

Optimizing HIV Testing for Prevention and Treatment

Dr Karin Hatzold,

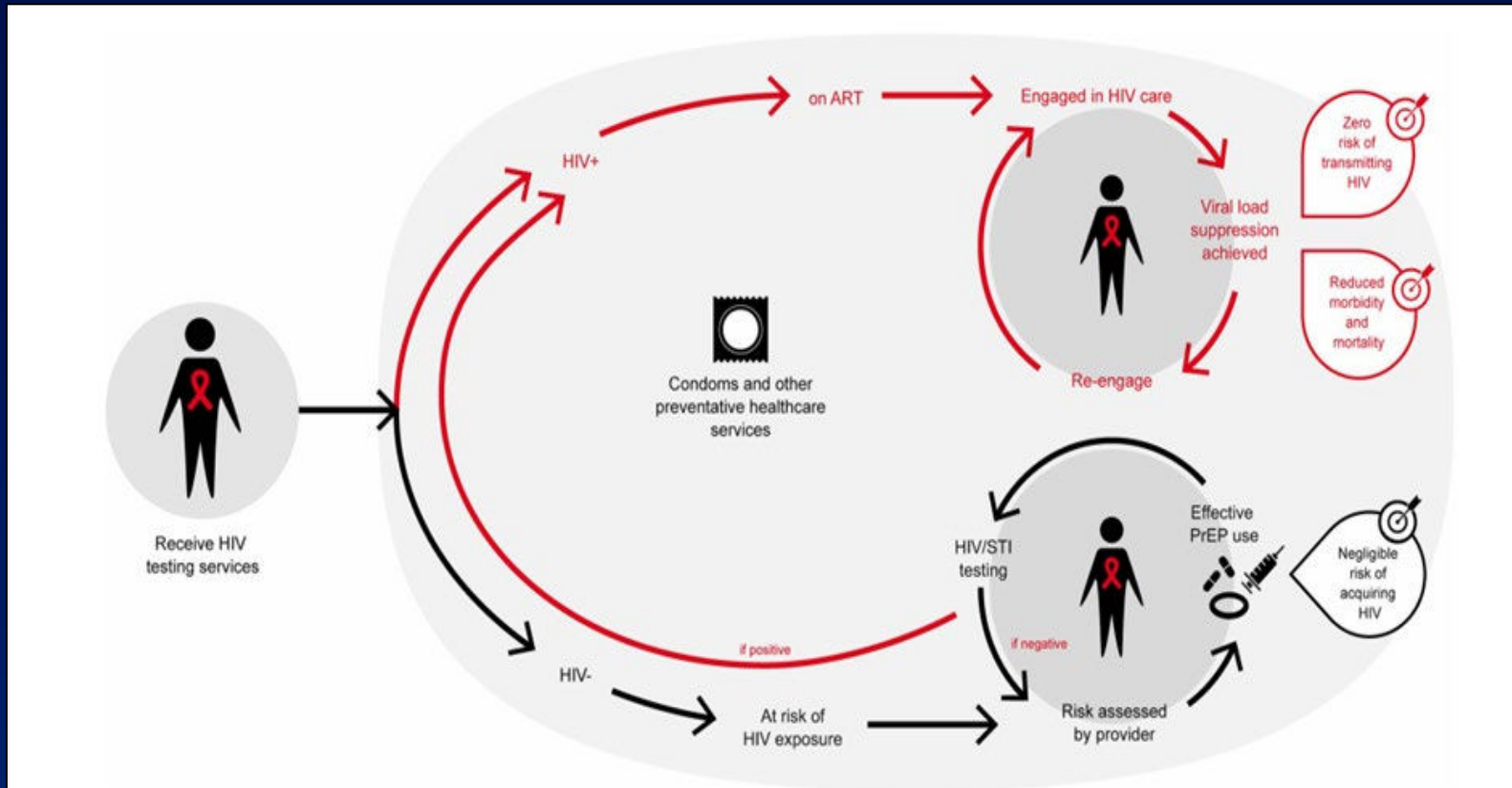
Global Director HIV/TB/Hepatitis | Director STAR Self-testing Initiative

Population Services International



CQUIN dHTS Meeting | July 9 - 12, 2024 – Durban, South Africa

Future Directions of HIV Testing Services: **Broader Scope** and Targeted Interventions



- Status-neutral approach
- Strategic mix of core testing modalities
- Greatest number of people with HIV not on treatment
- Emphasis on linkage to prevention and treatment

Grimsrud A, Wilkinson L, Ehrenkranz P, Behel S, Chidarikire T, Chisenga T, et al. (2023) PLoS Med 20(3): e1004182.

Future Directions of HIV Testing Services: Broader Scope and **Targeted Interventions**

- Country-specific epidemiological context to guide mix of testing approaches and priority populations
- Consider regional transmission dynamics
- Targeting people most likely to have undiagnosed HIV
- Targeted at people who are more vulnerable to HIV acquisition



- Use of HIVST approaches
- Scaling up targeted testing approaches
- Continue Facility testing
- Retesting as an opportunity for re-engagement
- Involve communities and investing in CLM
- Integrate into primary health care services, dual testing, multiplex testing
- Improve community prevention and treatment

Optimizing HIV Testing

The Role and Impact of Self-Testing Strategies



HIV Self-Testing

- **HIV self-testing** is when an individual collects their own specimen, performs a rapid test, and interprets their self-test result themselves – When and how they want in private, with assistance/support tools
- **All reactive self-tests**, like any HIV test need further testing and confirmation before providing a positive diagnosis and starting life-long treatment.
- **HIV negative self-test results** do not need confirmation.
- **Different use cases for HIVST**
 - Case-finding
 - HIV prevention
 - Efficiency gains
 - Disclosure/share HIV status
 - C19 adaptations (maintaining essential services)
 - As part of virtual interventions

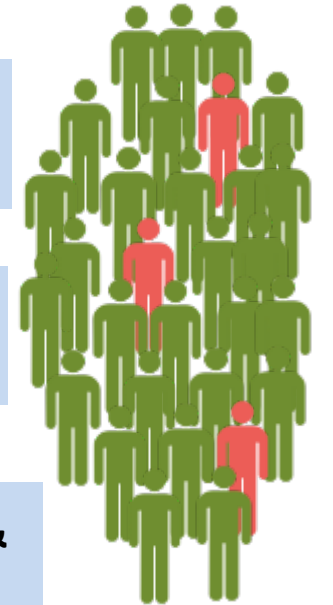
HIV Self-Testing Framework

PREPARATION

Demand generation

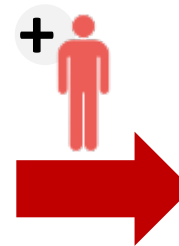
Support package

Accessible & affordable



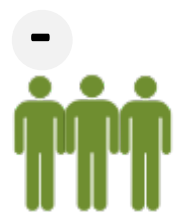
Uptake among at-risk groups

DIRECT ACTION



Link to treatment

Re-link to Tx



Disclosure/Shared knowledge of status

Link to prevention

Triaged out of health system

DIRECT IMPACT

Health: Reduced morbidity & mortality

Reduced transmission & infections averted

Cost and time savings (Health system & users)

ADDITIONAL IMPACT

Social & Economic

Population productivity & growth

Social benefit
Social harm

Health Systems

Efficiency

Expanded coverage

Equity of health



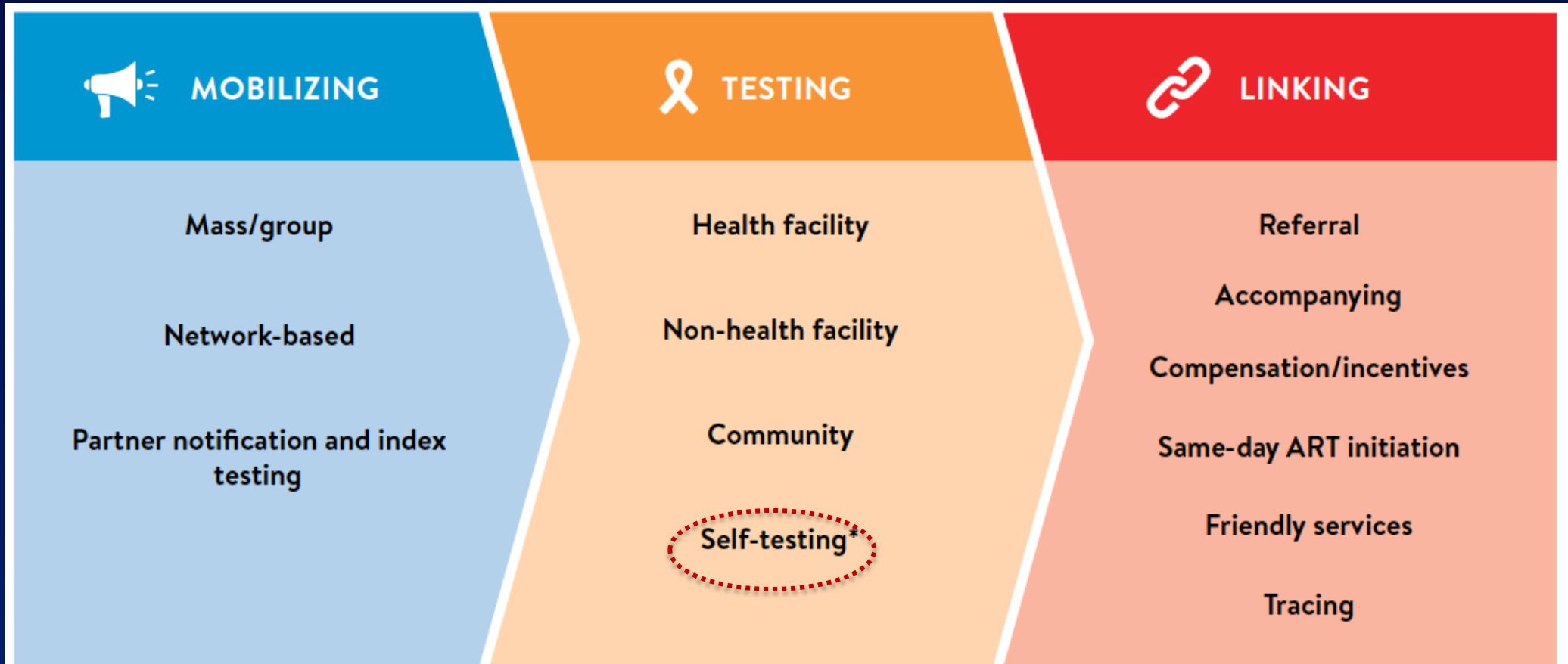
DIFFERENT POPULATIONS

DIFFERENT CONTEXTS

DIFFERENT GEOGRAPHIES

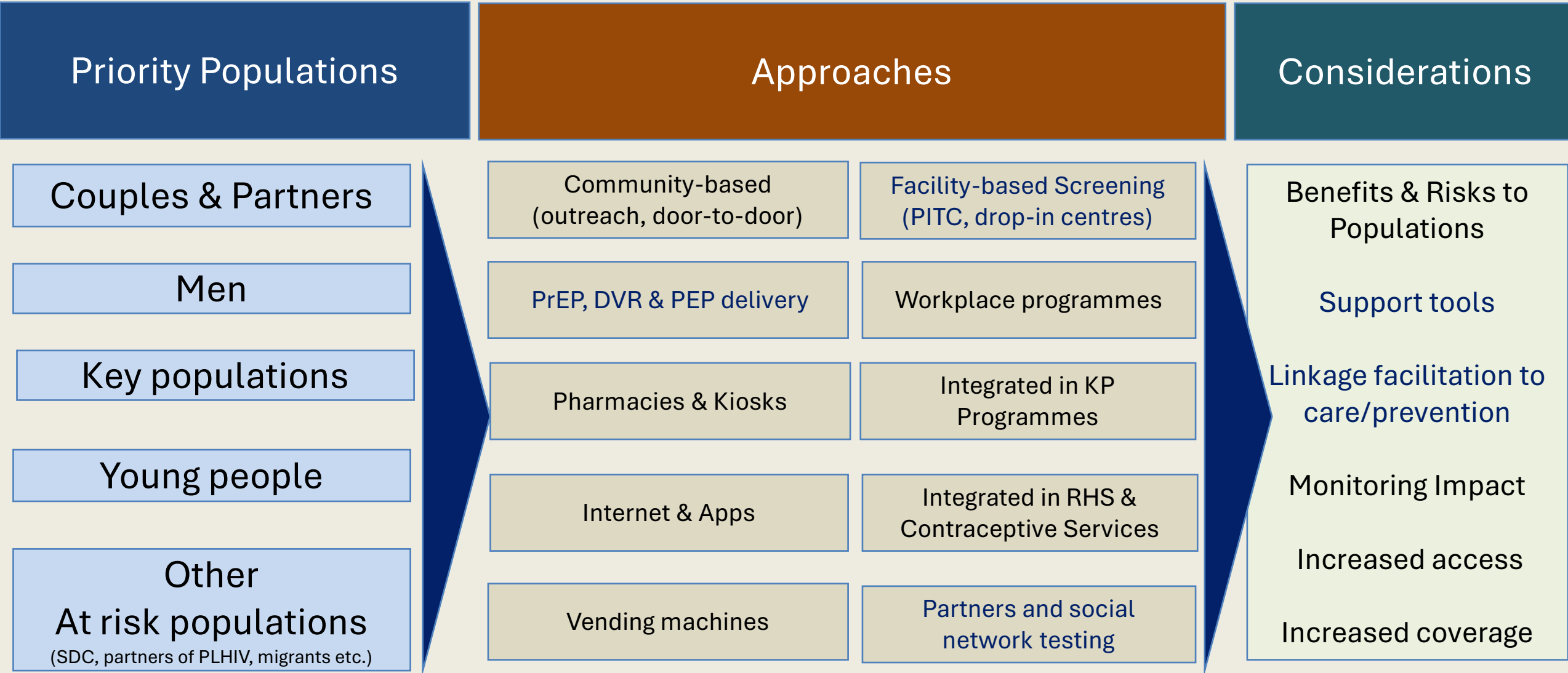
Differentiated HIV Testing

HIV self-testing, integrated within and as part of targeted expansion, is a critical approach for reaching and achieving impact among priority populations



* Self-testing is a testing modality that can be used within health facilities, non-health facilities or the community. Here it is listed as a standalone model of testing.

Who is at risk, in need of testing & not reached by existing services?





Community Direct HIVST Distribution

Main model of HIVST distribution initially used in STAR project

- High uptake of self-testing when offered at community level, door to door distribution, taxi-ranks, workplaces, tertiary institutions
- Community-based HIVST increases coverage, including men and young people, particularly in rural settings



Need to maximise impact of HIVST

- Increase efficient use, targeting populations at risk
- Need to facilitate linkage to ART and PrEP
- Difficult to monitor uptake of post-test services

Optimization of HIV Self-Testing Approaches

HIV self-testing bridges testing gaps, but more work is needed on strategies for **optimal distribution** and **HIV status neutral** post-test linkage to prevention and treatment

Secondary distribution through partners and peers can reach people without contact to the health delivery system

- Distribution to reach partners of HIV positive Index clients
- Distribution to reach male sexual partners of pregnant women
- Follow up and referral to health facility for confirmative testing/treatment or prevention (PrEP) through index/pregnant woman



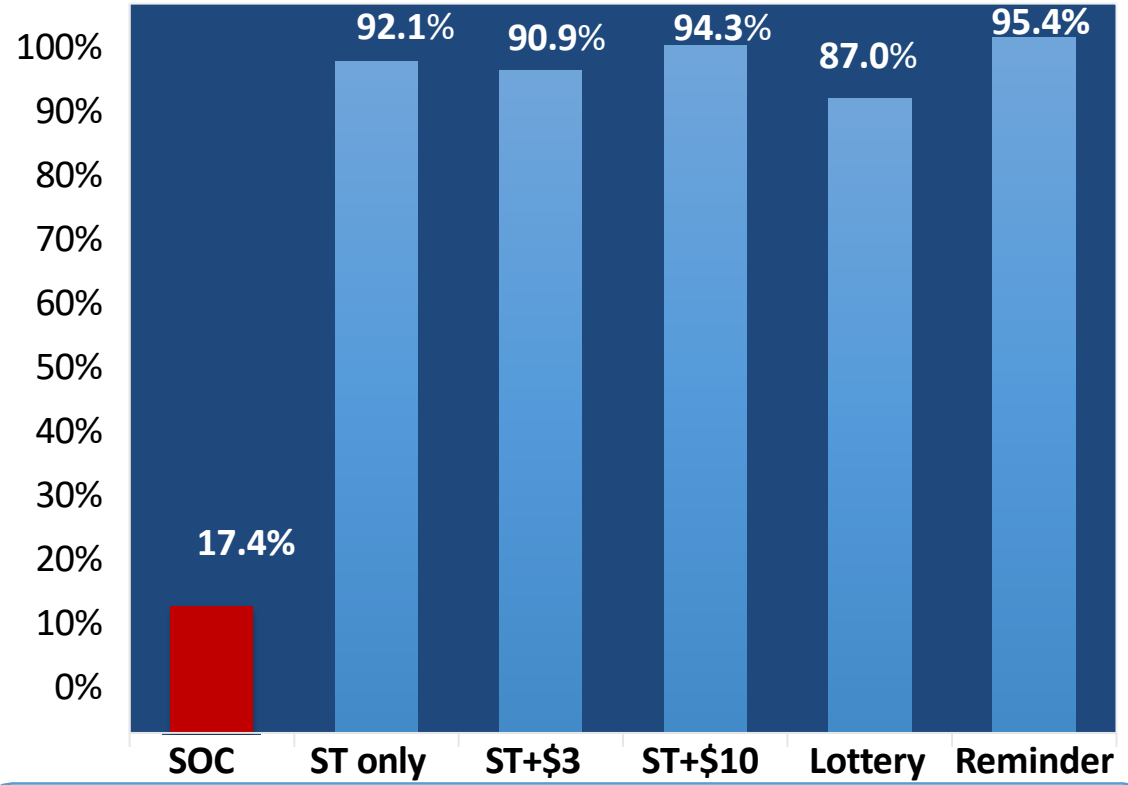
Ending the AIDS epidemic in eastern and southern Africa requires engagement of men in HIV testing, prevention, and treatment

Men are less likely to utilize facility-based health services

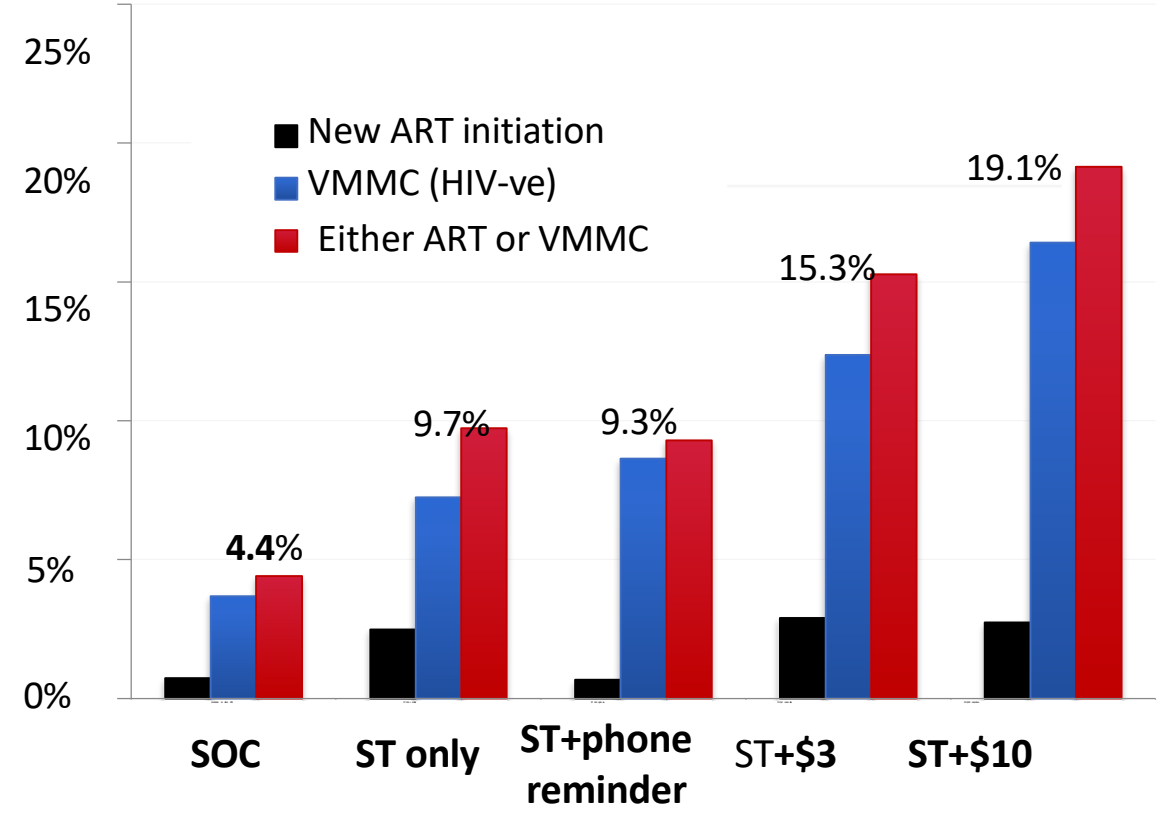
Men have low uptake of HIV testing and linkage to ART or PrEP

Secondary HIVST Distribution to Reach Men Via Antenatal Clinics, Blantyre, Malawi

% male partners testing for HIV during pregnancy (as reported by woman)



% male partners starting ART or being circumcised within 28 days

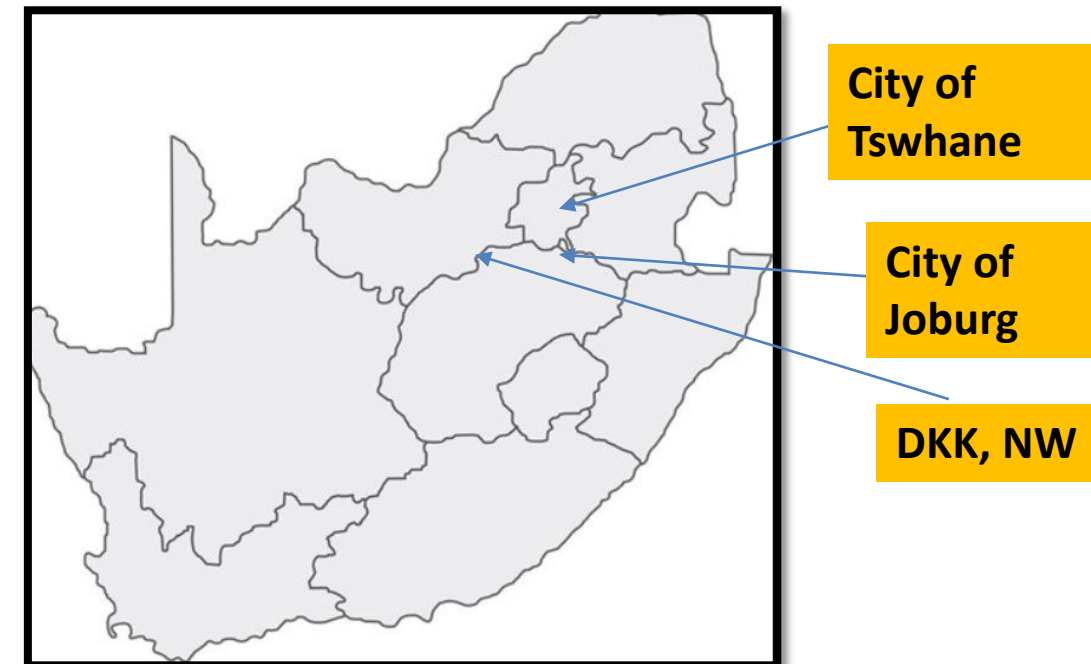
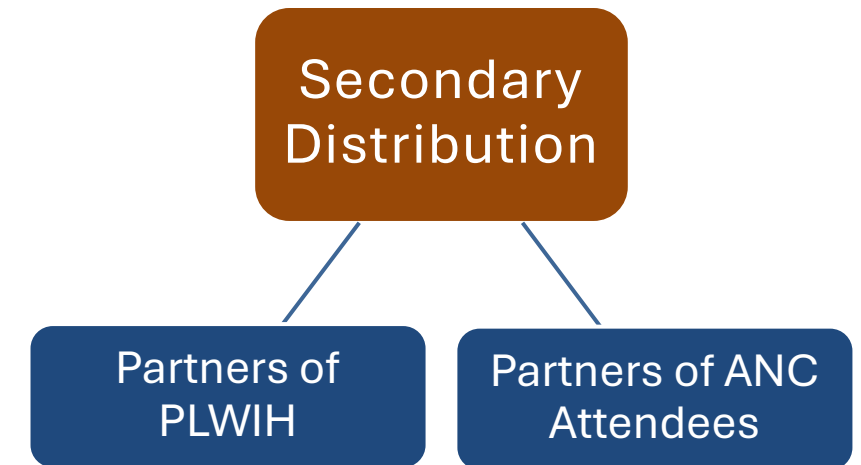


Partner-tested: All HIVST arms outperformed SOC
 No effect of incentive (already fully motivated to use kit)

Linkage of partner for ART or circumcision
 Effect of incentive: strong + dose-effect.
Both Financial Incentive arms better than SOC

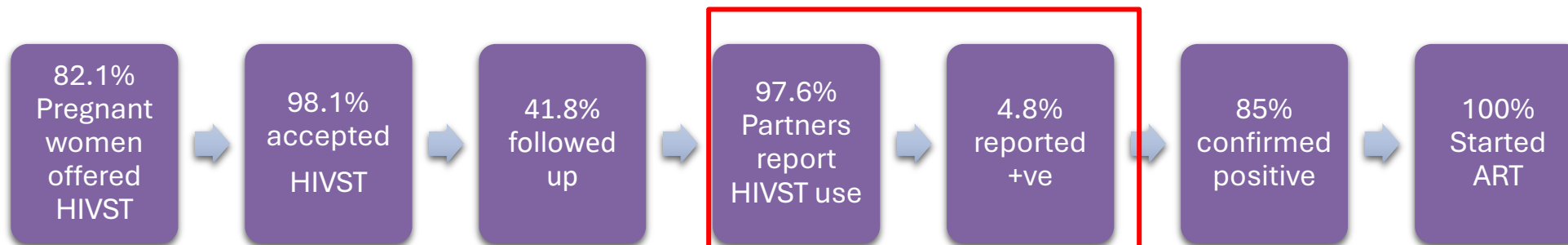
Facility Based Secondary Distribution HIVST

- Secondary distribution of HIVST through community health clinic attendees (12 clinics) in three communities in RSA
- HIVST test was offered for partner to newly diagnosed HIV positive index clients and to antenatal clinic attendees, with a partner of unknown status
- Consent to receive follow up calls. Three calls were conducted
- Clients who were successfully followed up were asked for the partners test results.
- Sexual partners with reactive HIVST results were invited for confirmative testing and treatment and care at health facilities

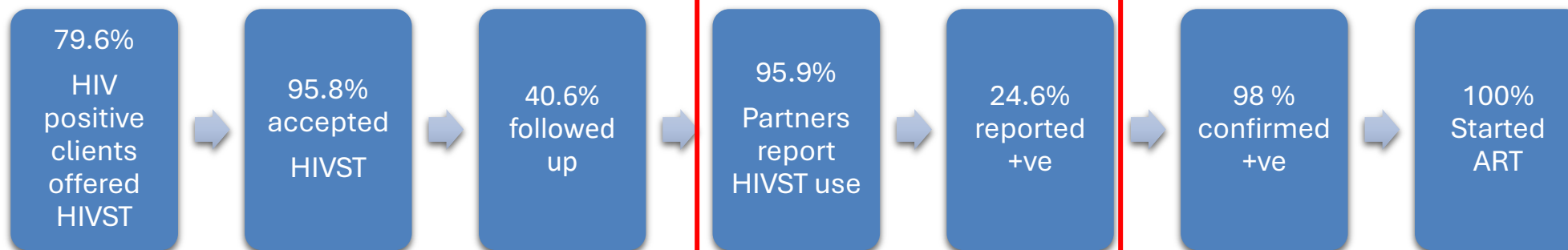


High Uptake of HIVST and Post-Test Referral Among Index Cases and Male Partners of Pregnant Women

ANC Clinic Attendees



Index Testing: 79% to male partners



Social Network-Based Approaches

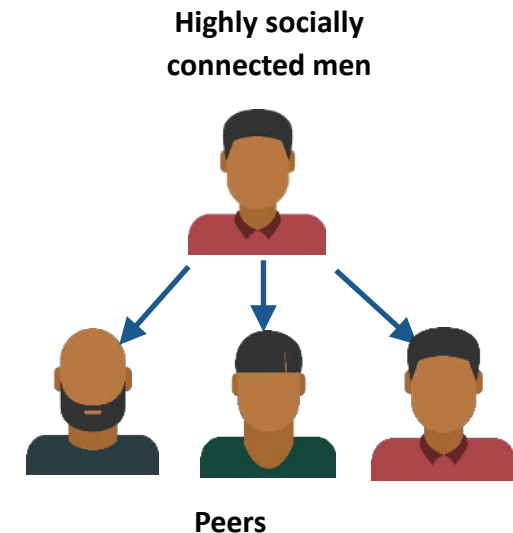
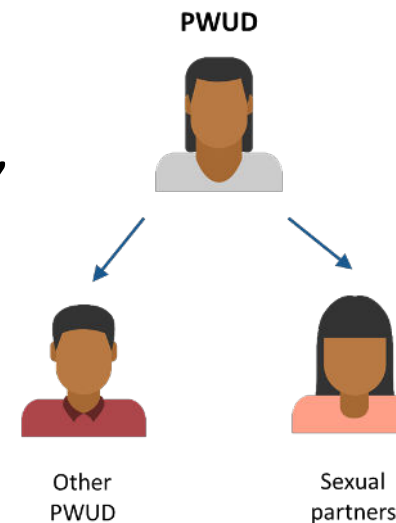
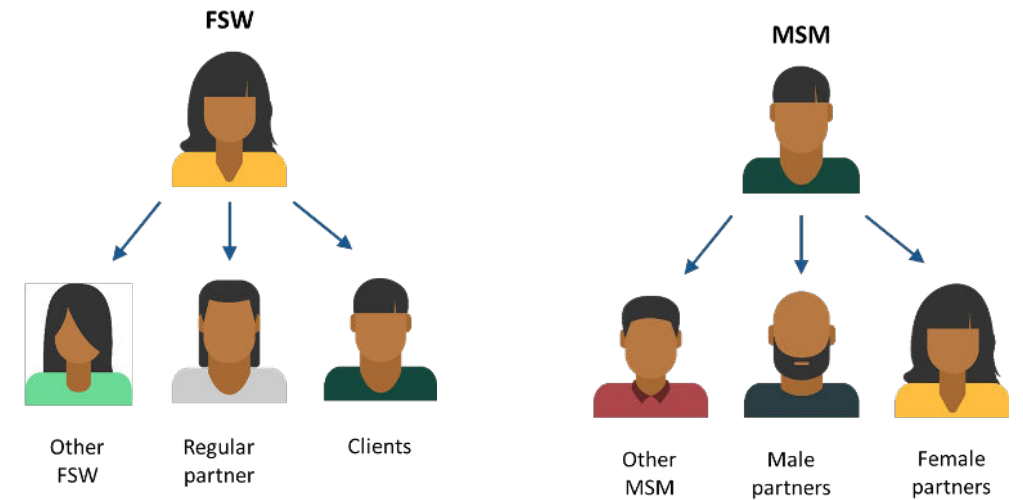
Leverages the Power of Social Influence

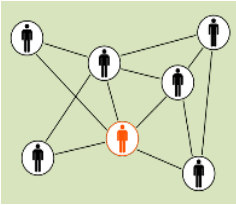
Highly socially connected men within social networks to act as 'promoters' may overcome barriers to HIV testing and health services

Influential peers in the community of female sex workers, HIVST distribution to other FSWs, their clients, their regular partners

Peer to peer distribution among **sexual networks of MSM**, reaching other MSM, female sexual partners and other high-risk men

Distribution among **people who are using/injecting drugs and sexual partners**





Social Network-Based Intervention Increases HIV Self-Testing and Linkage to Health Facilities Among Fishermen in Kenya

Comparison of self-reported HIV testing and linkage to HIV treatment/prevention services among participants in intervention and control clusters at a three-month follow-up

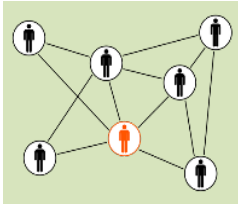
Intervention:

- Mapped social networks of fishermen in Kenya, Lake Victoria
- Unit of randomization: clusters of close social networks of fishermen randomized 1:1
- HIVST for distribution via network-central promoters
- Enhanced promoter support/training
- Transport voucher facilitated referral to health care facility for ART/PrEP

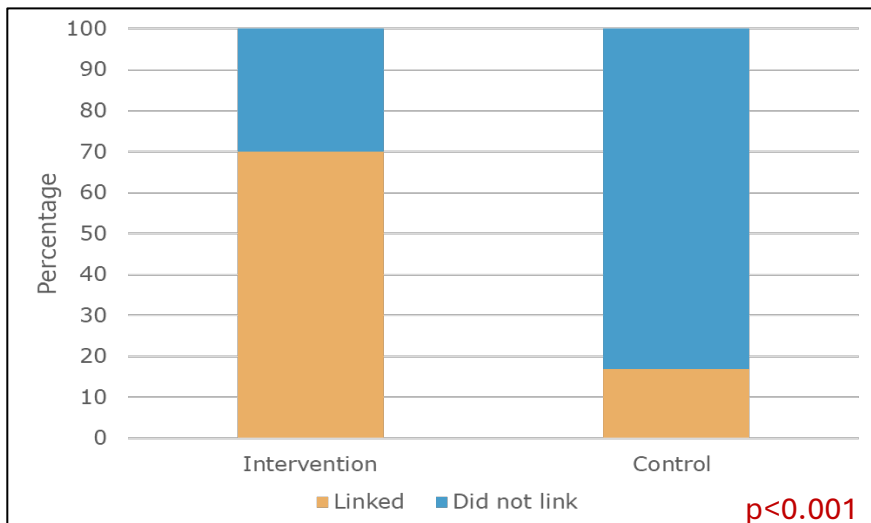
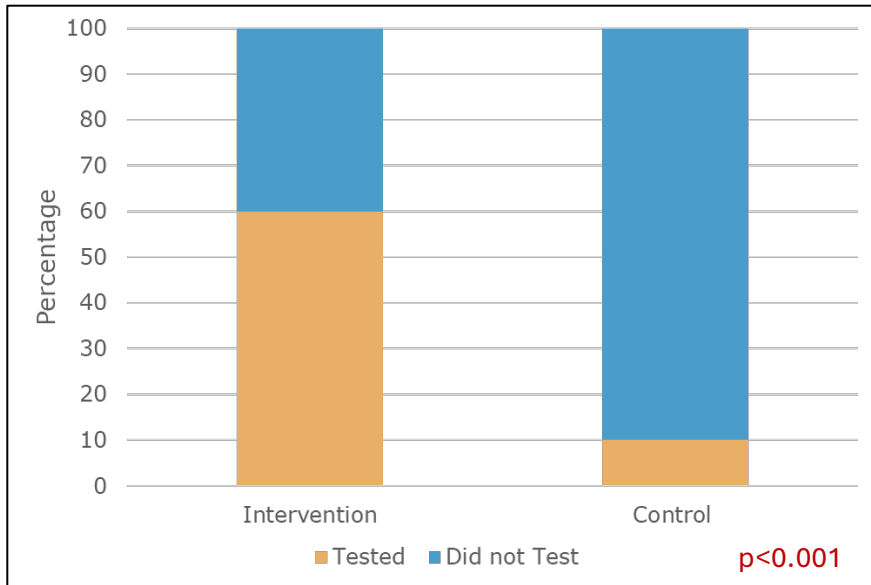


- Population of 1 million, ~79 beaches, 38,000 fisherfolk
- High transmission risks in fishing communities; mobility and transactional sex
- HIV incidence: 4.6-6.9/100 PY (2018)^a
- HIV prevalence: 9.5-19.1% (2022)^b

• Camlin C; Bukusi E, Thirumurthy H et al; @ IAS 2023; late breaker session A Social network-based intervention increases HIV self-testing and linkage to health facilities among fishermen in Kenya



Social Network-Based Intervention Increases HIV Self-Testing and Linkage to Health Facilities Among Fishermen in Kenya



Results

- HIV testing at three months was significantly higher in the intervention clusters compared to control clusters
- Self-reported HIV testing with self-tests at three months was 6 times higher in intervention

Clusters

- Linkage to health care facility was significantly higher in the intervention cluster

- Camlin C; Bukusi E, Thirumurthy H et al; @ IAS 2023; late breaker session A Social network-based intervention increases HIV self-testing and linkage to health facilities among fishermen in Kenya

Facility Based HIV Screening Using Self-Testing

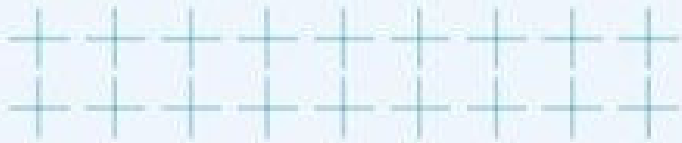
- **Increases efficiency** of provider-initiated testing at health care facilities with high volumes of clients (outpatients department)
- HIVST offered to all clients eligible (excluding those who know their status/already on treatment/recently tested) as screening test
- Clients test on-site (self-testing booth) while waiting for health care provider/option to take HIVST kit for partner(s)
- **Reduces workload** of health care workers and costs to the health system
- **Increases coverage** of HIV testing and case finding, ART initiations, treatment coverage



HIV Self-Testing for PrEP/PEP

Differentiated and simplified pre-exposure prophylaxis for HIV prevention

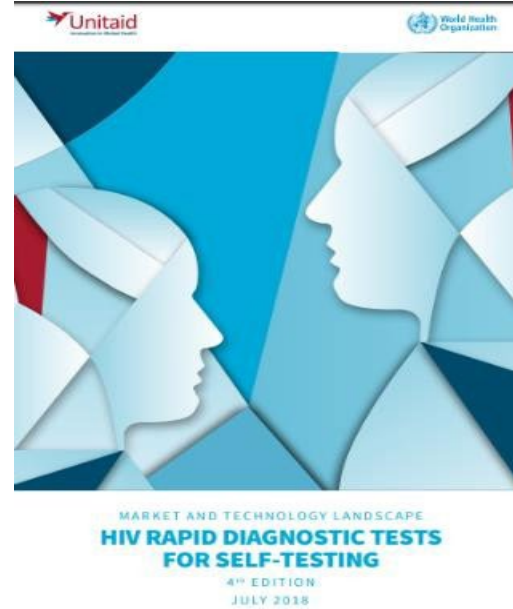
Update to WHO implementation guidance
TECHNICAL BRIEF



- Increased access to PrEP through HIVST could help achieve scale-up and substantially reduce new HIV infections
- Reduces costs to client and health system by simplifying delivery systems & enabling more task-sharing, reduces health worker time & facility visits, reduces client opportunity costs, e.g. travel
- HIVST for PrEP demand creation
- Community based distribution and mobilisation
- Peer-led
- Virtual Interventions
- HIVST for PrEP initiation
- Differentiated service delivery, pharmacy led-models, tele-medicine, vending machines
- HIVST for PrEP continuation
- HIVST for PrEP is safe. Very few missed infections and very low risk of effecting drug resistance at population level

Self-Testing Products with WHO PQ, ERPD or IMDRF* Approval

HIVST		
Test (manufacturer)	Specimen	Approval
Mylan HIV Self Test (Atomo Diagnostics, Australia)	Blood	WHO PQ
autotest VIH® ** (AAZ Labs, France)	Blood	CE mark
BioSURE HIV Self Test ** (BioSURE , United Kingdom Ltd)	Blood	CE mark ERPD
Exacto® Test HIV (Biosynex, France)	Blood	CE mark ERPD
INSTI® HIV Self Test ** (bioLytical Lab., Canada)	Blood	WHO PQ
OraQuick® In-Home HIV Test (OraSure Technologies, USA)	Oral fluid	FDA, CE Mark
OraQuick® HIV Self Test (OraSure Technologies, USA)	Oral fluid	WHO PQ
SURE CHECK® HIV Self Test (Chembio Diagnostic Systems Inc., USA)	Blood	WHO PQ
Check Now HIV Self-Test (Abbott Rapid Diagnostics, Jena GmbH, Germany)	Blood	WHO PQ
Wondfo HIV self-test (Guangzhou Wondfo Biotech Co., Ltd.)	Blood	WHO PQ



- WHO PQ products available for US\$0.95 - 3.10 through Global Fund
- Private sector availability in Europe
- PAHO strategic fund access for LAC
- Pipeline for products remains strong
- **Blood and oral both WHO PQed**
- **WHO systematic review found no difference in uptake between oral and blood self-tests**

PQ approval of HIVST shows the availability of safe, affordable, and accurate self-tests

HCV self-testing

- 2 products in the pipeline
- 1 advanced in PQ pathway

Syphilis self-testing

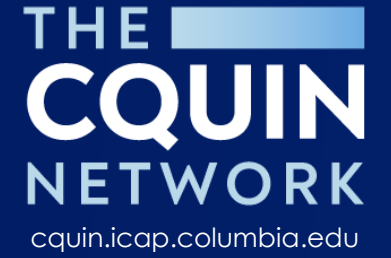
- 2 dual HIV/syphilis product in pipeline
- 1 single syphilis product in pipeline
- WHO PQ making amendment to TSS in August 2024 to start accepting submissions

HI, high-income countries; **FDA**, Food and Drug Administration; **ERPD**, Expert Review Panel for Diagnostics; **Gen**, test generation; **LMIC**, low- and middle-income countries; **MRSP**: maximum suggested retail price; **NA**, not available.
 * Includes products approved by the International Medical Device Regulators Forum or eligible for procurement on recommendation of Unitaid/Global Fund Expert Review Panel for Diagnostics. ** These products sold in more than one packaging format.
 Note: Product details based on information provided by the manufacturers at the time of report preparation.
 Cheryl Johnson WHO, WHO-EIC 2023; WHO 2024



Take Away Messages

- HIV self-testing bridges testing gap and increases testing coverage
- Optimization of HIVST use and facilitation of linkage to care, treatment and prevention is essential
- HIVST through social networks and distribution to partners very promising to reach the unreached
- HIVST-supported PrEP/PEP is the future and important for scale-up and achieving HIV prevention goals
- New tools and technologies for self-testing and self-care can be leveraged, STI self-test/self-collection, Hepatitis C/B self-testing, multiplex self-tests



Thank You!

