

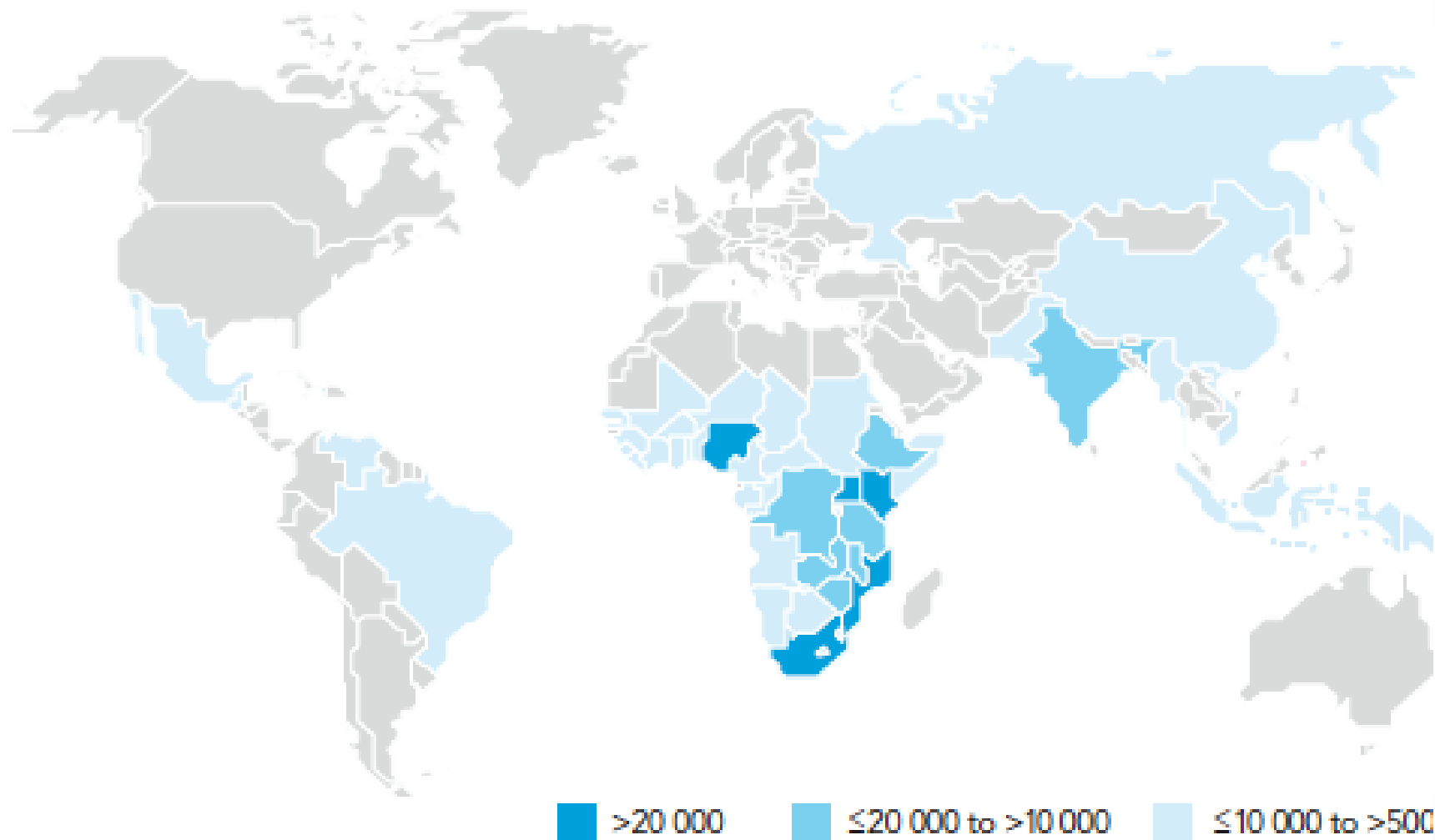


## **Couples intervention improves adherence to HIV prevention among pregnant women and male partners in Kenya**

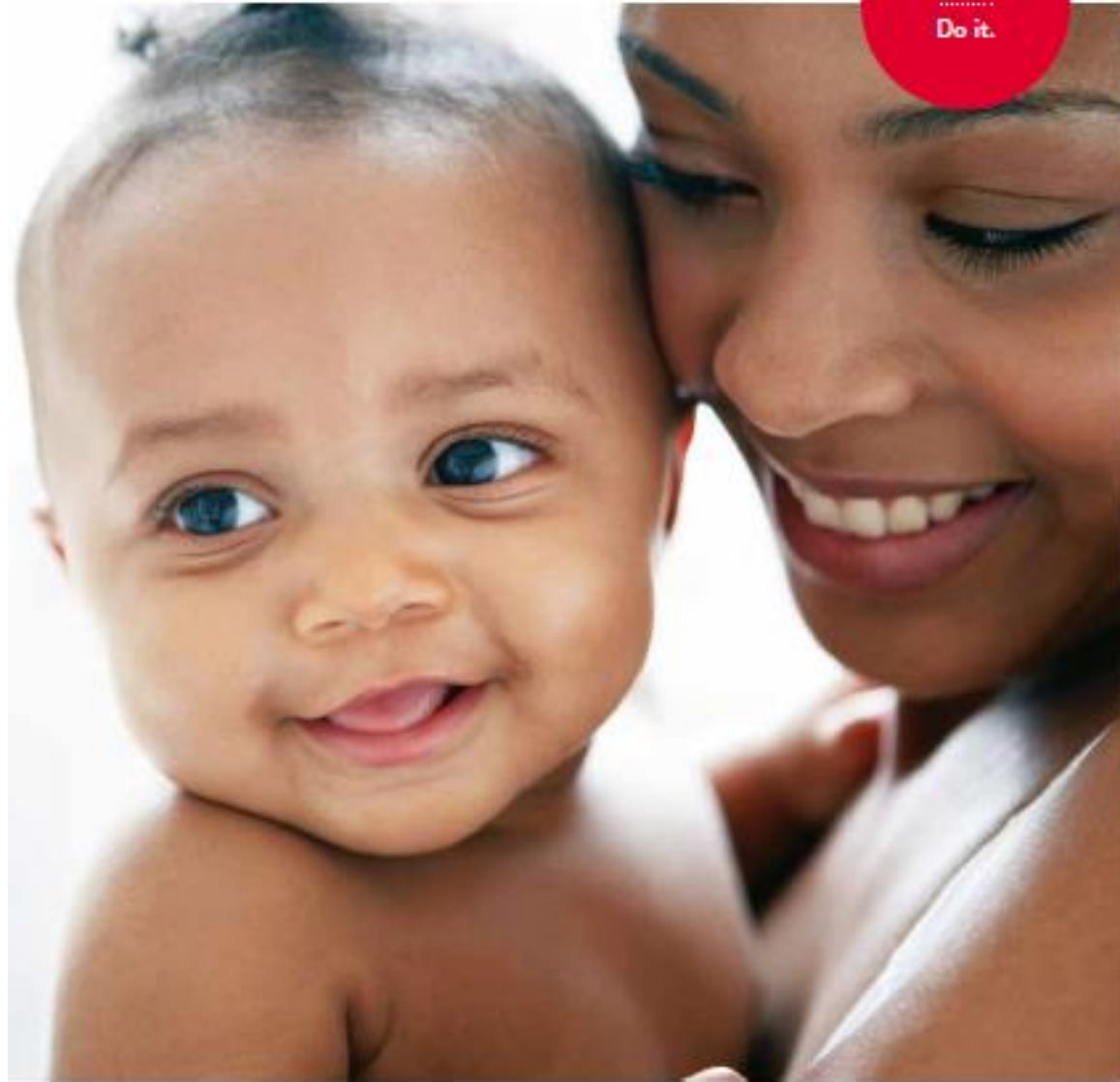
Abigail M. Hatcher, Lynae Darbes, Zachary Kwen, Pamela L. Musoke, Anna Joy Rogers, George Owino, Anna Helova, Jami L. Anderson, Patrick Oyaro, Elizabeth A. Bukusi, Janet M. Turan

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## Number of new HIV infections among children, 2009

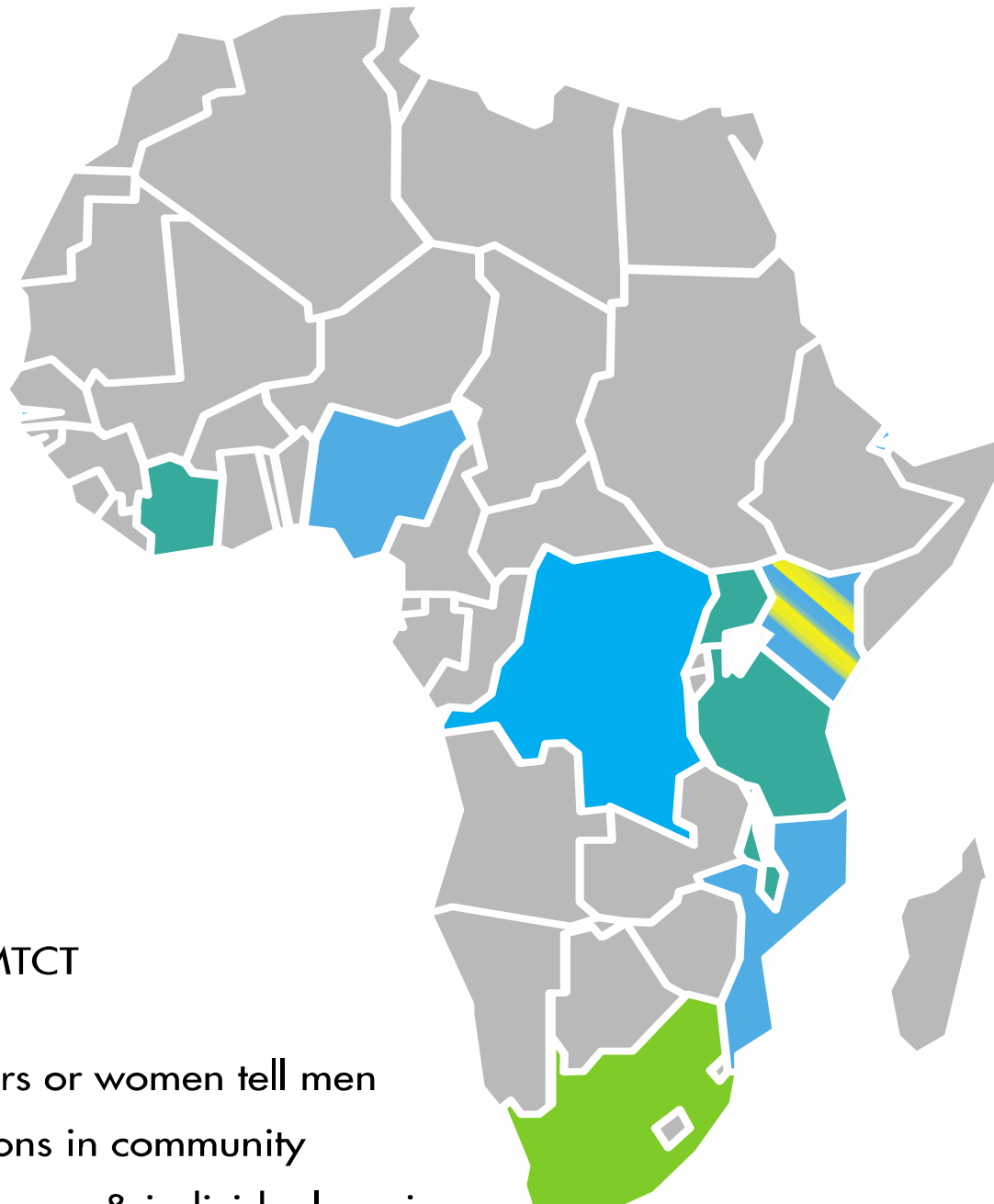


- Effective regimens can reduce MTCT to as low as 1% (1, 2)
- Global call for virtual MTCT elimination (3):
  - 90 % reduction in new child HIV infections
  - 50 % reduction in HIV-related maternal deaths



GLOBAL PLAN TOWARDS THE ELIMINATION OF NEW HIV INFECTIONS  
AMONG CHILDREN BY 2015 AND KEEPING THEIR MOTHERS ALIVE

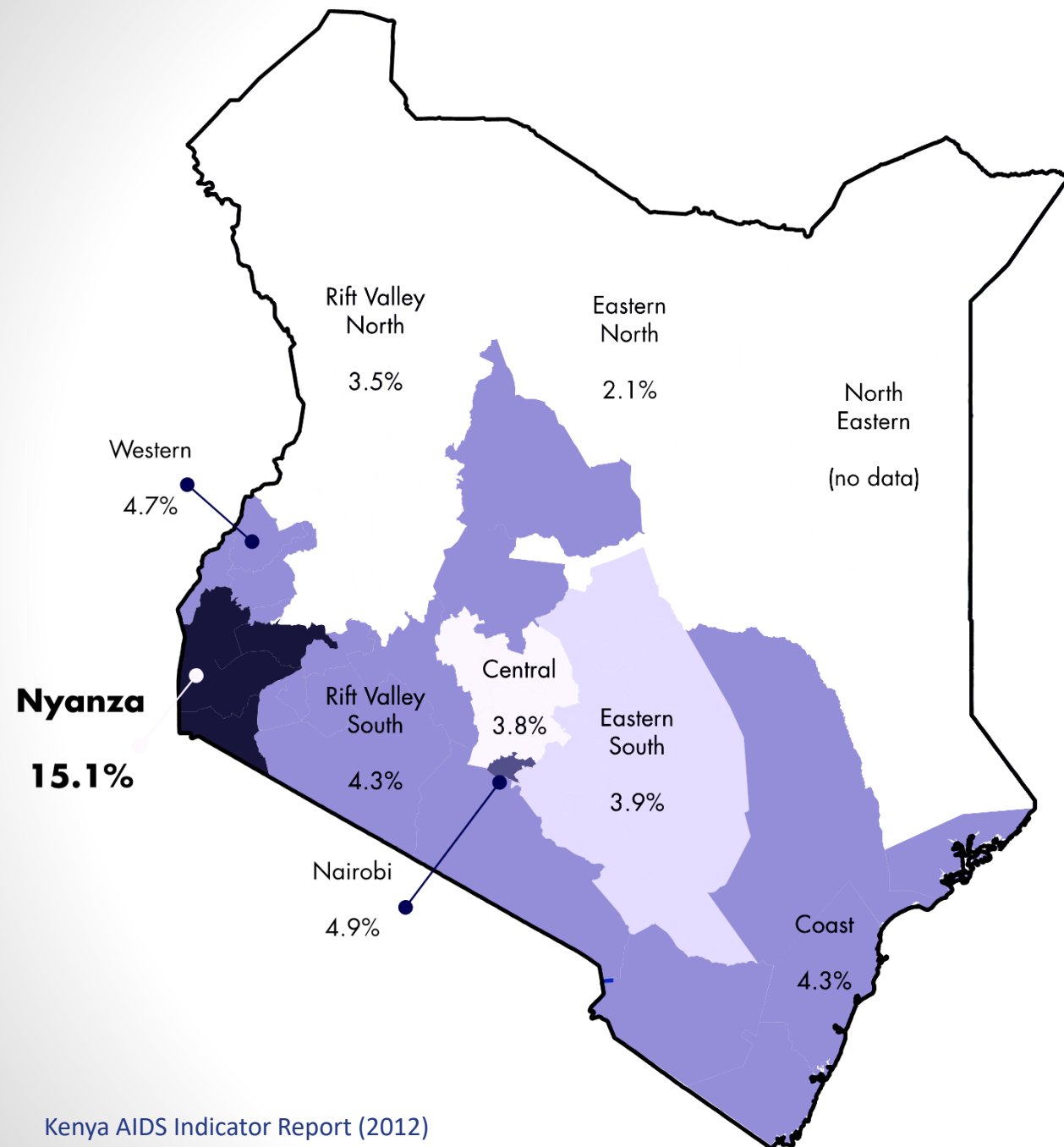
2011-2015

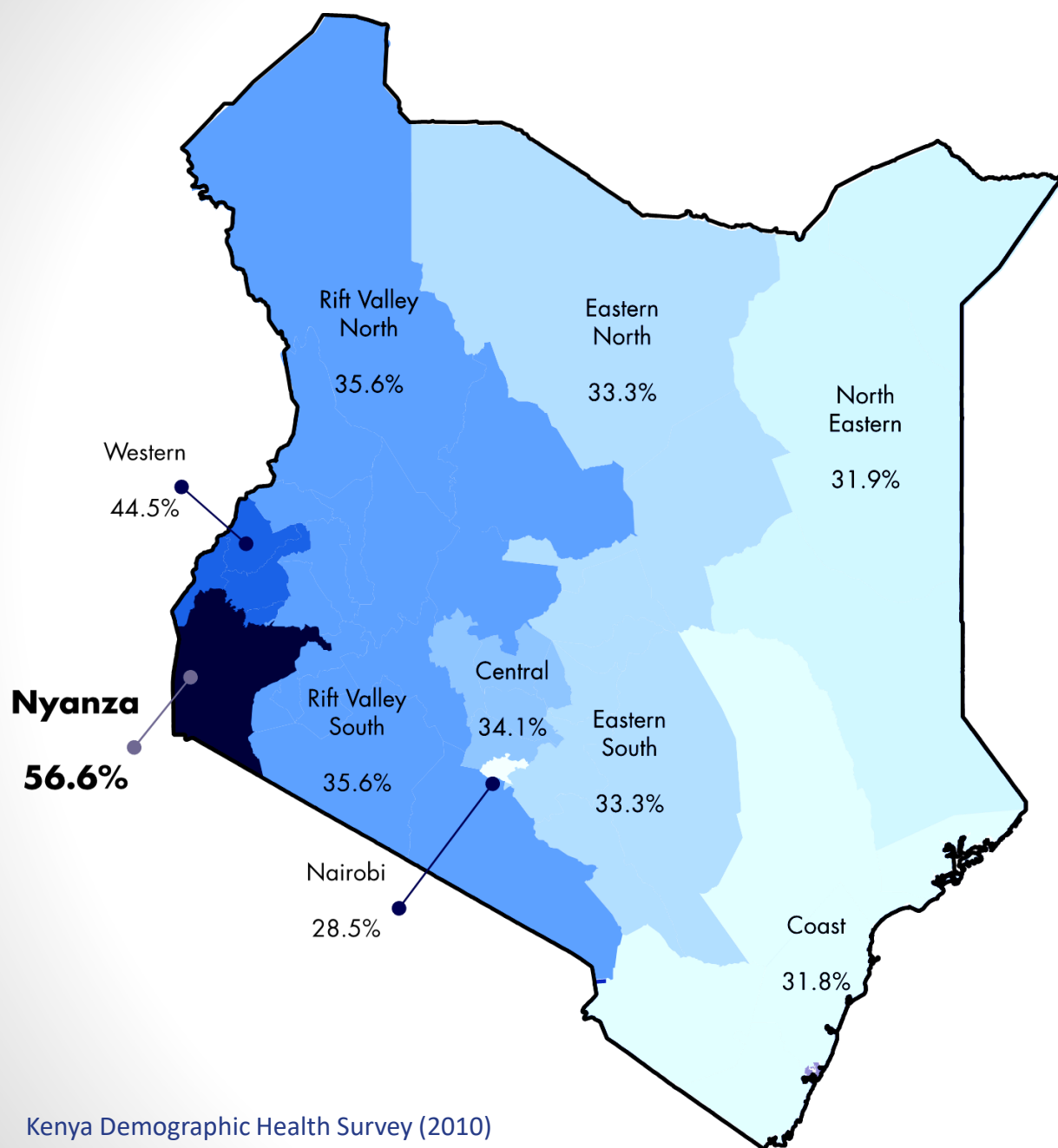


## Existing Couples PMTCT Interventions

- Invitation Letters or women tell men
- Male Champions in community
- Clinic-based group & individual sessions
- Home-based couples testing



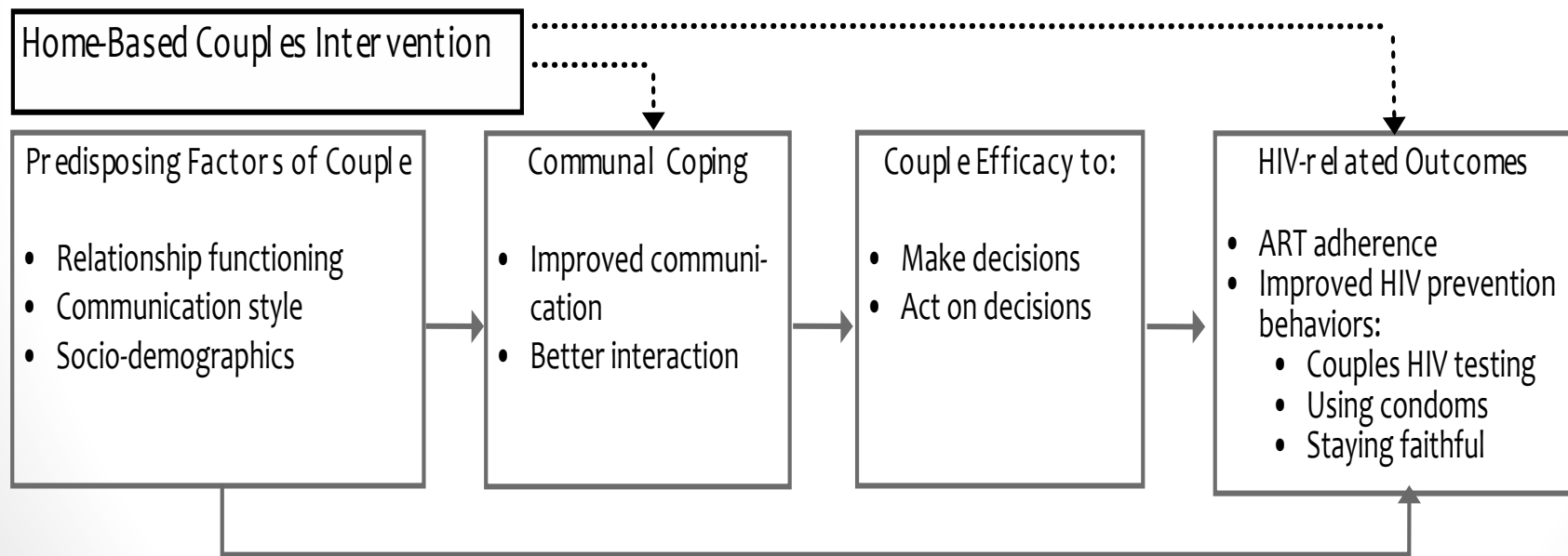




# Methods

- Longitudinal data from the Jamii Bora Study
- a pilot randomized controlled trial of a home-based couples intervention
- Study was conducted during the period 2014-2017 in Migori County, western Kenya





**Figure 1.** Conceptual framework for home-based couples intervention based on Interdependence Model





### **Jamii Bora Intervention**

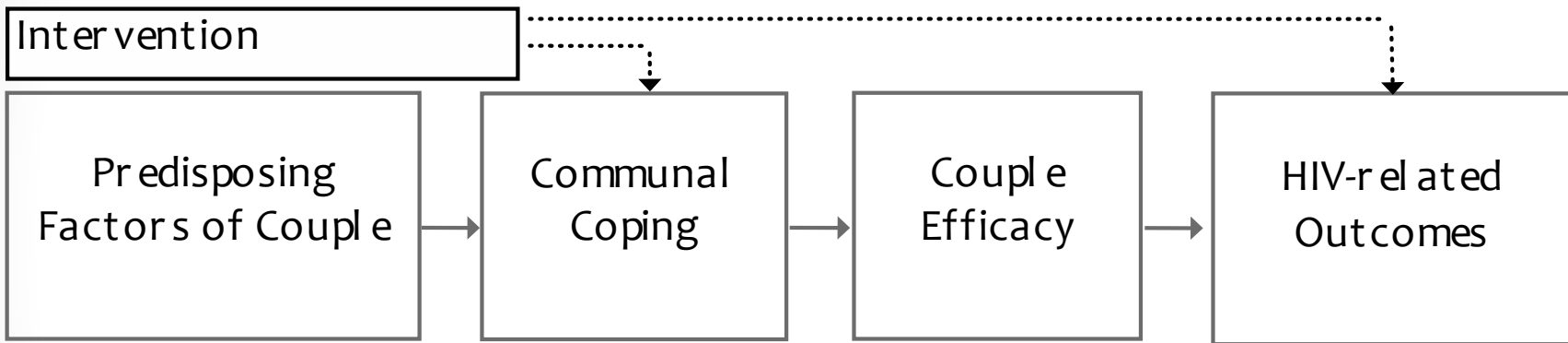
- 3 home home-based visits for pregnant women and male partners
- HIV-positive, HIV-negative, and Discordant
- visits by couple counselors: 1 male & 1 female

### **Visit content:**

- Maternal, child, and family health information
- Couple relationship & communication skills
- Offers of Couple HIV Testing and Counseling (CHTC)
- Linkage to services



# Measures



## Sociodemographics

- Age
- Gravidity
- Marital status
- Education

## Mediators

- Communication
- Couple efficacy to act on HIV

## HIV Adherence

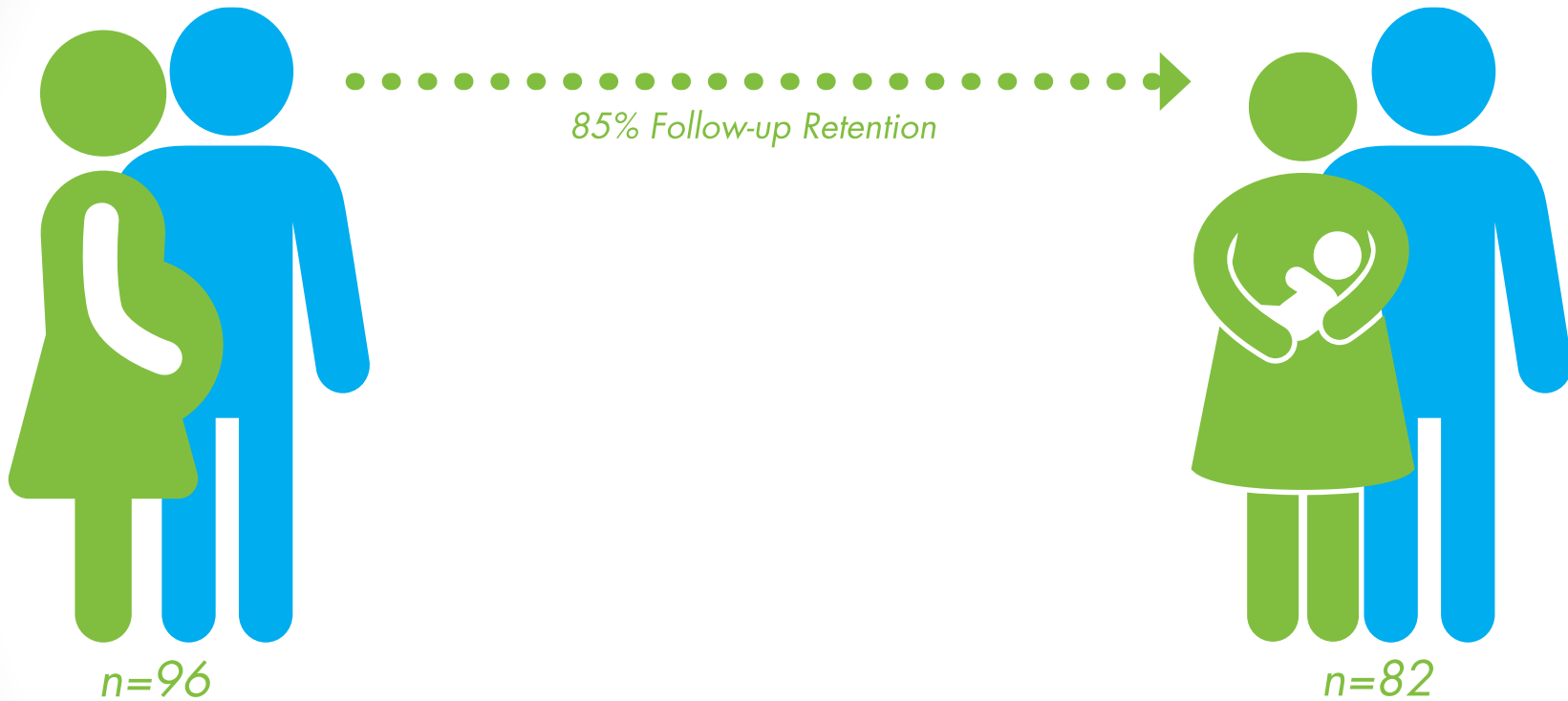
- Likert-type measure

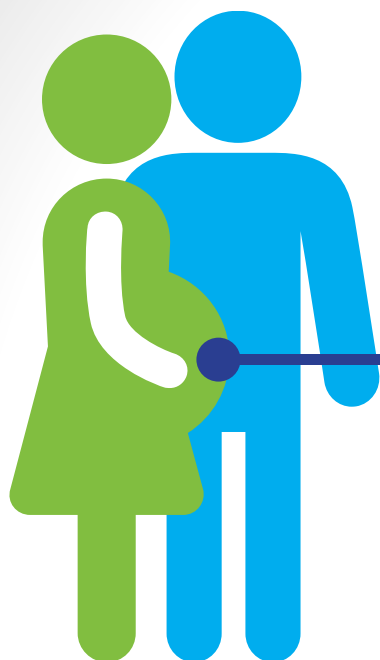


- **127 pregnant women** who were currently in a stable relationship with a male partner, but who had not disclosed their HIV status
  - 63 were randomized to the intervention group (couple home visits)
  - 64 were randomized to the control group (standard care)
  - About half were HIV+ at baseline (by design)
- **96 male partners of these women (76%)** could be located and agreed to participate in the study
  - 52 in the intervention group
  - 44 in the control group

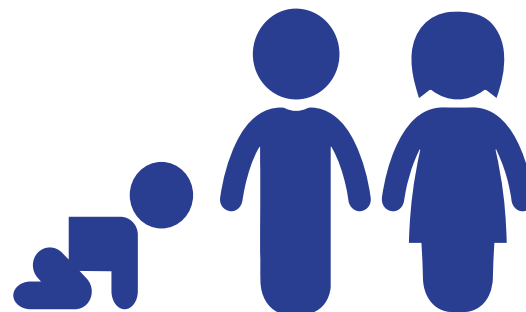


# Results





26  
weeks  
gestation



Median number of children: 3

24  
years      32  
years

25%



Polygynous

55%



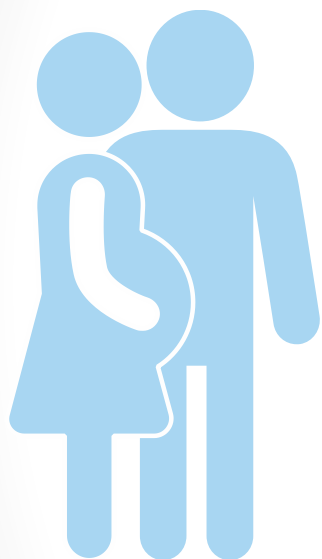
Can Read  
Newspaper

22%

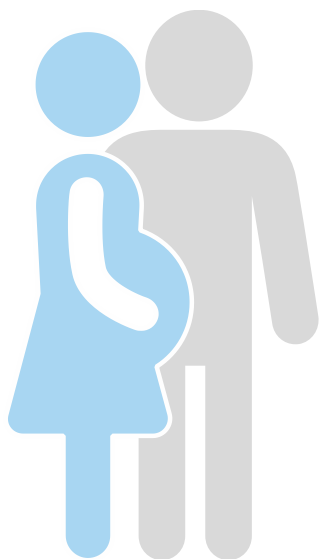


Have  
Electricity

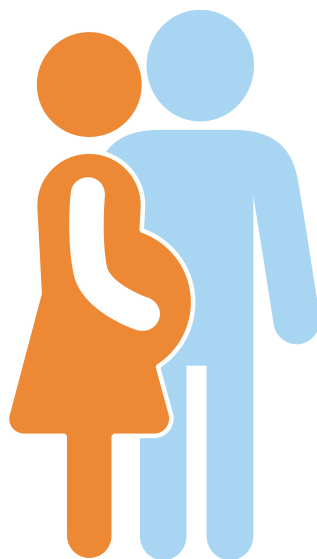




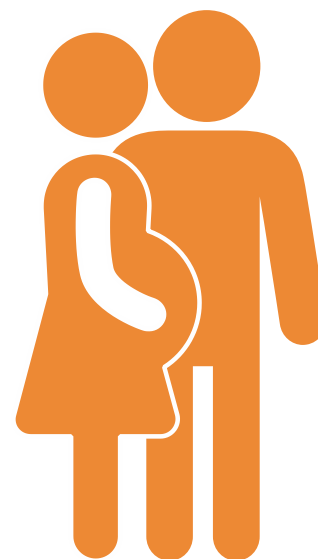
42



2

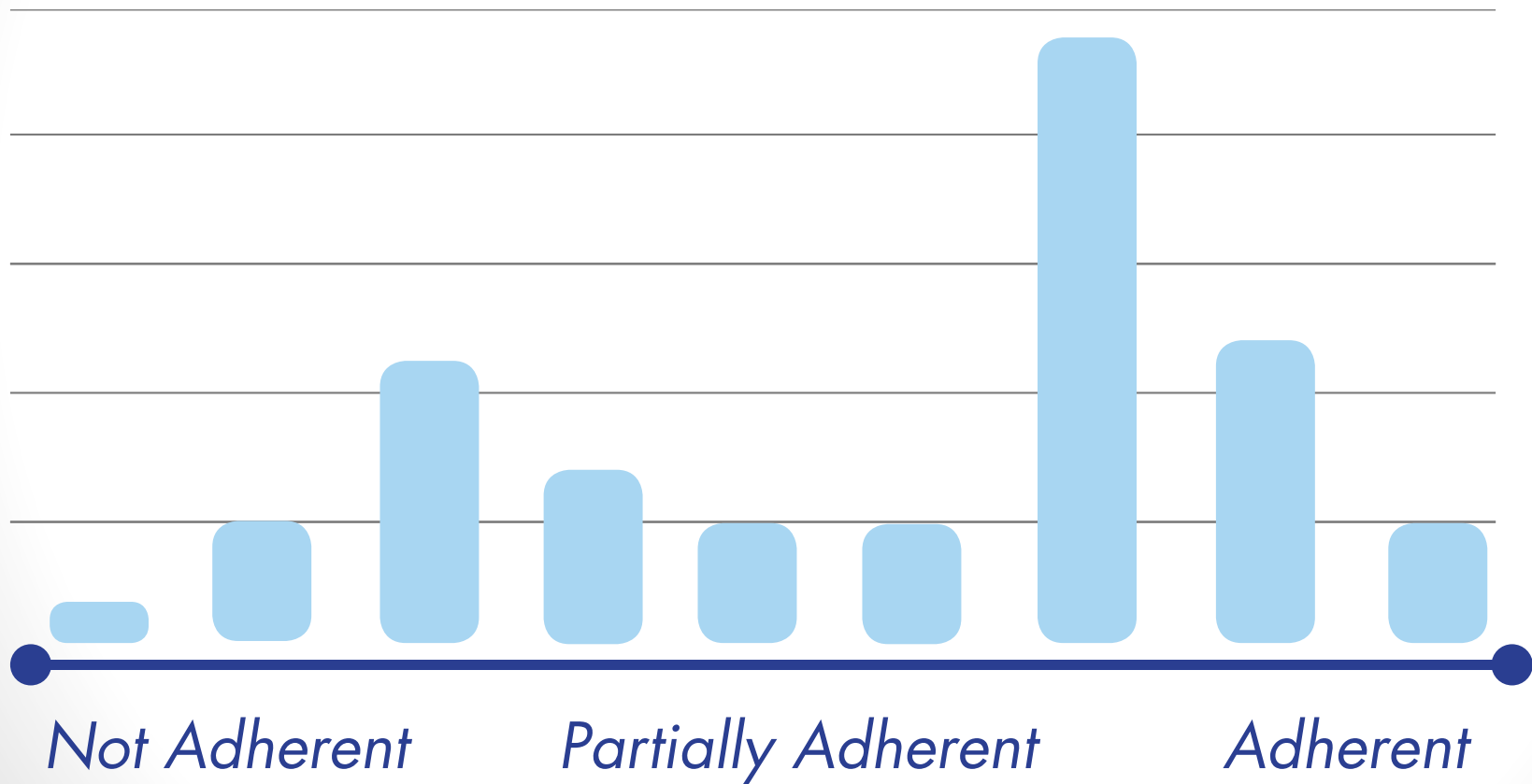


22



16







*n=57*  
*(68%)*  
*adherent*



*n=43*  
*(57%)*  
*adherent*





*n=57  
(68%)  
adherent*



For HIV-positive

- Excellent or Good ART adherence

*n=43  
(57%)  
adherent*



For HIV-negative

- Couples testing plus condoms
- Couples testing plus staying



## Adherent to HIV prevention or treatment

Unadjusted OR (95% CI) p-value

### Predisposing factors

Age difference between partners	1.03 (0.96 to 1.12)	0.356
Weeks gestation	0.96 (0.88 to 1.03)	0.335
Food security	0.65 (0.35 to 1.23)	0.189
Education	0.52 (0.20 to 1.33)	0.172

### Couples intervention

3.21 (1.23 to 8.42) 0.020

### Relationship moderators

Communication (F)	0.97 (0.80 to 1.18)	0.783
Communication (M)	1.06 (0.90 to 1.23)	0.489
Efficacy to act (F)	1.00 (0.85 to 1.18)	0.967
Efficacy to act (M)	1.20 (0.95 to 1.52)	0.134



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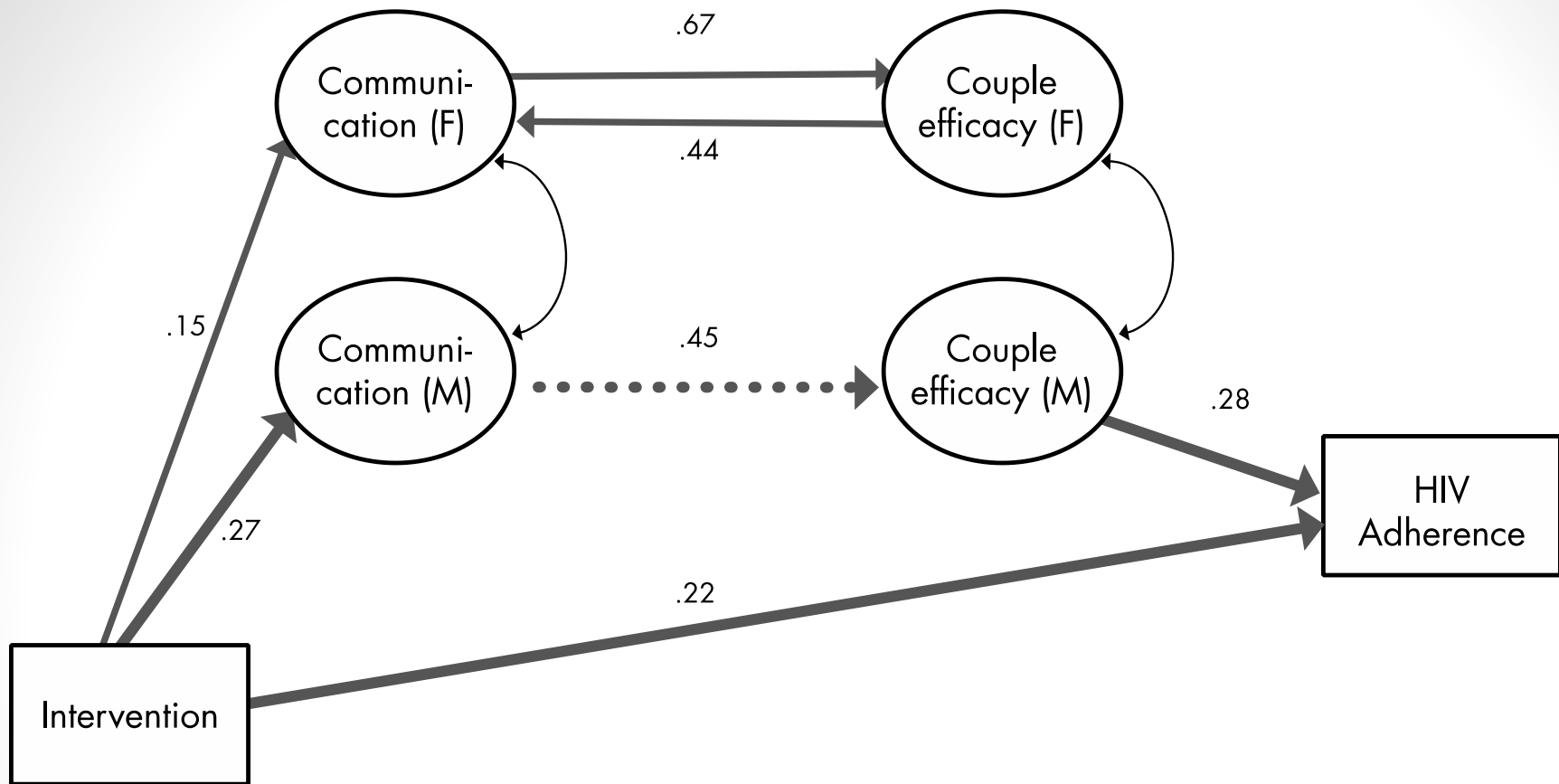
	Model <sup>a</sup>	Model <sup>b</sup>
	Adjusted OR (95% CI)	Adjusted OR (95% CI)
Couples Intervention	2.91 (1.08 to 7.84)*	3.44 (1.04 to 11.44)*

\* $p < 0.05$

OR: odds ratio; CI: confidence interval

<sup>a</sup> Adjusts for education and household hunger; <sup>b</sup> Adjusts for education, hunger, and couples mediators (communication and efficacy)





**Figure 1.** Structural equation model of the relationship between intervention, couples moderators, and HIV prevention behaviors (n = 96 couples). Relationships represented by standardized parameter estimates, with boxes indicating measured variables and oval representing latent variable. All solid line relationships significant at the  $p < 0.05$ .

F: female; M: male. Goodness of model fit Chi-square = 106.34 (df = 12)  $p = 0.365$ ; CFI = 0.979; RMSEA = 0.047 (90% CI 0.000 - 0.076).

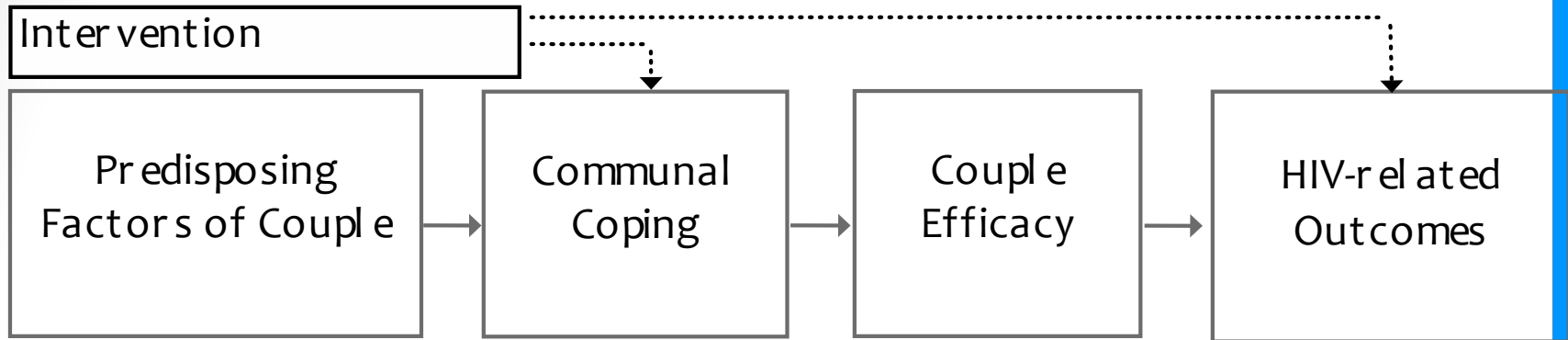


# Limitations

- Small sample size in a pilot study; pathways should be tested in more conclusive samples
- Longitudinal nature of study design not fully harnessed in SEM
- Couples-based research may recruit relatively more equitable partners (recent severe violence was screened out at baseline)



# Discussion



- A home-based intervention holds promise for improving HIV adherence behaviors among negative, discordant, and positive couples
- Possible that shifts in men may be driving HIV behaviors
- Next steps: Larger trial of the intervention is currently under review



# Acknowledgments

- **Study Participants!**
- **University of Alabama at Birmingham:**
  - Janet Turan (PI)
  - Pamela Musoke
  - Anna Helova
  - Anna Joy Rogers
  - Fatimah Bello
  - Jami Anderson
- **University of Michigan:**
  - Lynae Darbes
- **University of Witwatersrand:**
  - Abigail Hatcher
- **Kenya Ministry of Health:**
  - County Director of Health, Migori County
  - Staff of Macalder Subcounty Hospital, Rongo Subcounty Hospital, Oyani Health Centre, Wath-On'ger Dispensary, Godjope Dispensary
- **FACES Programme (UCSF-KEMRI)**
- **Kenya Medical Research Institute:**
  - Director of KEMRI
  - Director of CMR
  - Elizabeth Bukusi (Site PI)
  - Zachary Kwenia
  - George Owino
  - Patrick Oyaro
  - Elly Weke
  - Moses Okombo Ayany
  - Julius Odiwuor June
  - Celestine Adhiambo Ngerhe
  - Irene Awuor Jimbo
  - Jane Atieno June
  - Jannes Koderio
  - Samuel Oudia Apuot
  - Charles Muga
- **Funder:**
  - US National Institute of Mental Health (award # R34MH102103)

