

# Factors Influencing Acceptability of Family-Based HIV Counseling and Testing for Tuberculosis Evaluation Subjects in Uganda

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## Background

- High prevalence of HIV co-infection among TB patients in Sub-Saharan Africa
- HIV Voluntary Counseling and Testing (VCT) recommended for all patients diagnosed with TB
  - Effective method to identify persons with undiagnosed HIV and link to care
- Household members of TB suspects also at high risk for HIV infection
  - Extending VCT to family and household members is warranted
- Two possible venues for family-based HIV testing: Home or TB Clinic

## Study Objectives

- Determine seroprevalence of HIV among TB suspects at urban TB clinic in Uganda
- Compare HIV prevalence in patients with and without TB diagnosis
- Evaluate acceptance of same-day HIV counseling and testing in TB clinic
- Estimate willingness of TB clinic patients to refer household members for HIV testing
- Compare willingness to refer family/household members for clinic versus home testing

## Methods

### Study Site:

National Tuberculosis and Leprosy Program (NTLP) Referral TB Clinic, Mulago Hospital, Kampala, Uganda

### Study Population:

- Age ≥18 years
- Newly presenting for outpatient clinical evaluation of TB

### Study Design:

- Prospective, systematic sample
- Every third new TB clinic patient

### Counseling:

- Standard CDC client-centered VCT
- Pre- and post-test counseling
- Referrals to care and support

### Rapid HIV Testing:

- Whole blood fingerstick assay
- Parallel rapid testing algorithm
- Results within 30 minutes

### TB Diagnosis:

- Data abstracted from NTLP treatment register

### Willingness to Refer Family:

- 4 point Likert scale ranging from “very-willing” to “very-unwilling”
- Overall and Person-type specific questions

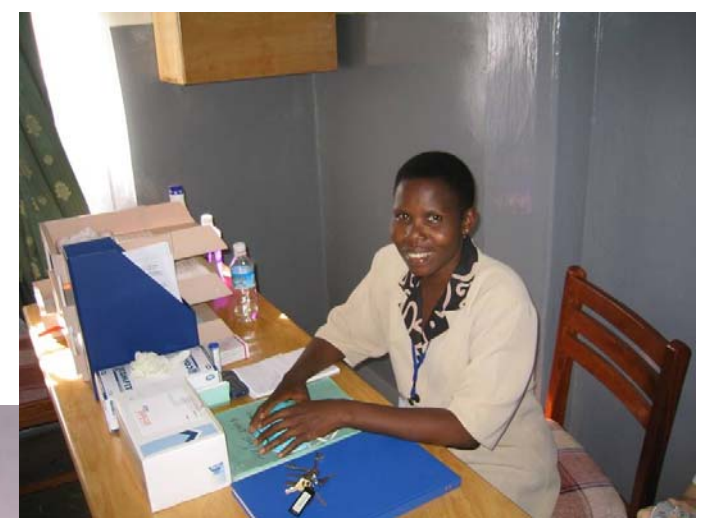


## Results

- Study Period: October 2004–January 2006
- 903 patients approached
  - 713 (79%) consented to VCT
- Median Age: 30 years (Range 18–81 years)

### Patient Characteristics (N=713)

PATIENT CHARACTERISTIC	N (%)
Male Sex	410 (57)
Marital Status	
Never married	203 (29)
Monogamous marriage	291 (41)
Polygamous marriage	47 (7)
Divorced/Widowed	168 (23)
Single Person Household	68 (10)
Median Family Size in Household	3
Have a Spouse	310 (44)
Mean Children in Home	1.5
Mean Other adults in Home	1.1
Monthly Income	
No Income	252 (37)
<50,000 Shillings (28 USD)	230 (32)
≥50,000 Shillings	229 (32)
Formal Education	
None	73 (10)
Primary School	338 (47)
Secondary School or Higher	302 (43)
Previously tested for HIV	259 (36)

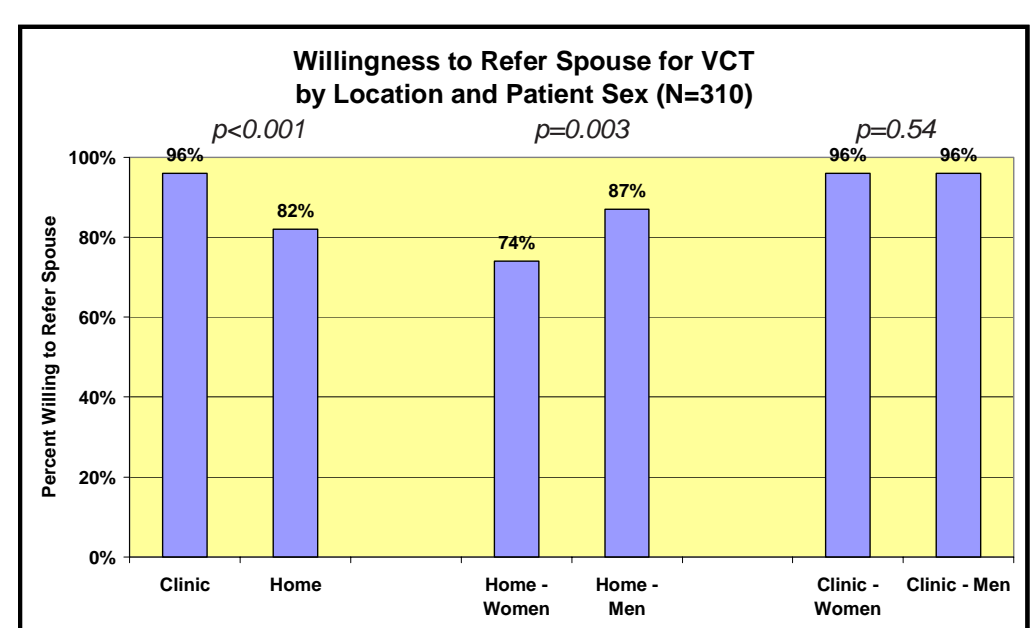
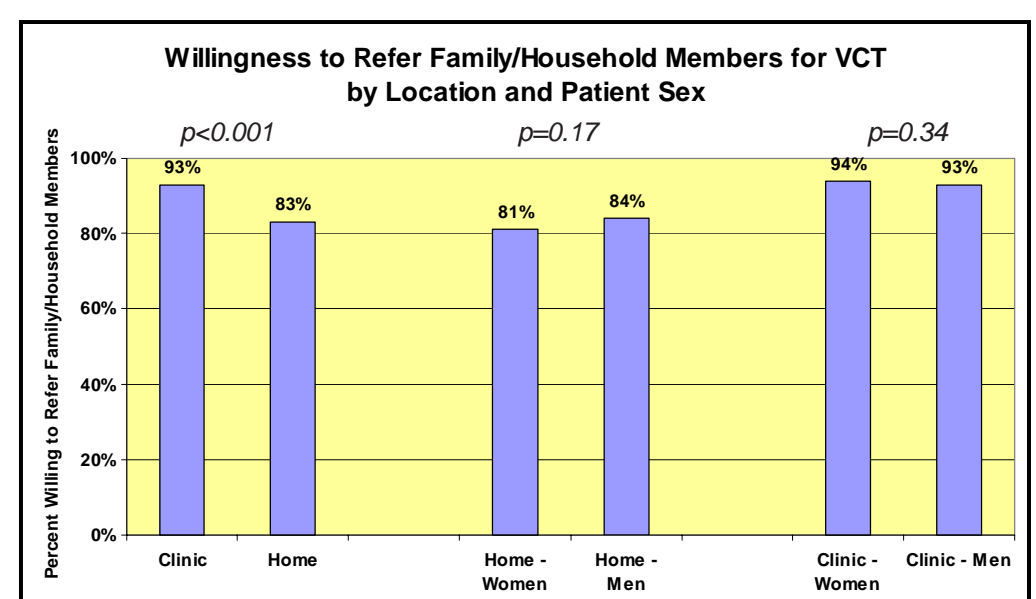


### HIV Seroprevalence

- Among all TB evaluation patients:  
297/706 = 42%
  - By TB Diagnosis
    - TB: 186/472 = 39%
    - Non-TB: 108/225 = 48%
- 0.02 by Fisher's Exact

### Referral of Household Members for VCT (N=618)

CHARACTERISTIC	N (%)	p-value
Willing to refer household member for home or clinic based VCT	603/618 (98)	—
HIV positive	251/261 (96)	0.052 by Fisher's Exact
HIV negative	345/350 (99)	
Willing to refer household member for clinic-based VCT	573/614 (93)	<0.001 by McNemar's
Willing to refer household member for home-based VCT	503/607 (83)	



### Univariate and Multivariate Predictors of Willingness to Refer for Family-Based Testing

Outcome	Factor	Univariate OR	p-value	Multivariate OR	p-value
Refer to Clinic or Home VCT	Have Spouse	3.8	0.04	-	-
	Single	0.2	0.02	-	-
	Monogamous	5.4	0.03	5.9	0.02
Refer to Home	HIV	0.3	0.06	0.3	0.04
	Student	0.7	0.07	0.6	0.03
Refer to Clinic	Student	0.4	0.03	0.3	0.007
	None	-	-	-	-
Refer Spouse for Home VCT	Female	0.4	0.004	0.2	0.009
	HIV	0.6	0.08	0.6	0.1

## Conclusions

- Implementation of VCT at TB clinic was highly acceptable
- Very high seroprevalence of HIV among TB suspects
- TB clinic patients report high levels of willingness to refer for family-based VCT
- Gender, relationship status and HIV status are important factors associated with willingness to refer for Home-based VCT
- Women were significantly less likely to be willing to refer spouses for Home-based VCT

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