

The future of HIV testing in east and southern Africa – how to realize the potential of HIV self-testing

Session overview

Time	Presentation title	Speaker (s)
8:45-8:50	Welcome and overview	Maaya Sundaram, BMGF
8:50-9:00	Realizing the potential of HIV self-testing in eastern and southern Africa	Anna Grimsrud, IAS
9:00-9:30	Panel discussion	Chair: Maaya Sundaram, BMGF Panelists: <ul style="list-style-type: none"> • Kelvin Balakasi, PIH Malawi • Taryn Barker, CIFF • John Bosco Matovu, CQUIN/ICAP • Rachel Baggaley, WHO • Shylet Msiza, CeSHHAR • Geoffrey Taasi, MoH Uganda

Realizing the potential of HIV self-testing in eastern and southern Africa

The future of HIV testing in eastern and southern Africa

- Great progress towards the global target of 95% of people living with HIV knowing their status

AND

- HIV testing is still critical to reach those not on treatment and support prevention

POLICY FORUM

The future of HIV testing in eastern and southern Africa: Broader scope, targeted services

Anna Grimsrud^{1*}, Lynne Wilkinson^{1,2}, Peter Ehrenkranz³, Stephanie Behel⁴, Thato Chidarikire⁵, Tina Chisenga⁶, Rachel Golin^{7,8}, Cheryl Case Johnson⁹, Maureen Milanga¹⁰, Obinna Onyekwena¹¹, Maaya Sundaram³, Vincent Wong⁸, Rachel Baggaley⁹

1 IAS—International AIDS Society, Cape Town, Western Cape, South Africa, 2 University of Cape Town, Cape Town, South Africa, 3 Bill & Melinda Gates Foundation, Seattle, Washington, United States of America, 4 Centres for Disease Control and Prevention, Atlanta, Georgia, United States of America, 5 South Africa National Department of Health, Pretoria, Gauteng, South Africa, 6 Zambia Ministry of Health, Lusaka, Zambia, 7 Office of the Global AIDS Coordinator and Health Diplomacy, Washington DC, United States of America, 8 United States Agency for International Development, Washington DC, United States of America, 9 World Health Organization, Geneva, Switzerland, 10 Health GAP, Nairobi, Kenya, 11 The Global Fund, Geneva, Switzerland

* anna.grimsrud@iasociety.org



OPEN ACCESS

Citation: Grimsrud A, Wilkinson L, Ehrenkranz P, Behel S, Chidarikire T, Chisenga T, et al. (2023) The future of HIV testing in eastern and southern Africa: Broader scope, targeted services. *PLoS Med* 20(3): e1004182. <https://doi.org/10.1371/journal.pmed.1004182>

Academic Editor: Jennifer Thorley, NIA, UNITED KINGDOM

Published: March 14, 2023

Copyright: This is an open access article, free of all copyright, and may be freely reproduced, distributed, transmitted, modified, built upon, or otherwise used by anyone for any lawful purpose. The work is made available under the [Creative Commons CC0](https://creativecommons.org/licenses/by/4.0/) public domain dedication.

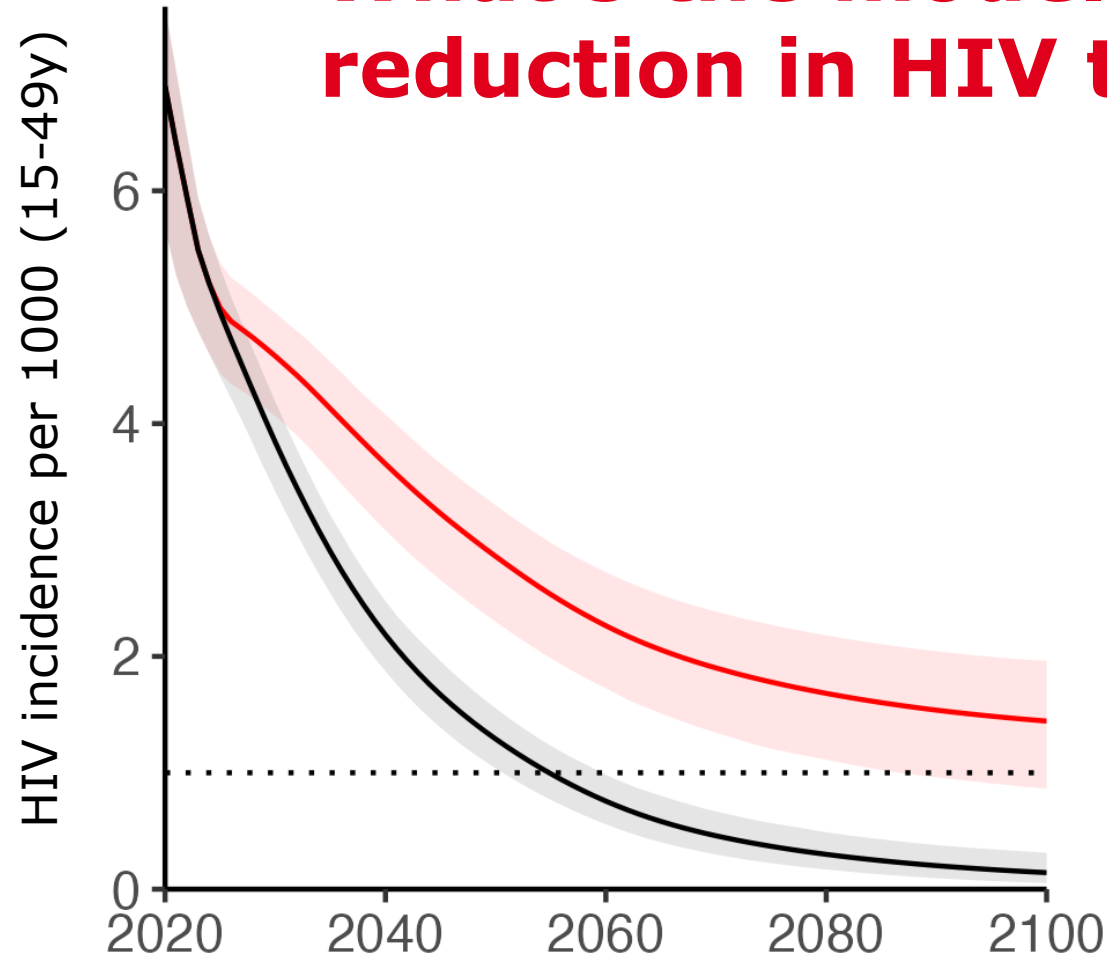
Funding: This article was made possible by the support of the American people through the U.S. Centers for Disease Control and Prevention and the United States Agency for International Development (USAID) under the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). AG is supported by the Bill & Melinda Gates Foundation (INV002610 and INV047567). The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Competing interests: The authors have declared that no competing interests exist.

Summary points

- Scale-up of HIV testing services (HTS), primarily through routine offer of HIV testing in health services, has led to an increase in the proportion of people with HIV who know their status and are accessing HIV treatment.
- In eastern and southern Africa (ESA), home to more than half of people living with HIV globally, many countries are close to reaching global targets for HIV treatment and viral suppression, with slower progress towards the global target that 95% of people should know their HIV status. Given this, it is critical to update the approach to HIV testing to reflect changes in the HIV epidemic, the response to it, and to acknowledge ongoing resource constraints.
- An expert consultation series defined this updated approach as a shift to “broader scope, targeted services.” Over the next decade, HTS in ESA should implement a status-neutral approach that maintains core testing services to reach the greatest number of people with HIV not on treatment, while broadening the scope to support linkage to appropriate prevention and treatment. It is important that HTS programs use a strategic mix of modalities focused on people most likely to have undiagnosed HIV, those who are not on ART, and people who are more vulnerable to HIV acquisition.
- Ten key themes for the future of HTS were articulated. The most critical are: promote a status-neutral approach to HTS; realize the potential of HIV self-testing (HIVST); prioritize facility-based HTS; reframe retesting among those previously diagnosed but not currently on antiretroviral therapy (ART) as an opportunity; and involve and invest in community leadership and community-led monitoring (CLM) to ensure HTS meets the needs and preferences of clients.

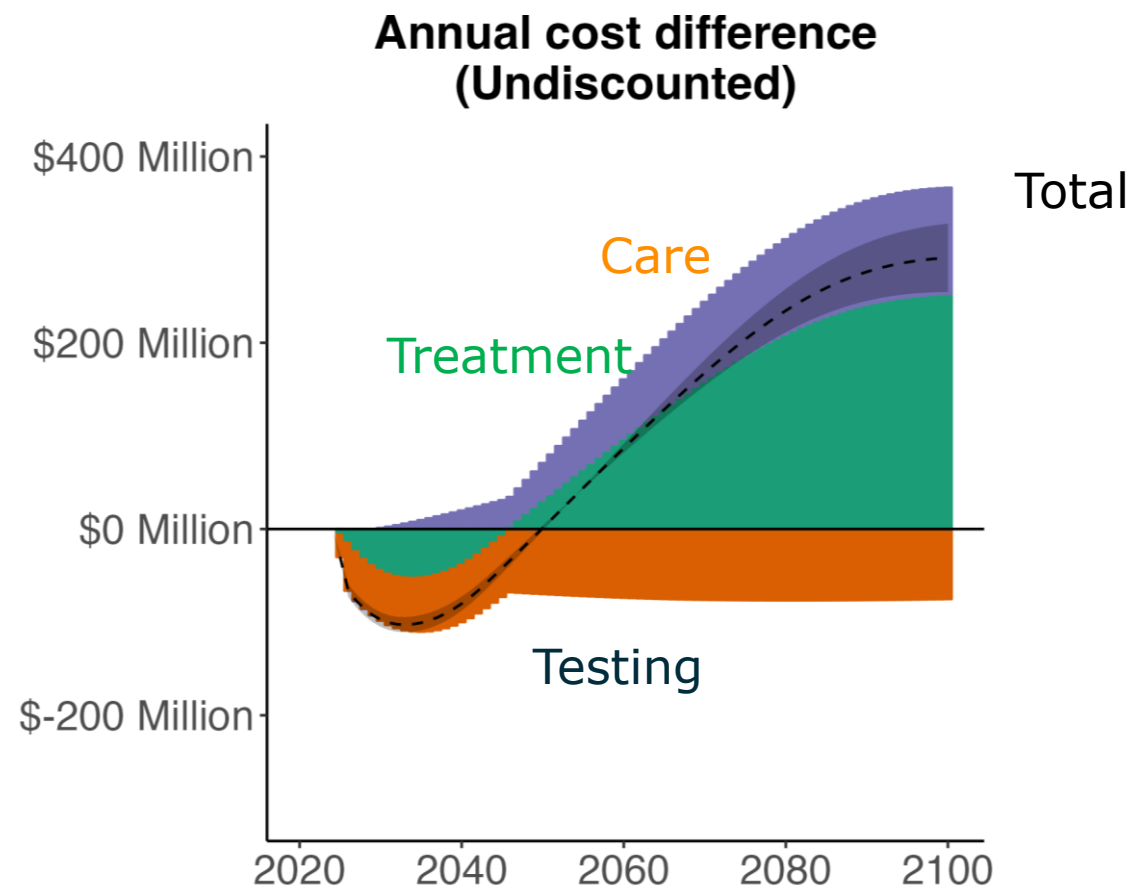
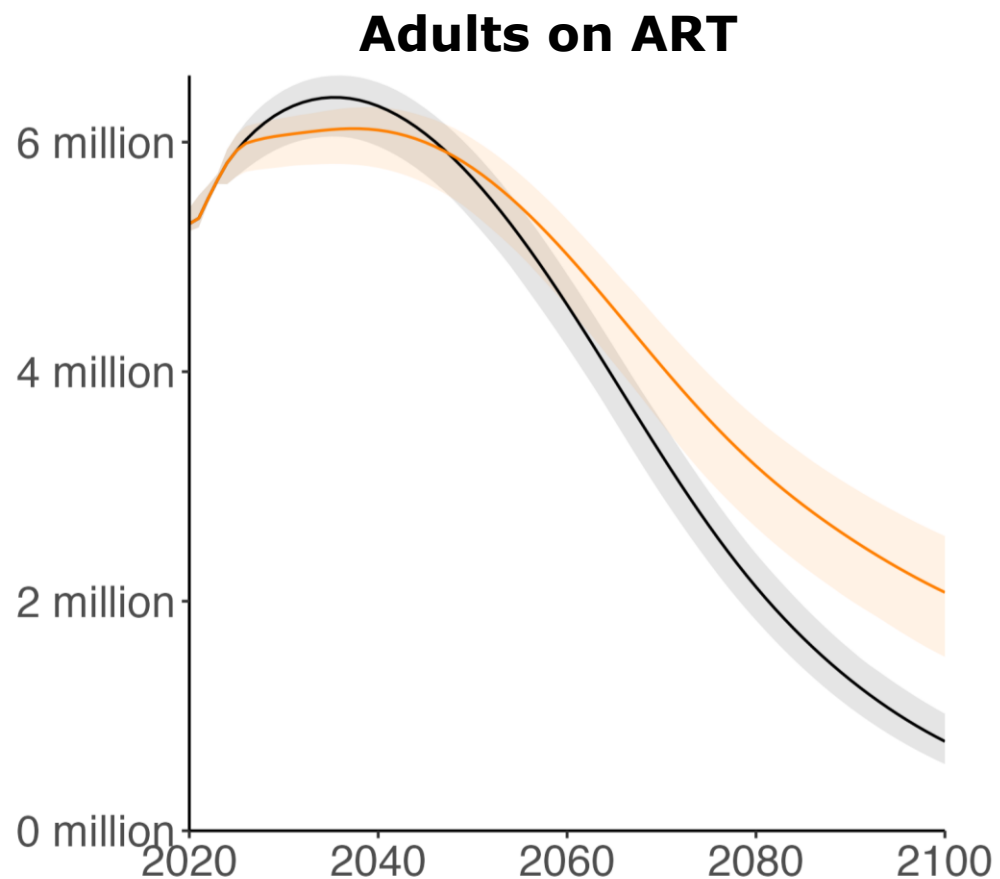
What's the modelled impact of an 80% reduction in HIV testing from 2025?



- **64% more new infections over 50 years**
- **45% more AIDS deaths**
- Incidence continues to decline—no explosive incidence
- BUT: longer time to diagnosis / re-engagement → slower HIV incidence decline



Short-term savings from scaling-back HIV testing But slower incidence decline → more ART need → higher long-term costs



10 key themes

1. Broaden global understanding of HTS as a status-neutral approach requiring linkage to and engagement in prevention and treatment services
2. Realize the potential of HIVST
3. Continue prioritizing facility HTS
4. Scale use of targeted testing approaches to reach untested individuals
5. Reframe retesting among those previously diagnosed as an opportunity for essential (re)engagement
6. Involve communities and invest in CLM
7. Integrate person-centered HTS into primary healthcare services that prevention, diagnose and treat a full range of health conditions
8. Expand use of virtual interventions and digital tools to support HTS
9. Improve community prevention and treatment literacy, including U=U messaging
10. Regularly update strategic mix of differentiated HTS

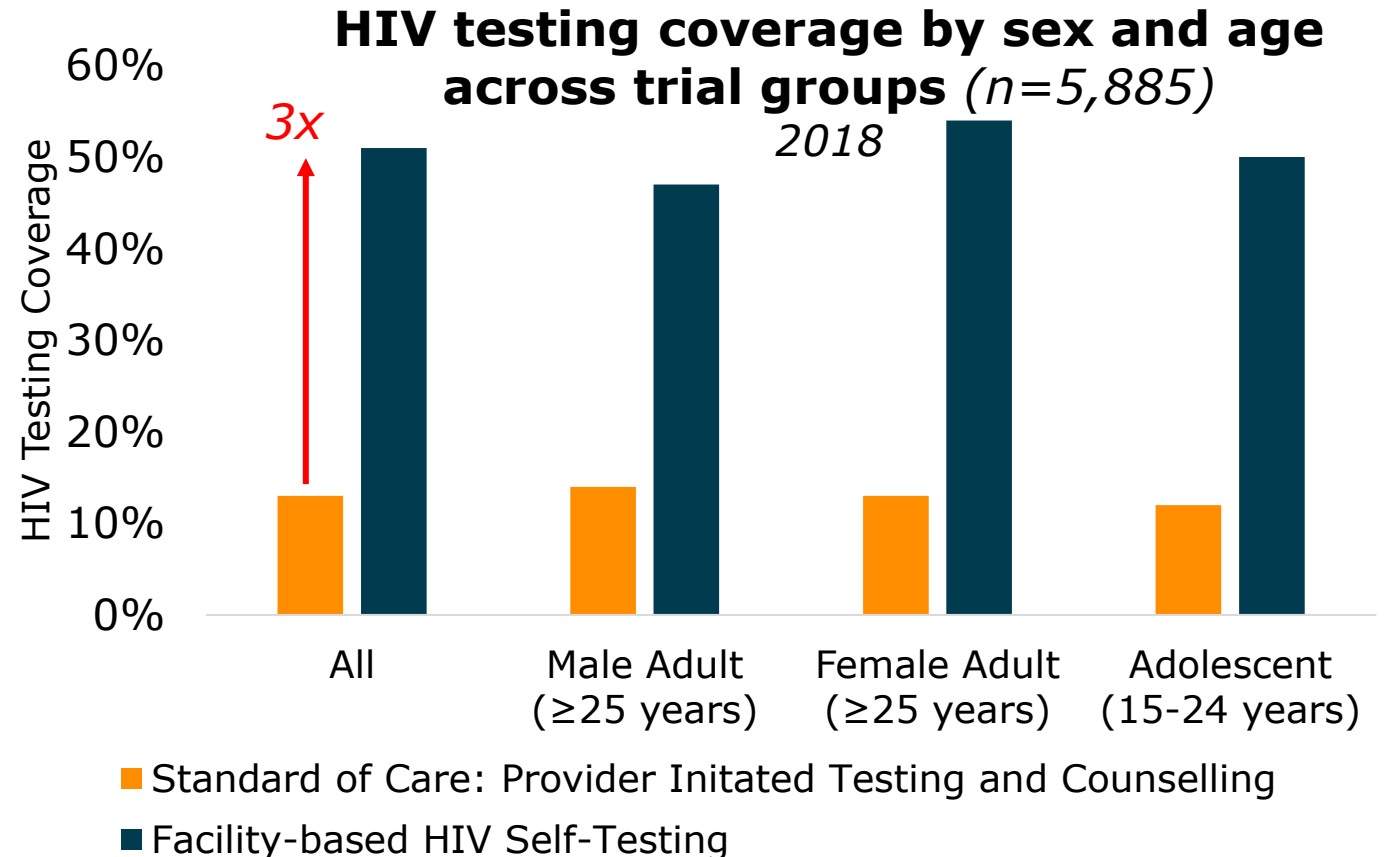
»Expand and scale HIVST to reach undertested populations within routine and specialized testing approaches and to support uptake and sustained use of HIV prevention services”

Realizing the potential of HIVST offers a number of opportunities



HIVST within facilities can increase HTS coverage

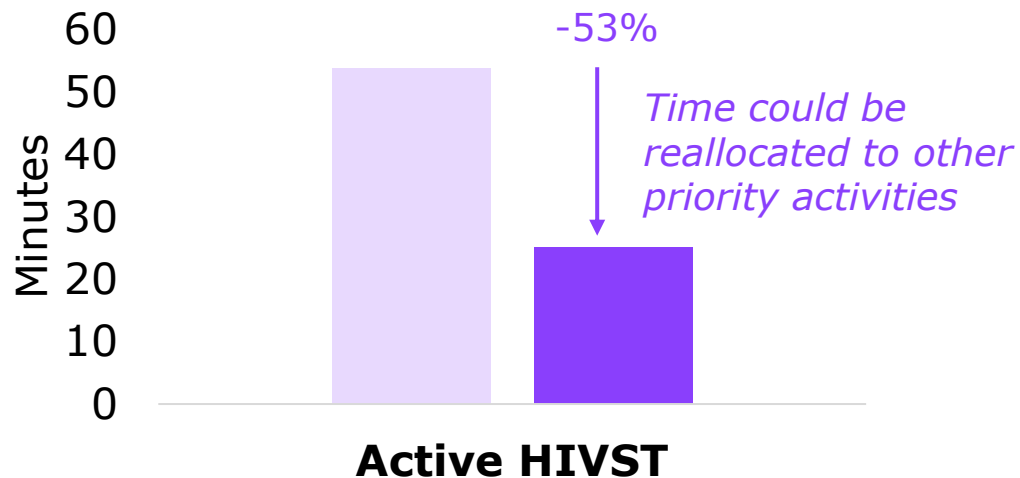
- HIVST offered in facilities is **acceptable**
- **Results in similar positivity rates to standard PITC**
- **3x increase in overall testing uptake**, including among men and young people



Source: Dovel, K., Shaba, F., Offorjebe, O. A., Balakasi, K., Nyirenda, M., Phiri, K., ... & Cele, R. (2020). Effect of facility-based HIV self-testing on uptake of testing among outpatients in Malawi: a cluster-randomised trial. *The Lancet Global Health*, 8(2), e276-e287; Ortblad K, et al. *PLoS Med* 2017; MacPherson P, et al *JAMA* 2014; **312**: 372-79., Sibanda E, et al. CROI 2018

HIVST distribution in out-patient departments can reduce healthcare worker burden and increase efficiencies

Total healthcare worker time per test



■ Pre-Implementation ■ Post-Implementation

Modeling using data from both Malawi and Uganda shows that with a \$1 HIVST, the cost per person living with HIV identified is lower when compared to existing testing service delivery and than with screening tools

- Current PITC models – \$42
- Risk-based screening -\$39-43*
- HIVST (\$2/kit – OraQuick Myland) - \$59
- HIVST (\$1.5/kit - Abbott) - \$45
- HIVST (\$1/kit – Wondfo) - \$32

WHO new 2023 recommendations on HIV self-testing

NEW: HIV self-testing may be used to deliver pre-exposure prophylaxis, including for initiation, re-initiation and continuation (*conditional recommendation, low-certainty evidence*)

Remarks

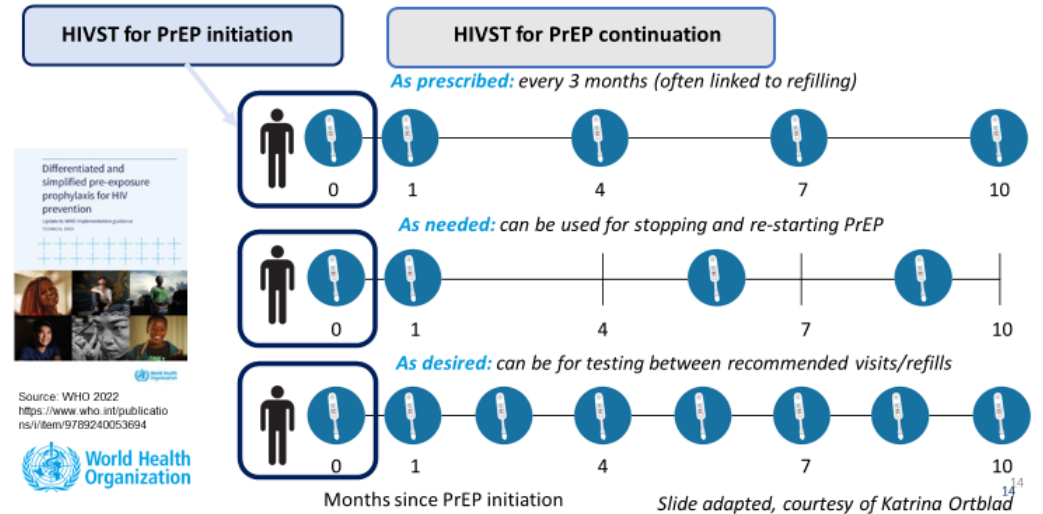
- HIVST-supported PrEP delivery may be an important tool to reach underserved populations.
- HIVST is an option to support PrEP delivery; its use should be driven by client needs and preferences.
- There is a range of PrEP options available for which HIVST use could be considered, including oral PrEP (daily or on-demand) and the dapivirine vaginal ring (DVR). HIVST can also be considered as part of post-exposure prophylaxis (PEP) implementation. Further research on the role of HIVST in implementing long-acting injectable prevention options, such as cabotegravir (CAB-LA), is needed.

NEW: HIV self-testing may be offered as an additional option for testing at facilities (*conditional recommendation, low-certainty evidence*).

Remarks

- HIVST does not replace provider administered testing. Individuals with a reactive self-test result should receive further testing from a trained provider using the full national testing algorithm.
- HIVST can replace risk screening tools* to optimize testing among those presenting at health facilities.

HIV self-testing for PrEP



NEW: Caregiver-assisted testing using HIVST: There is insufficient evidence to support caregiver-assisted testing using HIVST kits.

Therefore, prior to further implementation, challenges, concerns, and research gaps need to be addressed

WHO does urge already recommended approaches to reach children

- EID
- index/family testing
- Indicator testing (e.g. testing in malnutrition clinics)
- Screening tools to **screen in** for testing clinical settings



Social network testing

UPDATED: Social network testing approaches may be offered as an additional approach to HIV testing as part of a comprehensive package of care and prevention *(conditional recommendation, low-certainty evidence)*

Remarks

- SNA is offered as part of a broader package of voluntary HIV partner services that include a range of options, such as provider-assisted referral, enhanced patient referral and patient referral.
- **Offering HIVST as a testing option, already recommended by WHO, within social network testing approaches may increase acceptability, feasibility and uptake. However, it is important to tailor the use of HIVST in SNA to the programme based on the context, epidemiology and resources available.**
- To increase efficiency and optimize resource use, programmes should aim to provide a short, focused orientation when initially preparing individuals to be “test promoters” who recruit and encourage others to test for HIV.

What are social network-based HTS approaches?



- Sexual networks
- Drug injecting
- Social contacts
- HIV+ or HIV –
- Key populations

Social network testing

- **may increase HIV diagnoses and identify additional people with HIV**
- may increase the **acceptability** of HIV partner services
- **feasible** to implement
- can be an efficient use of resources when they focus on people with high ongoing HIV risk
- seldom result in social harm or adverse events.

Shift away from...

- Narrow distribution of HIVST through a few distribution channels
- Distribution focused only on reaching those not currently reached with HTS
- Complex and costly data collection about individual users to establish linkage and other outcomes of HIVST
- Small pilots with restricted reach among limited populations

Shift towards...

- Greater use within:
 - core (facility-based) and
 - prioritized testing approaches (index/partner testing, social-network testing using secondary distribution
 - and other focused private sector and community testing approaches
- Addressing age of consent barriers that limit use of HIVST by adolescents
- Expanding HIVST distribution approaches to reach undertested populations and those who would benefit from simplified access to regular testing
- Increasing population-level HIVST literacy
- Increasing use for status monitoring for DSD for PrEP
- Invest in simplified data collection for HIVST such as triangulation methods

Acknowledgements

- Rachel Baggaley, Megan Ginivan, Rachel Golin, Jeff Imai-Eaton, Maaya Sundaram, Miriam Rabkin, Lynne Wilkinson

Discussion

Chair: Maaya Sundaram, BMGF

Panelists:

- Kelvin Balakasi, PIH Malawi
- Taryn Barker, CIFF
- John Bosco Matovu, CQUIN/ICAP
- Rachel Baggaley, WHO
- Shylet Msiza, CeSHHAR
- Geoffrey Taasi, MoH Uganda

