Family-Based HIV VCT for Persons at Risk for TB in Uganda

Edwin D. Charlebois MPH PhD
Operations & Implementation Research

• **Operations Research** is defined broadly as the use of analytical techniques to achieve better health outcomes, define optimal processes of service delivery, and develop more cost-effective systems.

• **Implementation Research** addresses the “how” of translating current research knowledge into practice within health and social systems.
TB HIV
Double Trouble

People with HIV infection face a greater risk of also developing TB.

Don’t take chances. Get tested.

Call your physician or county health department for a tuberculosis test today—especially if you know you’re HIV infected.
HIV & TB in Sub-Saharan Africa

- Majority of the world’s HIV infections are in sub-Saharan Africa
- HIV epidemic overlaps with pre-existing TB epidemic
- HIV and TB are detrimentally synergistic
  - Elevated prevalence of HIV in TB patients
  - Elevated prevalence of active TB in HIV patients
  - Increased mutual morbidity and mortality
HIV & TB in Uganda

• Major reduction in HIV seroprevalence 23% → 6.4%%

• Less than 10% know their HIV status.

• Estimated 800,000 unaware of HIV infection.

• 400,000 dually infected with HIV and TB
Reported Barriers to HIV Testing

• **Structural:**
  - Location not convenient
  - Hours not convenient
  - Waiting time
  - Cost to tester

• **Psychological:**
  - Fear of stigmatization
  - Fear of negative emotional impact of HIV(+) result
  - Worries about no treatment
Mobile VCT Outreach
Family-Based HIV VCT for Persons at Risk for TB

- Integrate same-day rapid HIV counseling and testing for 2,000 TB evaluation patients in Kampala, Uganda
- Randomized trial of home-based vs. TB clinic-based VCT for 600 households of TB evaluation patients
- Evaluate linkage to HIV and TB care for patients and household members

NIMH/NIAID 5-year R01 MH075637-01A1 (Charlebois)
Offer HIV VCT N=2,000

Accept VCT N=1,400

Decline VCT N=600

Non-Tester Questionnaire N=400

HIV (+) N=700

Offer Family & Household HIV VCT to N=360

HIV (-) N=700

Offer Family & Household HIV VCT to N=360

Accept N=300

Decline

Randomize

Offer All Home VCT N=150 households

Accept N=300

Randomize

Offer All Clinic VCT N=150 households

Offer All Home VCT N=150 households

Offer All Clinic VCT N=150 households

Follow-up for 1 year
HIV SEROPREVALENCE

• Among all TB suspects:
  – 238/565 = 42%

• By TB Diagnosis
  – TB: 121/302 = 40%
  – Non-TB: 63/112 = 56% \[ p = 0.004 \]

NON-TB Diagnosis Associated with HIGHER HIV Seroprevalence

Odds Ratio = 1.3 (95% CI: 1.1 – 1.7)
HIV RISK BEHAVIOR AMONG HIV+ TB SUSPECTS

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>N</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of sexual partners in previous 6 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One</td>
<td>97</td>
<td>(41)</td>
</tr>
<tr>
<td>Two – Five</td>
<td>108</td>
<td>(45)</td>
</tr>
<tr>
<td>Six or more</td>
<td>33</td>
<td>(14)</td>
</tr>
<tr>
<td>Always use condoms with regular sexual partner</td>
<td>11</td>
<td>(5 )</td>
</tr>
<tr>
<td>Always use condoms with casual sexual partners</td>
<td>10</td>
<td>(4 )</td>
</tr>
</tbody>
</table>

N= 238 HIV-infected persons
## REFERRAL OF HOUSEHOLD MEMBERS FOR VCT

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>N</th>
<th>(%)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very willing to refer household member for home/clinic based VCT</td>
<td>429/502</td>
<td>(86)</td>
<td>---</td>
</tr>
<tr>
<td>HIV positive</td>
<td>179/215</td>
<td>(83)</td>
<td>{0.3*}</td>
</tr>
<tr>
<td>HIV negative</td>
<td>247/284</td>
<td>(86)</td>
<td>{0.3*}</td>
</tr>
<tr>
<td>Very willing to refer household member for clinic-based VCT</td>
<td>364/498</td>
<td>(73)</td>
<td>{0.008**}</td>
</tr>
<tr>
<td>Very willing to refer household member for home-based VCT</td>
<td>328/492</td>
<td>(67)</td>
<td></td>
</tr>
</tbody>
</table>

*Fisher’s Exact Test, ** McNemar’s Test
Willingness to Refer Family/Household Members for VCT by Location and Patient Sex

- Clinic: 93% (p<.001)
- Home: 83% (p=.17)
- Home - Women: 81%
- Home - Men: 84%
- Clinic - Women: 94% (p=.34)
- Clinic - Men: 93%

Note: p-values indicate statistical significance.
Willingness to Refer Spouse for VCT (N=310) by Location and Patient Sex

- Clinic: 96% (p<.001)
- Home: 82% (p=.003)
- Home - Women: 74% (p=.54)
- Home - Men: 87%
- Clinic - Women: 96%
- Clinic - Men: 96%
STIGMA
“To die of AIDS is treason.”

Ugandan President Yoweri Museveni
September, 2007
Quantitative Survey

• Counselor administered
  – Knowledge and attitudes about HIV-TB co-infection (9)
  – HIV-related stigma (12)
  – TB-related stigma (12)
• Available in Luganda or English
• August, 2006 to January 2007
  – 148 subjects
Younger people perceive more HIV-related stigma than older people.

<table>
<thead>
<tr>
<th>Age</th>
<th>Shame</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 – 30 years</td>
<td>1.69</td>
<td>0.0276</td>
</tr>
<tr>
<td>31 – 70 years</td>
<td>1.31</td>
<td></td>
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</table>
Younger people perceive more HIV-related stigma than older people

They think if I am in S6 and tell my parents that I am positive, all they will say, parents will just say, you are useless, you are going to die. No school fees. Let me pay for these ones who are not positive. Another thing, the parent will think negatively towards that child. I have been wasting my school fees, and what you have been doing is going for other boys and other girls, instead of doing what I sent you to do. If I tell my parents, they will stop loving me, and they will think I am a spoilt child.

Counselor, 30
Women perceive more HIV-related stigma than men

<table>
<thead>
<tr>
<th>Sex</th>
<th>Blame</th>
<th>Total Stigma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>1.54</td>
<td>1.63</td>
</tr>
<tr>
<td>Male</td>
<td>1.16</td>
<td>1.33</td>
</tr>
<tr>
<td>p value</td>
<td>0.0213</td>
<td>0.0382</td>
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</table>
Women perceive more HIV-related stigma than men

[Women] were telling us, “If I find out I am HIV positive, my husband is going to what? To chase me away, and he is going to stop what? Giving support, and I fear to disclose to my husband.” And others, they used to tell us, “How am I going to be looked at in the community, if I am HIV positive? The moment that people learn that I am HIV positive, they are going to see me as someone who has done something wrong, who has committed what? A crime, because I am HIV positive.”

Medical counselor, 32
How are HIV- and TB-related stigmas different? (p<0.00005)

In your community, how many mothers would not want someone with HIV/TB to hold their new baby?

In your community, how many people think people with HIV/TB are paying for their sins?
Thank you

The Team:
Sam Singer, Eleanor Babirye, Aliza Monroe, Sally Opus, Francis Mulindwa, Sarah Mmiro, Maria Walusimbi, Talemwa Nalugwa, Josephine Nabwegyako, Catherine Tugaineyo, Alphonse Okwera, Roy Mugerwa, Edwin Charlebois