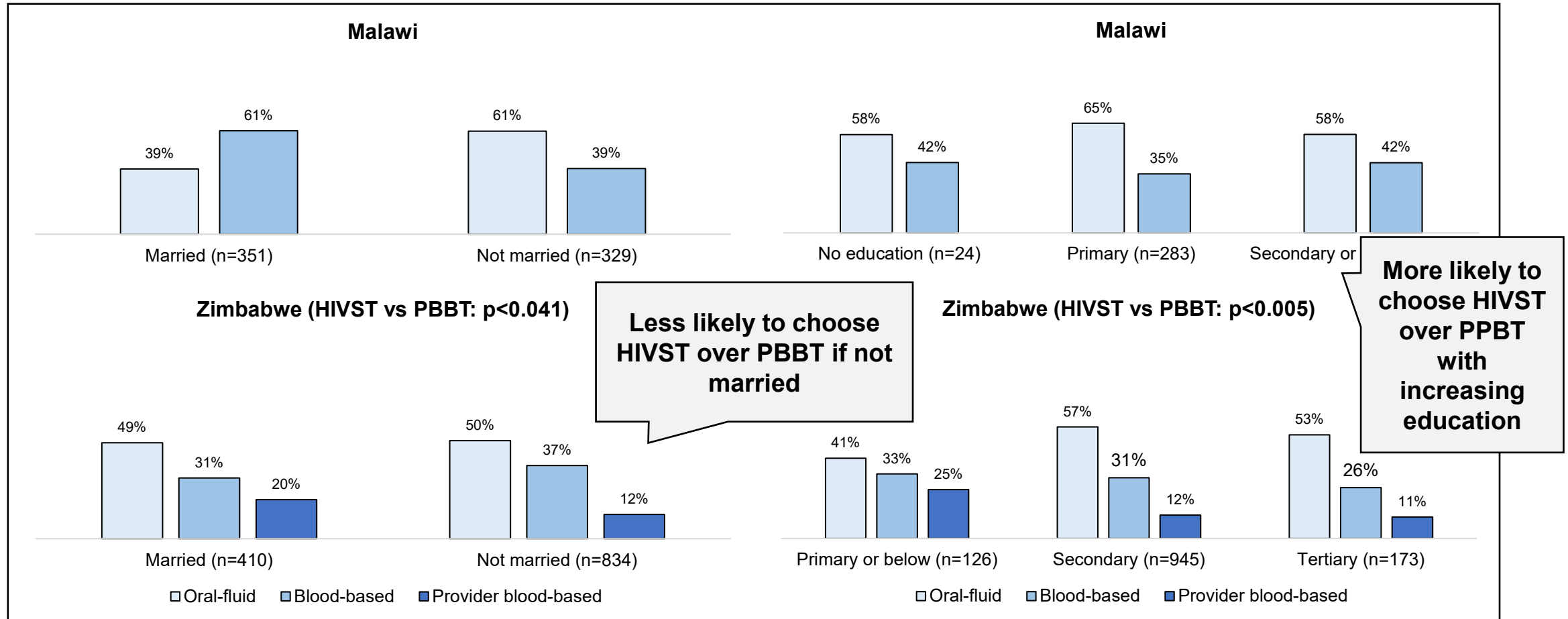
Determinants of choice: sex and age

Determinants of choice: site
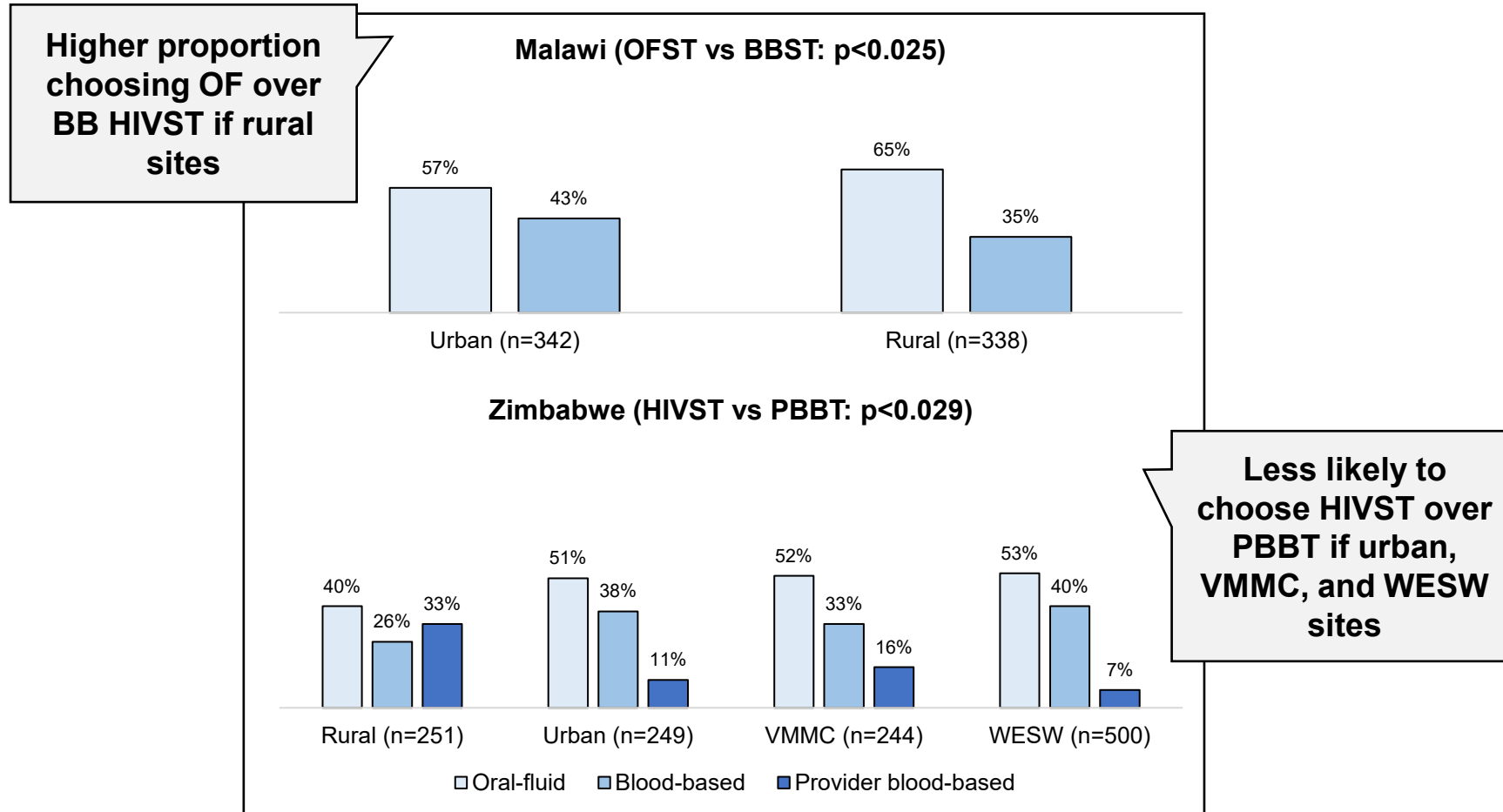
Determinants of choice: marital status and education

Determinants of choice: literacy and employment

Malawi (OFST vs BBST: p<0.085)

Higher proportion choosing OF over BB HIVST if illiterate

Malawi (OFST vs BBST: p<0.012)

- Literate (n=600): 60%, 40%
- Not literate (n=80): 70%, 30%
- Has regular salary (n=109): 60%, 40%
- Does not have regular salary (n=571): 70%, 30%

Zimbabwe (OFST vs BBST: p<0.036)

Less likely to choose OF over BB HIVST if illiterate

Zimbabwe (OFST vs BBST: p<0.091)

- Literate (n=1225): 50%, 35%, 15%
- Not literate (n=19): 21%, 53%, 26%
- Has regular salary (n=398): 54%, 33%, 13%
- Does not have regular salary (n=846): 48%, 37%, 16%

□ Oral-fluid ☐ Blood-based ■ Provider blood-based

Determinants of choice: literacy and employment
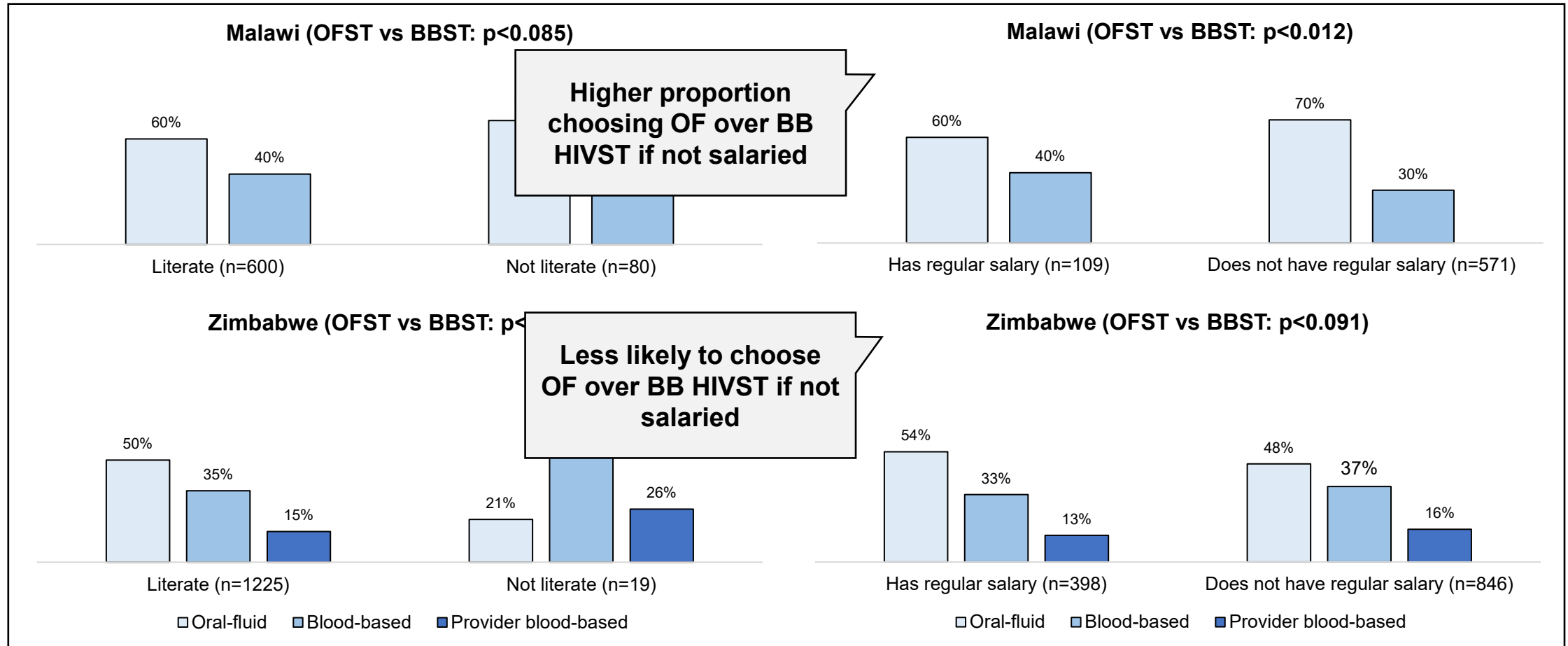
Determinants of choice: qualitative findings

- HIVST preferred over provider BBT due to its accessibility, convenience, and privacy.

> *'Nurses are very "rough" to us sex workers and so it will really help if we are able to test ourselves and not go to them every time'*

- Oral-fluid HIVST preferred over blood-based HIVST since perceived to be less invasive and painful. Interest expressed in alternative methods to finger-prick testing. Some concerns raised over accuracy of oral-fluid sample.

> *'Isn't it we have always been told that HIV cannot be transmitted through saliva? Why are they now saying saliva can show whether or not one has HIV?'*

Accuracy of HIV self-testing

		Provider BB testing using national algorithm	
		Positive	**Negative**
Self-read oral-fluid HIVST (n=416)	**Positive**	16 (3.8%)	5 (1.2%)
	Negative	2 (0.5%)	393 (94.5%)
	Sensitivity and specificity	*Sensitivity: 88.9% (65.3–98.6%)*	*Specificity: 98.7% (97.1–99.6%)*
Self-read blood-based HIVST (n=244)	**Positive**	11 (4.6%)	1 (0.4%)
	Negative	0 (0%)	232 (95.1%)
	Sensitivity and specificity	*Sensitivity: 100.0% (71.5–100.0%)*	*Specificity: 99.6% (97.6–100.0%)*

Conclusion

- Oral-fluid and blood-based HIVST is very accurate with in-person demonstration, with higher accuracy in blood-based HIVST

- Oral-fluid HIVST preferred over blood-based HIVST, and HIVST preferred over provider blood-based testing

- Variation in preferences by country, sex, age group, site, and other factors, highlighting need to ensure availability of a range of options for different users

Acknowledgments

Community-led approaches for delivering HIVST

Euphemia Sibanda

CeSHHAR Zimbabwe

Community-led approaches in STAR Initiative

- Community-led responses - actions/strategies informed by communities, implemented by/for them to improve their health and human rights *UNAIDS 2022*

- In STAR we implemented different community-led models
  - Intensely supported door-to-door distribution of HIVST
  - Models tailored to community preferences, with less programmatic support

- Distribution was done over a defined period per community

- Evaluation using population-representative surveys

Overview of community-led HIVST engagements

1

Community entry
- PSI and research team meet with community leadership
- Study introduced and explained
- Community leader gives consent for community's participation
- PSI and research team obtain leader's buy-in that intervention will be allowed to be truly community-led

2

Week 1: Community entry and engagement by PSI
Community meeting introducing concept of community-led model. Importance of HIV testing for U=U explained. Community invited to design own HIVST model:
- Who distributes the kits
- Whether distributors will be incentivised
- Nature and size of incentives, if given
- Procedures for preventing loss/theft of kits
- How to ensure adherence to regulatory requirements

Repeat support visit if community is not ready

Week 2: Support visit
PSI visit the community to assess progress with design of community-led model and offer support, if needed.

Week 3: Training visit
PSI return to the community, verify readiness, train distributors and drop off initial batch of kits

Ongoing messaging on U=U

Effect of door-to-door delivery of HIVST

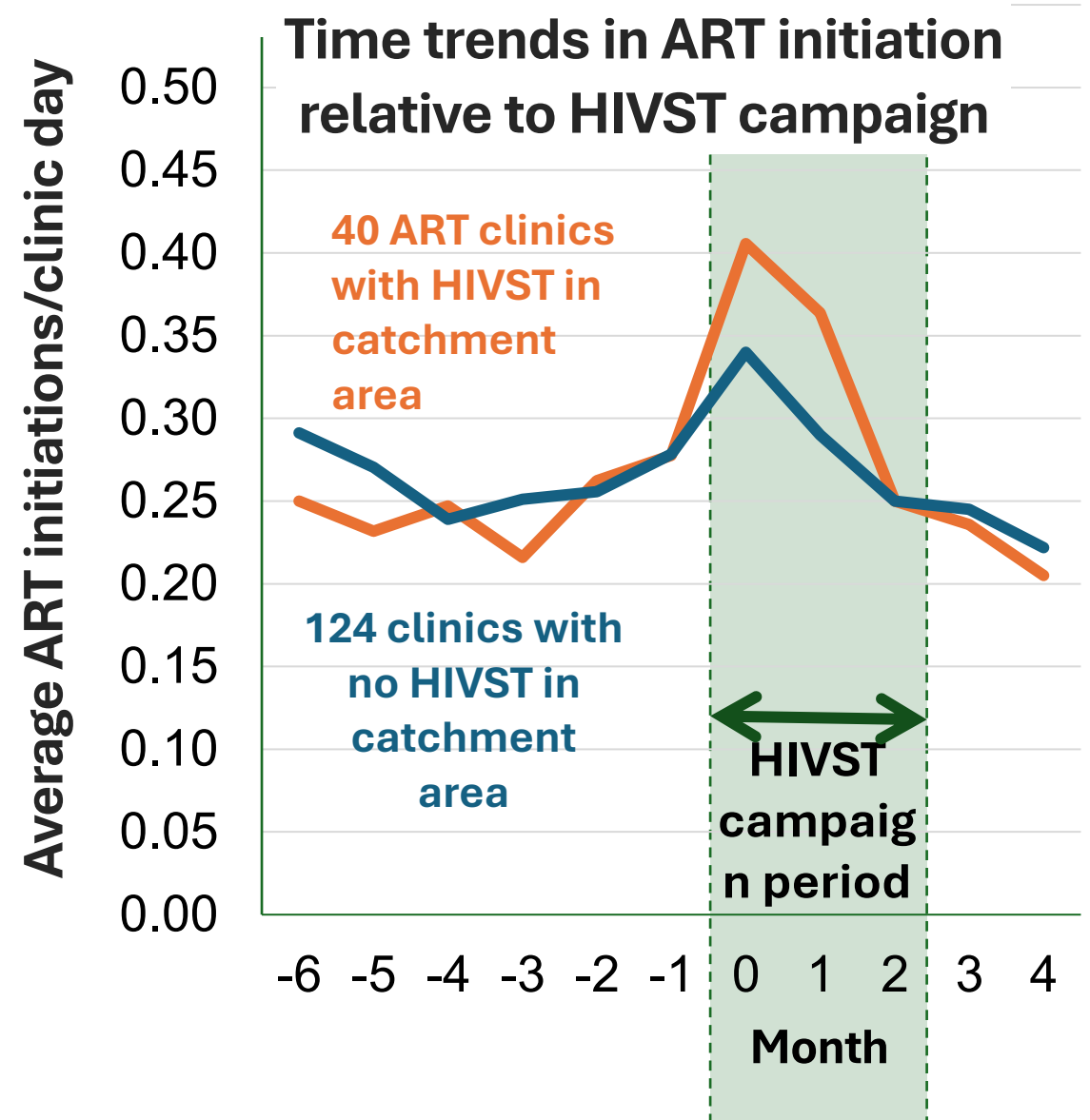**Improved uptake of HIV testing**

- In Malawi higher prevalence of recent testing following door-to-door distribution, 68.5% vs 48.9%, aRD 16.1% (95% CI 6.5% to 25.7%)

  Indravudh et al BMJ Glob Health 2021

- 42%-50% used HIVST during campaigns in Zimbabwe & Malawi

- Across Zimbabwe & Malawi improved testing coverage among groups who would not otherwise test
  - Young people
  - Men

Indravudh et al BMJ Glob Health 2021
Sibanda et al BMJ Glob Health 2021

Time trends in ART initiation relative to HIVST campaign

40 ART clinics with HIVST in catchment area

124 clinics with no HIVST in catchment area

HIVST campaign period

Average ART initiations/clinic day

0.50 0.45 0.40 0.35 0.30 0.25 0.20 0.15 0.10 0.05 0.00

-6 -5 -4 -3 -2 -1 0 1 2 3 4

Month

Impact sustained with less intensely supported models – at lower cost

Zimbabwe

Outcome	Intensely supported model	Tailored, less intensely supported model	Adjusted Odds ratio (95% CI)	P
Linkage to post-test services	361/1508 (23.9%)	318/1229 (25.9%)	1.1 (0.75 to 1.49)	0.8
New HIV diagnosis	197/5467 (3.6%)	211/5683 (3.7%)	1.1 (0.72 to 1.56)	0.8
Cost/kit distributed **at model inception**	**$14.52**	**$10.25**		

Sibanda et al BMJ Glob Health 2021

Malawi

Outcome	Standard of care	Community-led model	Adjusted Risk Difference (95% CI)	P
Lifetime testing - adolescents	582/867 (67.1%)	770/910 (84.6%)	15.2% (7.5%- 22.9%)	<0.001
Recent testing – age >40 yrs	350/1,111 (31.5%)	869/1,166 (74.5%)	42.1% (34.9-49.4%)	<0.001
Recently tested men	507/1,495 (33.9%)	1,177/1,577 (74.6%)	40.2% (32.9%-47.4%	<0.001
Cost/kit distributed	**$5.70 in community led arm versus $8.15 for door-to-door**			

Indravudh et al PLoS Med 2021

Lessons learned from community-led HIVST

- Nested qualitative studies demonstrated **high acceptability** of community-led HIVST approaches

- Fidelity to regulatory requirements of consent and confidentiality

- Evidence that intervention was truly community-led in most communities

  "This program was placed in our hands as a community, so it was us who planned how it would proceed, as a community." **69-year-old, female community member, IDI)**

- Communities where decisions were not collectively made struggled with acceptance

- Need to be careful that distributors are not overburdened
  The support I expected, sometimes I would be hungry when I left home, yet our community is large geographically...I wouldn't even have water to drink, yet I was supporting them so that they could test themselves and have brighter health prospects **(26 - year - old, male Distributor)**

Mancitshana IAS 2023, Melbourne

But who remains behind in community-led HIVST?

- Following intense community HIVST campaigns in 38 rural communities between September 2016 and July 2017 in Zimbabwe, we sought to understand
  - % who had never heard of HIVST
  - Characteristics of people who had not heard of HIVST

- Secondary analysis of data from 7,146 individuals enrolled in a post-intervention population-representative trial survey

- Outcome variable: Y/N to *Have you heard about HIV self-testing as a method for testing for HIV?"*

- Multivariable mixed-effects logistic regression, adjusted for clustering, to determine factors associated with never having heard about HIVST

Rotsaert et al BMC Infectious Diseases 2022

Results

- Among 7,146 surveyed individuals, 1,308 (18.3%) self-reported that they had never heard about HIVST

- No differences by sex, marital status or risk of common mental disorders in adjusted analyses

- Table below show factors associated with not having heard of HIVST

Learning event – communities sharing ideas on community-led HIVST

Rotsaert et al BMC Infectious Diseases 2022

Factors associated with not having heard of HIVST (1)

Factor	Did not hear of HIVST	Odds Ratio (95% CI)	Adjusted Odds Ratio (95% CI)	P
Age (years)				<0.001
16-19	284 (25.7%)			
20-29	277 (17.6%)	0.57 (0.46–0.71)	0.74 (0.58–0.95)	
30-39	185 (13.0%)	0.38 (0.30–0.49)	0.56 (0.42–0.74)	
40-49	131 (12.4%)	0.35 (0.27–0.45)	0.50 (0.36–0.68)	
50-59	126 (16.0%)	0.49 (0.37–0.64)	0.58 (0.42–0.82)	
60+	288 (24.9%)	0.94 (0.75–1.17)	0.99 (0.72–1.36)	
Highest level of education				<0.001
None/primary	680 (21.9%)			
Some secondary	355 (18.6%)	0.82 (0.69–0.96)	0.84 (0.70–1.02)	
Ordinary level complete	227 (12.6%)	0.50 (0.42–0.61)	0.58 (0.46–0.72)	
Advanced level and above	46 (13.3%)	0.54 (0.37–0.78)	0.51 (0.34–0.76)	
Spoken language				0.006
Shona	807 (16.3%)			
Ndebele	254 (21.5%)	1.43 (1.14–1.79)	1.28 (1.02–1.61)	
Kalanga	161 (24.8%)	1.76 (1.36–2.29)	1.58 (1.21–2.07)	
Tonga	5 (17.9%)	1.21 (0.39–3.70)	0.93 (0.29–3.03)	
Other	77 (23.5%)	1.66 1.20–2.31	1.47 (1.04–2.07)	

Factors associated with not having heard of HIVST (2)

Factor	Did not hear of HIVST	Odds Ratio (95% CI)	Adjusted Odds Ratio (95% CI)	P
Occupation				0.013
Student	168 (24.1%)			
Subsistence farmer	784 (16.9%)	0.57 (0.46–0.72)	0.83 (0.62–1.10)	
Self-employed	258 (19.8%)	0.70 (0.54–0.92)	1.08 (0.79–1.46)	
Formal employment	98 (18.7%)	0.68 (0.49–0.95)	1.17 (0.81–1.70)	
Perception of general health				0.017
Very good	318 (17.2%)			
Good	466 (17.2%)	0.96 (0.80–1.15)	1.04 (0.85–1.25)	
Fair	278 (19.1%)	1.02 (0.83–1.26)	1.10 (0.88–1.38)	
Poor	214 (21.2%)	1.20 (0.96–1.51)	1.30 (1.01–1.67)	
Don't want to answer	32 (29.6%)	1.93 (1.16–3.22)	2.15 (1.27–3.65)	
Community resident in last 12 months				<0.001
No	121 (29.3%)			
Yes	1187 (17.6%)	0.44 (0.33–0.57)	0.48 (0.36–0.63)	
Ever tested for HIV				< 0.001
No	321 (18.7%)	0.24 (0.20–0.30)	0.30 (0.25–0.37)	
Yes	987 (17.9%)			
Household head	485 (16.8%)			0.1002
Household head representative	153 (16.4%)	0.93 (0.74–1.17)	1.07 (0.83–1.37)	
Not h.head or representative	670 (20.1%)	1.27 (1.10–1.47)	1.21 (1.01–1.45)	

Discussion (1)

- Community-led initiatives need to ensure that no one is left behind
  - Young people - autonomy, control, respect and confidentiality are important - *Indravudh AIDS 2017*
- Targeting also important for:
  - Older people 60+ years
  - Less educated
  - Other characteristics that may isolate e.g. language, new to community, poor health
  - People who are not household heads – ensure that communication is cascaded to everyone in household – cultural sensitivities important
- Important to ensure collective decision-making during model development
- Important to prevent overburdening of selected distributors

Discussion (2)

- Additional secondary analysis of our community-led trial in Zimbabwe showed importance of community cohesion for optimally targeting people who need to test

- Outcome - % new HIV diagnosis
  - low cohesion communities - 32/1,770 (1.8%)
  - medium-cohesion communities - 40/1,871 (2.1%) aOR 2.94 (1.41-6.12), p = 0.004
  - High cohesion communities 66/2,042 (3.2%) aOR 7.20 (2.31-22.50), p = 0.001

Tumushime & Ruhode et al PLoS Gobal Public Health 2025

Conclusions

- Community-led HIVST is feasible and acceptable and achieves high testing uptake. **Most successful when decisions are collectively made and for communities with good cohesion**

- Even in intense community-based interventions some people remain behind
  - Important understand the vulnerable groups and implement strategies for preventing this
  - We showed feasibility and effectiveness of supporting communities to develop and implement interventions that optimise HIVST uptake among people who need the intervention most

- Community-led interventions hold promise for other interventions within and outside HIV