Optimizing HIV testing through routine use of data: considerations for a status-neutral approach

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The future of testing: a status-neutral approach

Source: Grimsrud, etc, Plos Med 2023 https://doi.org/10.1371/journal.pmed.1004182
Considerations for the status neutral approach: prevention and re-diagnosis (example: Kenya)

**Majority of HIV-tests are repeat testers which is important for prevention . . .**

**Substantial proportion of HIV+ tests are known HIV+ re-diagnoses . . .**

Source: WHO HTS Dashboard
Prevention Pillars

1. **Key populations**
   - Combination prevention and harm reduction packages for and with
   - Sex workers
   - Gay men and other men who have sex with men
   - People who inject drugs
   - Transgender people
   - Prisons

2. **Adolescent girls and young women**
   - Combination prevention packages in settings with high HIV incidence
     (based on differentiated, tailored packages)

3. **Adolescent boys and men**
   - Combination prevention packages in settings with high HIV incidence
     (including voluntary medical男 circumcisions and promoting access to testing and treatment)

4. **Condom programming**
   - Promotion and distribution of male and female condoms as well as lubricants

5. **ARV-based prevention**
   - Pre-exposure prophylaxis, post-exposure prophylaxis, treatment as prevention including for elimination of vertical transmission

Access through

Community-based and community-led outreach, health facilities including sexual and reproductive health services, schools, private sector, virtual platforms and other innovations

Foundations, societal and service enablers and addressing underlying inequalities

- Sexual and reproductive health and rights
- Gender equality
- Ending stigma and discrimination

Conducive policies and environment
Multi-sectoral, integrated & differentiated approach
Sustained investment in HIV prevention

CQUIN Differentiated Testing & Linkage Meeting | March 13-16, 2023

Highlights complementarity and interaction between primary HIV prevention, testing, treatment and the prevention of vertical transmission of HIV

Source: HIV Prevention Roadmap
Defining Who Needs Prevention

STEP 1

DETERMINE TOTAL POPULATION SIZE ESTIMATE

→ Countries should have up-to-date, nationally validated key population size estimates generated from empirical methods and sound statistical concepts.
→ Where PSEs are outdated or do not exist, global or regional averages may be used to benchmark. For MSM, this should be at least 1% of the total adult male population (WHO & UNAIDS, 2020).
→ In resource constrained settings, low-cost methodologies that generate reliable PSEs need to be developed and used.
→ Where possible, multiple sources should be triangulated for greater certainty.
→ Plausible PSEs should be mandatory in the development of all national strategic plans, prevention roadmaps as well as funding requests/country operational plans for major donors.

STEP 2

CALCULATE A RISK-FOCUSED DENOMINATOR

For key populations:

→ Men who have sex with men with a non-regular partner
→ All transgender women
→ All sex workers
→ All people who inject drugs
→ All prisoners

For other young people and adults:

→ Use sub-national HIV incidence estimates disaggregated by age, sex, location and risk. The denominator for regular community outreach should be populations with high HIV incidence (globally defined as more than 1 per 100 person years).
→ In parts of sub-Saharan Africa this level is also reached among people with non-regular partner(s), people who have transactional sex or another sexually transmitted infection.
Declining incidence requires more disaggregated data for precision prevention delivery (example: Malawi, AGYW)

Demographic: age, sex
Geographic: sub-national
Risk: Behavioral

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Source: John Stover, NAOMI estimates; Clemens Benedikt, UNAIDS, GPC “Towards more precision in prevention investments”
Define differentiated packages of prevention based on population segments

HTS should be routinely offered in all incidence settings, but . . .

Prevention packages provided (linked following HIV-test) need to be differentiated based on population needs and defined packages

Consider differentiated needs and prevention packages for HTS linkage for all populations . . .

Source: UNAIDS, various documents
HTS and re-diagnosis

Western Cape, SA ART Experience

- **Started ART**
- **Restarted ART**

<table>
<thead>
<tr>
<th>Year</th>
<th>Started ART</th>
<th>Restarted ART</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>60000</td>
<td>50000</td>
</tr>
<tr>
<td>2018</td>
<td>50000</td>
<td>40000</td>
</tr>
<tr>
<td>2019</td>
<td>40000</td>
<td>30000</td>
</tr>
<tr>
<td>2020</td>
<td>30000</td>
<td>20000</td>
</tr>
<tr>
<td>2021</td>
<td>20000</td>
<td>10000</td>
</tr>
<tr>
<td>2022</td>
<td>10000</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Euvrard, CROI 2023

**Malawi**

**Mozambique**

**Zambia**

**Zimbabwe**

Source: WHO HTS Dashboard
Considerations for those re-engaging through HTS

*Increased insights into those re-diagnosing and shifting the paradigm to welcome them back based on their needs is critical to the success of the status-neutral approach.*

Source: Biauauth, et al Plos One
https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0256540

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**Reasons for returning to care % (No. of respondents)**

- Barrier to get to the clinic now
- Worried about not being on ART
- Started to feel sick/weak
- Tiring (e.g., contacted and asked to attend)
- Concern for children
- More or better support from a partner/family/friends
- Recent clinic visit
- Found out they were pregnant

**Dynamic Treatment Cascade**

- **Stage 1**: Diagnosis
- **Stage 2**: Initiated on ART
- **Stage 3**: Relinked to HIV care
- **Stage 4**: Re-initiated on ART
- Disengagement after linkage

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**Reasons for stopping ART % (No. of respondents)**

- Mobility issues/confining disability
- ART-related factors
- Resumed time/needed time off work
- Sighs/shred of disclosure to family/friends/partner
- Distance to the clinic was too far
- Poor appointment/ART
- Change in employment
- Previous lost experience at clinic
- Mental health/loss of support/psychosocial/distress/conflict

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Source: Euvrard, CROI 2023 and Ehrenkranz, et al
https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0256540
Capture these data to better provide patient-centered services, inform quantification, and improve routine program monitoring.

<table>
<thead>
<tr>
<th>HIV testing</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HTS.1</td>
<td>People living with HIV who know their HIV status who know their HIV status (first 95)</td>
</tr>
<tr>
<td>HTS.2</td>
<td>HTS test volume and positivity</td>
</tr>
<tr>
<td>HTS.3 (NEW)</td>
<td>Individuals testing positive for HIV</td>
</tr>
<tr>
<td>HTS.4</td>
<td>Linkage to ART</td>
</tr>
<tr>
<td>HTS.5</td>
<td>HTS partner services</td>
</tr>
<tr>
<td>HTS.6</td>
<td>HIVST distribution</td>
</tr>
<tr>
<td>HTS 7 (NEW)</td>
<td>HTS linkage to prevention</td>
</tr>
<tr>
<td>HTS 8 (NEW)</td>
<td>HIV retesting coverage</td>
</tr>
</tbody>
</table>


New indicators for prevention are useful but require careful consideration for denominators and measuring linkage vs referral.

Some countries capture data on re-engagement in care but need to standardize and ensure differentiated program approach.
Last but to least . . realize the full potential of HIVST!

- Increasing access through greater use of HIVST within core (facility-based) and prioritized testing approaches (index testing, social-network testing, secondary distribution and partner approaches and other focused private sector and community testing approaches)
- Addressing age of consent barriers that limit use of HIVST by adolescents
- Expanding effective and acceptable HIVST distribution approaches to reach undertested populations and those who would benefit from simplified access to regular testing
- Increasing population-level HIVST literacy towards broader self-testing and self-care literacy
- Increasing use for status monitoring among PrEP users to facilitate differentiated PrEP service delivery models
- Invest in simplified data collection for HIVST such as triangulation methods

Source: HIVST Quick reference guide

Source: QUOTED - Grimsrud, et al, Plos Med 2023 [https://doi.org/10.1371/journal.pmed.1004182]
Conclusions

- Know the epidemic and understand variability to inform linkage to prevention (and all of Celine’s conclusions! 😊)

- Define clear differentiated packages for linkage (e.g. prevention or re-engagement/welcome back)

- Leverage and expand HIVST as well as demand for HTS through literacy and self-care

- Consider what is needed to achieve the paradigm shift:
  - Balance efficiency and effectiveness!
  - change in incentive structures,
  - analytic capacity building at sub-national levels,
  - new and innovative differentiated models for prevention and re-engagement,
  - improved metrics for success (beyond yield) and indicators to for routine measurement
Thank you!