Home-Based Counselling and Testing and Linkage to Care in South Africa and Uganda

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Human Sciences Research Council (HSRC), University of Washington, and Integrated Community Based Initiatives (ICOBI)
The ultimate aim of our work is to identify effective and efficient strategies for HIV testing and linkages, in high prevalence settings.
Aim: Phase 1

• HBCT as a platform to:
  – achieve high HIV testing coverage
  – deliver point-of-care (POC) CD4 tests
  – identify HIV+ persons and actively refer to HIV care
  – provide follow-up visits to retain HIV+ persons in care
Methods: Intervention package (1)

Community Sensitization → Household Consent → Individual

- Consent
- Questionnaire
- Pre-test counseling
- HIV test

HIV+ Linkage to care and treatment

HIV- Linkage to prevention

Data collection

UNIVERSITY OF WASHINGTON
INTERNATIONAL CLINICAL RESEARCH CENTER
PreventionRX Study
Methods: Intervention package (2)

HIV+
- Post-test counseling
- POC CD4 test
- Referral for HIV care & ART
- Follow-up visits at month 1 and then quarterly

Referral card with CD4 result and symptom screens for symptomatic HIV, STIs and TB
Pilot: South Africa and Uganda

<table>
<thead>
<tr>
<th></th>
<th>Uganda: N(%)</th>
<th>South Africa: N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV testing coverage</td>
<td>1558 (80%)</td>
<td>671 (91%)</td>
</tr>
<tr>
<td>HIV prevalence</td>
<td>152 (9.8%)</td>
<td>201 (30%)</td>
</tr>
<tr>
<td>Median CD4 count</td>
<td>467 cells/µL</td>
<td>425 cells/µL</td>
</tr>
</tbody>
</table>
## Pilot: Results at 6 months

<table>
<thead>
<tr>
<th></th>
<th>Uganda: N(%)</th>
<th>South Africa: N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visited an HIV Clinic</td>
<td>133 (88%)</td>
<td>195 (97%)</td>
</tr>
<tr>
<td>ART uptake among those eligible</td>
<td>22 (79%)</td>
<td>15 (80%)</td>
</tr>
<tr>
<td>MC uptake in Uganda</td>
<td>75 (62%)</td>
<td>-</td>
</tr>
<tr>
<td>Proportion with viral load &lt;1,000 copies/mL among ART eligible participants</td>
<td>-</td>
<td>Increased from 20% at baseline to 80% at 6 months*</td>
</tr>
<tr>
<td>Change in mean viral load over 6 months among ART eligible participants</td>
<td>-</td>
<td>-2.46 log_{10} copies/mL*</td>
</tr>
</tbody>
</table>

*p ≤0.01
To estimate the impact of a package of interventions (community-based home HCT, point-of-care CD4 testing, referral to care, follow-up visits) on:

- Linkage to HIV clinic
- ART initiation following national guidelines
- Viral load suppression 12 months after testing
## Phase 2: Baseline results

<table>
<thead>
<tr>
<th>Baseline findings</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults tested</td>
<td>3,393 (96%)</td>
</tr>
<tr>
<td>HIV+ identified</td>
<td>635 (19%)</td>
</tr>
<tr>
<td>On ART at enrollment among all HIV+ participants</td>
<td>254 (40%)</td>
</tr>
<tr>
<td>Known HIV+ not on ART</td>
<td>152 (24%)</td>
</tr>
<tr>
<td>Newly identified HIV+</td>
<td>229 (36%)</td>
</tr>
<tr>
<td>Median CD4 baseline (not on ART)</td>
<td>456 (IQR 289-631)</td>
</tr>
</tbody>
</table>
Clinic uptake: 96% at 6 months among HIV-infected participants not on ART at baseline.

No. at risk:
- Known HIV+: 152
- Unaware: 228
• 74% of eligible persons (CD4≤350) initiated ART by month 12
• Significant differences for ART by CD4 count – lower uptake for HIV+ persons with higher CD4
ART Uptake by CD4 count

• Common reasons for not linking:
  • “I was told I was not eligible” in SA (64%) and Uganda (22%)
  • Clinics repeating CD4 counts (both)
  • Waiting for 3 officially required visits (Uganda)

• Trend toward higher ART initiation if tested as a couple
Population viral load suppression increased at 12 months

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>M12</th>
<th>Change</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in mean HIV VL (log_{10} c/mL)</td>
<td>Mean HIV VL (log_{10} c/mL)</td>
<td>VL (log_{10} c/mL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All HIV+ participants</td>
<td>2.95</td>
<td>2.40</td>
<td>-0.54</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>HIV+ not on ART at baseline</td>
<td>3.86</td>
<td>2.93</td>
<td>-0.93</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>CD4≤350 (excluding baseline ART)</td>
<td>4.49</td>
<td>2.53</td>
<td>-1.96</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Change in suppressed VL (&lt;1,000 c/mL)</td>
<td>% w/ suppressed VL (&lt;1,000 c/mL)</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All HIV+ participants</td>
<td>50%</td>
<td>65%</td>
<td>15%</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>CD4≤350 (excluding baseline ART)</td>
<td>8%</td>
<td>61%</td>
<td>53%</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
Limitations

• Household residents enrolled – did not account for migration e.g. for employment

• Lower uptake of testing among couples, men and youth in South Africa

• Data not linked to clinic records

• ART uptake not evaluated from the provider perspective
Discussion (1)

- Community-based home HCT, POC CD4 testing, referral to care, and follow-up visits achieved:
  - High testing coverage in South Africa and Uganda
  - Identified HIV+ persons unaware of serostatus & at high CD4 count
  - Facilitated linkage to HIV care and ART initiation
  - Significant increase in viral suppression at population level

- Despite high HIV clinic attendance, ART uptake lagged behind engagement in care for HIV+ persons with higher CD4

- Asymptomatic individuals may require different strategies, including support of ART providers and reinforcement of revised ART initiation criteria
Discussion (2)

• Client support, such as simplified ART delivery & couples counseling, may be required to increase ART uptake and adherence
  – May require client support & follow-up, messaging about ART benefits when asymptomatic, & provider training

• How to reach youth, men working away from homes, and to promote couples testing and disclosure?

• Next steps: what model elements lead to success?

• Scaling up: minimum package for linkage to ART and VL suppression; how to transfer to community health workers?
Thank you

Study Participants

ICOBI and HSRC Partners

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