# *Re-norming of HIV Testing in TB Contact Investigation: A Randomized, Controlled Trial*

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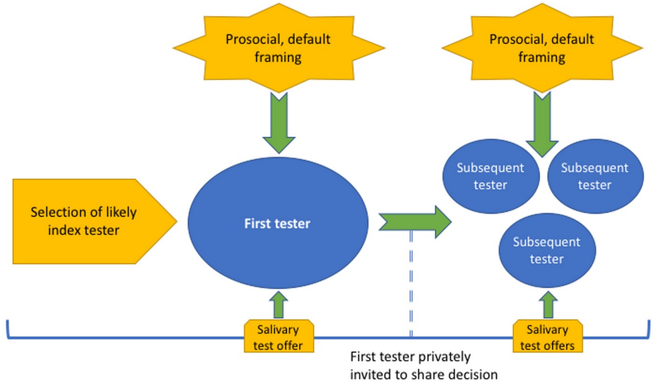
## BACKGROUND

HIV status awareness and linkage to care are critical for ending the HIV epidemic and preventing tuberculosis (TB), especially for close contacts of patients with TB, for whom HIV greatly increases the risk of incident TB and death. **However, up to half of household contacts decline HIV test offers during routine TB contact investigation in Uganda and South Africa.** We evaluated a brief social-behavioral norming strategy to increase acceptance of HIV testing during TB household contact investigation compared to standard strategies.

## METHODS

- We carried out a household-randomized, controlled trial to evaluate the effect of the norming strategy among household contacts of pulmonary TB patients in Kampala, Uganda (ClinicalTrials.gov #NCT05124665, **Figure 1**).
- Community health workers (CHW) visited homes of TB index patients to screen contacts for TB symptoms and offer free, optional, oral HIV testing.
- Households were randomized 1:1 to standard-of-care or intervention services.
- Contacts were eligible for inclusion if ≥15 years, self-reported not to be living with HIV, and living in a multi-contact household.
- The primary outcome, proportion of contacts accepting HIV testing, was analyzed using an intention-to-treat approach and a mixed-effects model to account for clustering by household. We assessed HIV testing yield as a proportion of all contacts tested.




A brief norming intervention significantly improved **uptake of HIV testing** among household contacts of patients with TB.

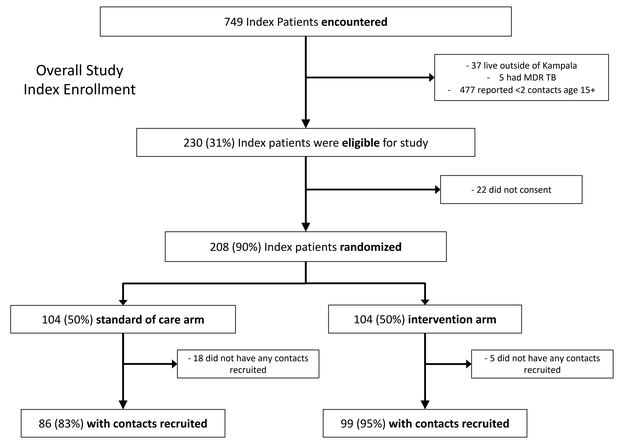
## RESULTS

- 328 contacts in 99 index patient households were randomized to the intervention and 224 contacts in 86 index patient households were randomized to the standard-of-care arm (**Figure 2**).
- In the intervention arm, 285 (87%) contacts met eligibility criteria. In the control arm, 187 (92%) contacts met eligibility criteria.
- Completion of HIV testing was higher in the intervention arm (98% versus 92%, difference +6%, 95%CI +2% to +10%, p=0.006) (**Table 1**).
- The odds of a contact accepting HIV testing in the intervention arm were 4.6 times the odds of a contact completing a test in the control arm (95% CI 1.6-12.9, p=0.004).
- Yield of HIV testing was 2.1% in the intervention arm and 0.6% in the control arm (p=0.22).
- Study CHWs reported that the norming strategy took equivalent or less time than standard strategy.

**Table 1: Completion of HIV testing**

| | Odds ratio | 95% CI | p value | Adjusted risk difference | 95% CI | p value |
|---|---|---|---|---|---|---|
| **Primary model*** | | | | | | |
| Intervention⁺ | 4.6 | 1.6 – 12.9 | 0.004 | +6% | 2% - 10% | 0.006 |

**Results are from a logistic regression model. A mixed effects model accounting for clustering by household showed a very low intra-cluster correlation coefficient (ICC) of 0.016 and identical parameter estimates and confidence intervals.*
*⁺Compared to contacts randomized to standard-of-care*




## CONCLUSIONS

- We evaluated a simple, brief strategy for improving uptake of HIV testing among individuals living with a TB index patient.
- We found that the intervention strategy improved acceptance and completion of HIV testing compared to a standard strategy delivered by experienced CHWs.
- This is consistent with an emerging body of work suggesting that the perception that testing for HIV is normative is associated with increased willingness to test for HIV oneself.
- This is important because **HIV status awareness is urgent for close contacts of TB patients**, yet close contacts of TB patients decline HIV testing at high rates.

## AUTHOR CONTACT INFORMATION

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