TEST AND TREAT: INNOVATIVE WAYS FORWARD

AIDS 2018 POST-CONFERENCE WORKSHOP

Indonesia, 8-9 December 2018
Complimentary testing and service delivery
Day 1

Community Based Testing and Self-testing

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The challenge of the first 90...

- In 2017, globally, 75% of PLHIV aware of their HIV+ status
- Despite this progress, **9.4 million people** – 25% of PLHIV – remain unaware of their HIV infection
- Many of those not currently benefiting from HIV testing scale-up are
  - Key populations
  - Men
  - Young people (aged 15–24)

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Key populations important in all epidemic settings especially in Asia and the Pacific…

*Distribution of new HIV infections, by countries and by population groups, 2017*

Source: UNAIDS special analysis, 2018
Recent modelling suggests the 90–90–90 targets will not be achieved by 2020 unless efforts are increased, more focused, and innovations are used strategically*

A Differentiated Model of HIV Testing

Based on situation analysis, build **client-centered HIV testing service delivery models** aimed at reaching the first 90

Developing HIV strategies targeting **Hard-to-Reach PLHIV** who do not yet know their status and link them to care

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

It’s time to test differently launched at AIDS 201, Go to: [http://www.differentiatedcare.org/](http://www.differentiatedcare.org/)
Good practices for effective HTS programming

Several WHO-recommended effective health programming practices can improve the quality and efficiency of HTS in some settings including:

- **Integration** of HTS with other health services (ANC, TB, STI, DIC...)
- **Decentralization** of HTS to *primary health-care* facilities and *outside the health system* (for example, workplaces, schools...)
- **Task sharing** of HTS responsibilities to **increase the role of trained lay providers**

**WHO recommendation**

Lay providers who are trained and supervised to use rapid diagnostic tests (RDTs) can independently conduct safe and effective HIV testing services (*strong recommendation, moderate quality of evidence*).
Community-based HIV Testing: offering HTS closer to people...

- **Overcome many** logistical, structural and social **barriers** to HIV testing (locations, timing, places)
- **Allow to reach first-time testers and people reluctant to use clinical services, including men, adolescents and key populations**
- Using **finger-prick rapid HIV test** delivered by trained community members or health-care workers
- **Could be specifically designed** to serve young women, men and boys, or key populations
- Can benefit from **mobile and online technologies**
- **Linkage to prevention and treatment services** is critical and should be emphasized in all community-based HTS.
Different ways of community-based testing

- **Mobile testing**
- **Event-based testing** (National HTS campaigns, multi-disease campaigns, local events, pop-up structures)
- **Home-based testing** (door-to-door, PLHIV or TB households)
- **Workplace, educational place HTS**
- **Peer outreach** (by specially trained peers to hard-to-reach groups, such as key populations and adolescents)
- **Social networking approaches**

The “test for triage” strategy

- **Perform test for triage in the community**
- **A0**
- **Link to facility for HIV testing for diagnosis, treatment & care**
- **A0+**
- **Report HIV – Recommend retesting as needed**

- **Confirmatory HTS**
- **Linkages to HTS and ART care or Prevention**
Active Case Management System along the HIV Cascade in Cambodia

...ensuring that ALL reactive cases are linked to HTS and ART care
Evidences for Community-based HIV Testing*

- **High rates of HTC uptake** (RR: 10.65, 95% confidence interval [CI] 6.27–18.08)
- **Increased rates of first-time testers** (RR 1.23, 95% CI 1.06–1.42)
- **Increased rates of early diagnosis** (CD4 >350 cells/ml; RR 1.42, 95% CI 1.16–1.74)
- **Lower HIV positivity rates** vs facility-based approaches* (RR 0.59, 95% CI 0.37–0.96)
- **Linked efficiently people to care** with 80% (95% CI 75%–85%) obtaining a CD4 count HIV diagnosis, and 73% (95% CI 61%–85%) initiating ARV if eligible
- **Increased HTC coverage** at the population level (RR 7.07, 95% CI 3.52–14.22)

- **No harm** reported as a result of having been tested
- **The cost** per person tested in low and middle-income countries ranged from US$2–US$126

An optimized HIV testing scenario to reach 2030 targets

Projected number of HIV tests in an optimized HIV testing strategy, by testing modality (hypothetical country with a generalized epidemic, 2017–2030)
HIVST is becoming a key Case Finding Strategy and is recommended by WHO as an additional HTS approach since 2016...

“HIVST is a process in which a person collects his or her own specimen (oral fluid or blood) using a simple rapid HIV test and then performs the test and interprets the result, often in a private setting, either alone or assisted by someone trusted.

‘HIV self-testing should be offered as an additional approach to HIV Testing Services’ (strong recommendation, moderate quality evidence)

- 8 HIV self-tests (2 OFT and 6 blood-based) have been either prequalified by WHO (July 2017 and Nov. 2018) or approved by a SRA or Unitaid/Global Fund ERPD
Many Evidences for high acceptability and effectiveness of HIVST...

- **High sensitivity and specificity** - higher for blood-based vs. oral fluid (Se 96.2-100% compared vs 80-100%; Sp 99.5-100% compared vs 95.1-100%)
- **Accuracy** - Concordance when performed by self-tester compared to trained health worker (>94%)
- **Highly acceptability** among many different groups and across different settings; Oral HST preferred (81 - 91%)
- **No social harms** seen in implementation
- **No increase HIV risk behaviors** (RR = 0.94: 95% CI: 0.55, 1.61) or STIs (RR = 0.41; 95% CI: 0.15, 1.13)

**HIVST doubled overall HIV testing uptake**
(also shown for couples testing)

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>M-H, Random, 95% CI</th>
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</thead>
<tbody>
<tr>
<td>Gichangi 2016</td>
<td>3.08 [2.58, 3.69]</td>
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<tr>
<td>Thirumurthy 2016</td>
<td>1.77 [1.57, 2.00]</td>
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<tr>
<td>Wang 2016</td>
<td>1.77 [1.97, 2.00]</td>
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<tr>
<td></td>
<td>2.12 [1.51, 2.98]</td>
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**HIVST resulted in 2 more tests I higher risk groups**
in a 12-15 month period compared to standard HTS

<table>
<thead>
<tr>
<th>Study or Subgroup</th>
<th>Mean Difference IV, Random, 95% CI</th>
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<tbody>
<tr>
<td>Katz 2015</td>
<td>1.70 [0.94, 2.46]</td>
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<tr>
<td>Jamil 2016</td>
<td>2.30 [2.27, 2.33]</td>
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<td></td>
<td>2.13 [1.58, 2.66]</td>
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HIV Self-Testing is a Test for Triage approach

- HIVST should adhere to **WHO 5Cs** (Consent, Confidentiality, Counselling, Correct test results, and Connection)
- Requires **confirmation** HIV testing of ‘reactive’ tests using the whole national testing algorithm
- **Interpretation of a non-reactive** self-test depends on the ongoing risk of HIV exposure (window period)
- HIVST is **not recommended** for PLHIV on ARV drugs (false non-reactive)
- **Importance of additional support tools** (hotlines, SMS, videos, social media and Internet-based applications) for technical support, counselling and referrals
Countries with or developing policy and regulatory frameworks for HIVST as of July 2018...

- 59 countries have policies
- 53 countries developing policies
- Implementation limited to 28 countries (2/3 are UMC or HIC)

The HIVST agenda has moved rapidly and the evidence base to support HIVST has grown significantly (www.HIVST.org)
Adapting the different HIVST service delivery approaches to local contexts…

HIVST implementation across different settings should be focused and tailored using national and subnational epidemiological data, for example by focusing on geographical areas with a high HIV burden (hotspots) and/or low population/subpopulation testing coverage…

Offering both and blood-based HIV self-testing options
HIV self-testing in Africa (STAR) Project
UNITAID-funded largest HIVST program globally

Taking HIV self-testing to scale

Zambia
Malawi
Zimbabwe
Eswatini
Lesotho
South Africa

Different HIVST models explored:
• Community-based distribution
• Integration in mobile or fixed (DIC) HTS
• Facility-based distribution (OPD, IPD)
• HTS services for KP (outreach, clinics, social network)
• Secondary distribution to partner (PLHIV, pregnant women, KP)
• Workplace distribution (HCP)

June 2015 to Oct. 2018:
2.3 million HIVST kits distributed
($3.5 to $2)

• Reached high proportion of men, young people and first time testers
• Increased testing coverage
• Significant impact of HIVST into health facilities
• Moving to policy and practice

Knowing your status—then and now—Realizing the potential of HIV self testing, 30th World AIDS Day Report STAR Initiative, Unitaid and World Health Organization December 2018. In: Unitaid.org website
Facility-based HIV self-testing dramatically increases HIV testing in Malawi: a cluster randomized trial (Dovel et al. IAS2018)

- **Design**: 3-arm non-blinded cluster randomized trial (PITC, optimized PITC, HIVST arms)
- **HIVST arm**: outpatients, demonstration/distribution, private rooms for interpretation, post-counseling and linkage (N=5,885)

- Similar positivity rates but increased number of new positives identified
- Lower linkage rates (70% vs 83 and 100%) but increased number of ART initiates
- Facility-based HIVST is cost-effective (THPEE646)

* AORs adjusted for age, education, currently working, and sites; * p-value=0.05; ** p-value=0.001
Secondary distribution of HIV self-tests increased HIV testing among male partners of young women in Kenya

(Kawango Agot et al. IAS2018, poster THPD C0104)

- Data analyzed from subgroup of young women (18-24 years) seeking antenatal and postpartum care in Kisumu RCT, Kenya (NCT# 02386215)
- Random assignment in oral fluid HIVST vs partner referral group
- Results: N=599 women enrolled, 179 and 188 randomized in the HIVST and comparison groups, respectively

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<thead>
<tr>
<th></th>
<th>Partner referral group</th>
<th>HIVST group</th>
<th>Odds Ratio (95% CI)</th>
<th>P-value</th>
<th>% in</th>
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<tbody>
<tr>
<td>Male partners HIV tested, N (%)</td>
<td>98 (55.7)</td>
<td>158 (92.4)</td>
<td>9.7 (5.1-18.3)</td>
<td>&lt;0.01</td>
<td>+37%</td>
</tr>
<tr>
<td>Couples HIV tested, N (%)</td>
<td>67 (38.1)</td>
<td>133 (77.8)</td>
<td>5.7 (3.6-9.1)</td>
<td>&lt;0.01</td>
<td>+40%</td>
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- No Intimate Partner Violence related to distribution or use of HIVST by partners
Testing uptake increased from 17% (Q5 2015) to 82% (Q1 2016) and linkage to confirmatory testing improved over time (from 31% to 96%)

But linkage to confirmatory testing remains a challenge (around 60%)...
HIVST: Benefits and Limitations

**Benefits**

- Privacy (home)
- Convenience (timing)
- Pain-free: Oral HST kits
- Rapid results (<30 min)
- Easy to use
- New technology support

- **High acceptability** (various settings, various populations)
- **Increased coverage**
- **Increased rates of positivity**
- **Assisted or unassisted**
- **Cross-cutting** (communities, facilities, index testing)

**Limitations/concerns**

- Lack of pre- and post-test counseling
- **Confirmatory testing** required
- **Linkage to HTS and care** for those reactive
- **Additional support** tools needed
- Interpretation of non-reactive: “window period”, ART

- **Policy, regulation, procurement and cost**
- **M&E challenges**

“The Best is the enemy of the Good”
Conclusions

• Community-based HTS, Index testing (PN) and HIV-Self Testing have the potential to impact the first ‘90’ in Indonesia by increasing access and acceptability for under-tested, hard-to-reach populations including men (clients) and key at-risk populations

• **HIVST can be integrated** to community outreach, Index Testing or facility/PITC

• **Secondary HIVST distribution** (pregnant women, partners, KP) has a great potential

• **Special support for linkages** to confirmatory testing, access to care and prevention are needed for both community HTS and HIVST (unassisted or secondary distribution)

• **Additional support tools** to HIVST, using new technology, are important to provide technical support, counselling and referrals and for M&E

• **Cost-effectiveness of HIVST** should be further studied in different settings given the high acceptability and positivity rates in covered populations

• **Lessons learned from HIVST** could benefit to many other disease areas (hepatitis, malaria, STIs and HPV through self-testing or multiplex platforms)
Terima Kasih