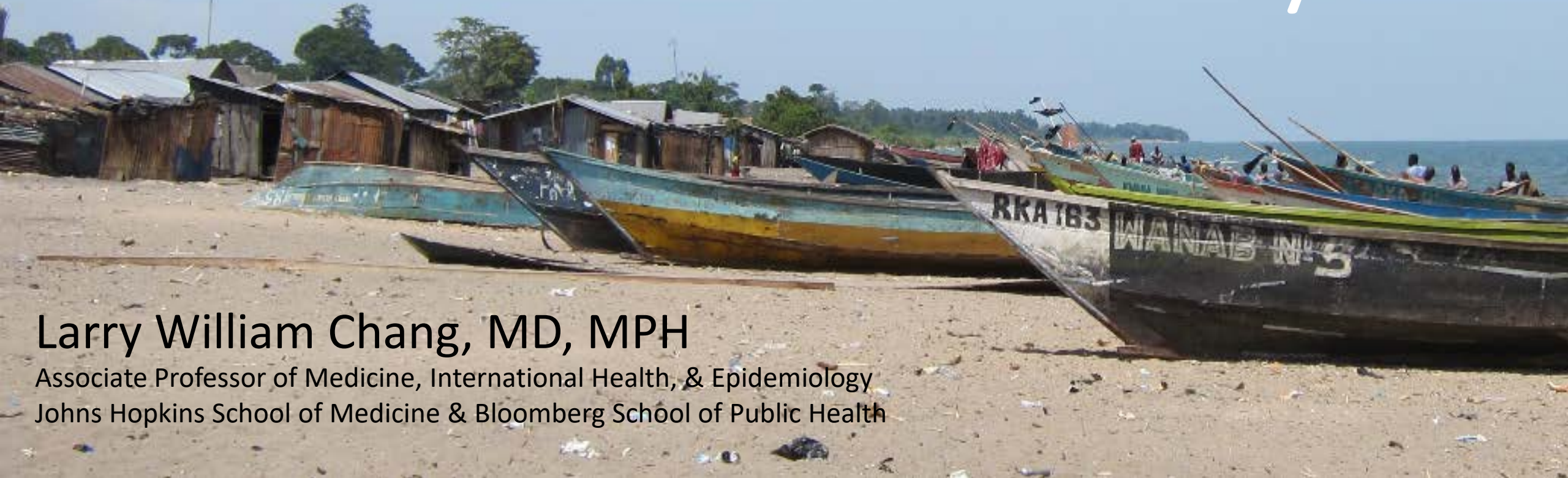


# Implementation Science @ RHSP: The mLAKE Health Scouts Trial The Hard-To-Reach Study



**Larry William Chang, MD, MPH**

Associate Professor of Medicine, International Health, & Epidemiology  
Johns Hopkins School of Medicine & Bloomberg School of Public Health

# The mLAKE Health Scouts Trial

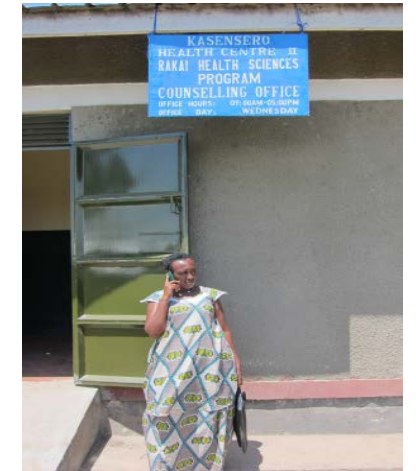
mHealth Lakefolk Actively Keeping Engaged



# The mLAKE HealthScouts Trial: Overview

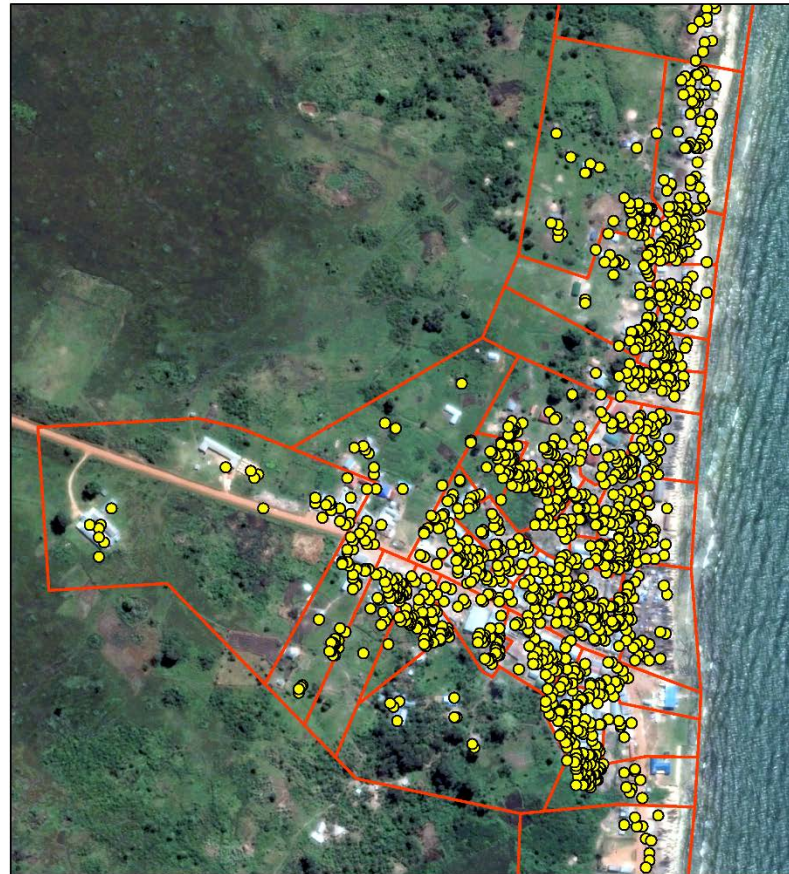


- **Timeframe:** 2015-2019
- **What?** A trial on the impact of CHWs promoting HIV services using a motivational interviewing approach, supported by a smartphone application.
- **How?** Cluster-level, randomized trial in a fishing community on Lake Victoria.
- **Primary Outcomes:**
  - ART and Male Circumcision Coverage
  - HIV Viral Suppression
- **Implementation Science Outcomes:**
  - RE-AIM Framework

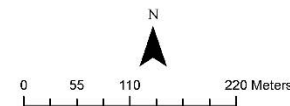
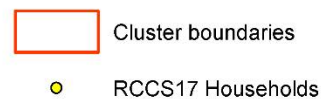


# The mLAKE Health Scouts Trial: Cluster Design

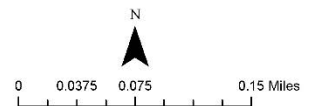
- Pragmatic Trial
- Parallel, Cluster-randomized, Controlled Trial
- Allocation Ratio 1:1
- 1 Cluster has ~65 households or 107 “clients”



**Legend**

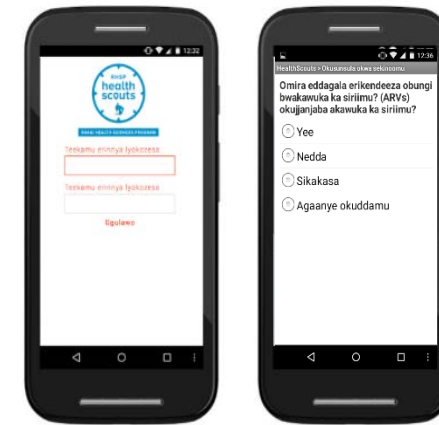
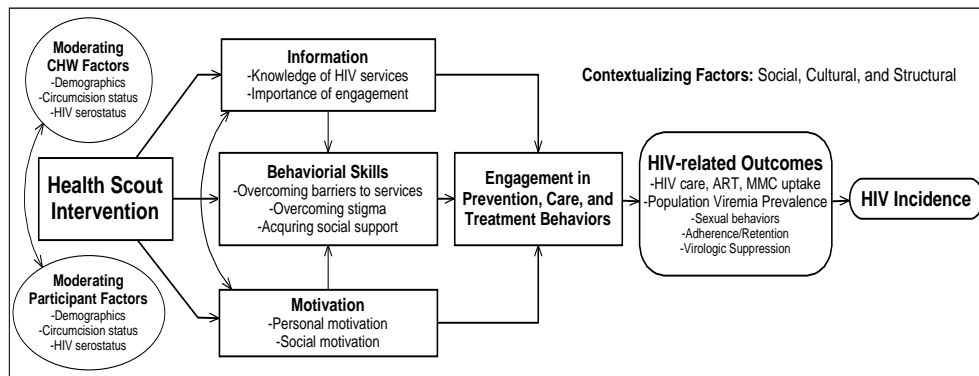


**Cluster Randomization**



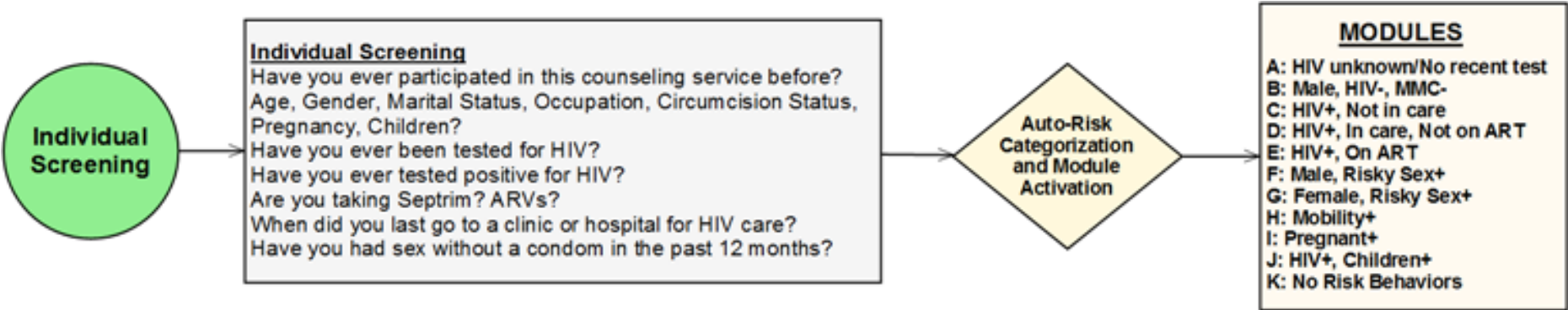
# Health Scouts Intervention: Core Components

- CHW-based delivery at the Household
  - CHWs visit every household in intervention clusters q3 months.
- Motivational Interviewing-based counseling strategies
  - situated Information, Motivation, and Behavioral Skills Model (sIMB)
- mHealth (mobile phone)-supported

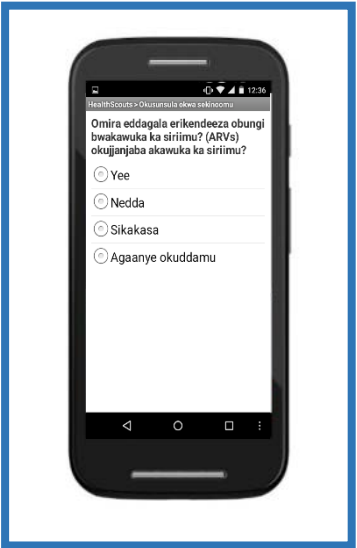
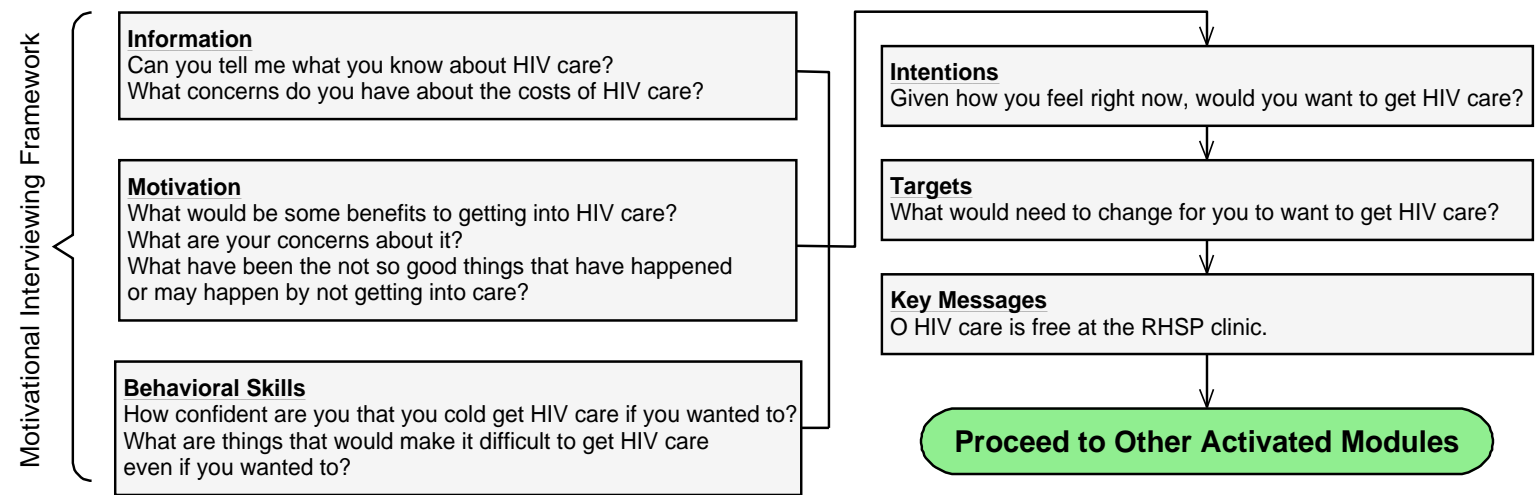


# Health Scouts mHealth Decision Support Tool

## Individualized Screening:



## Example Module (1 of 9): HIV+, Not in Care



# The mLAKE HealthScouts Trial



HealthScouts > Okusunsula okwa sekinoomu

Mu myezi ekkumi n'ebiri egliyise,  
omaze ekiseera kyenkanawa  
ng'obeera bweru wa Kasensero?

- ☐ Ekiseera ekisinga
- ☐ Nga kitundu kyamwaka
- ☐ Emyezi mitono
- ☐ Wiki ntono
- ☐ Ennaku ntono
- ☐ Agaanye okuddamu

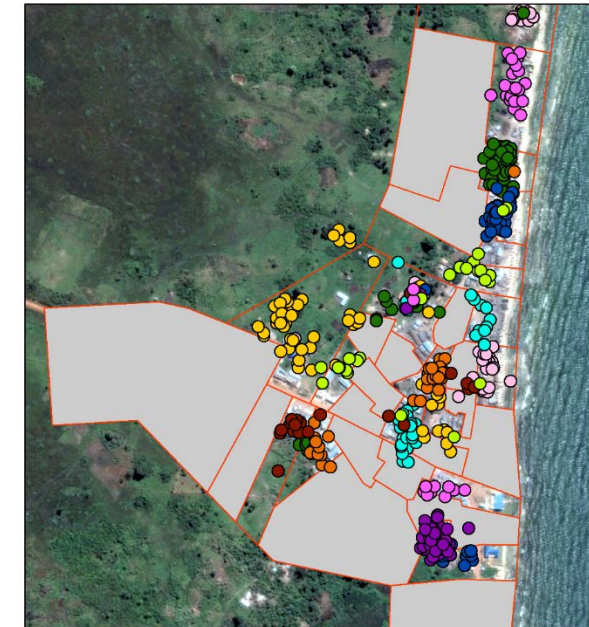
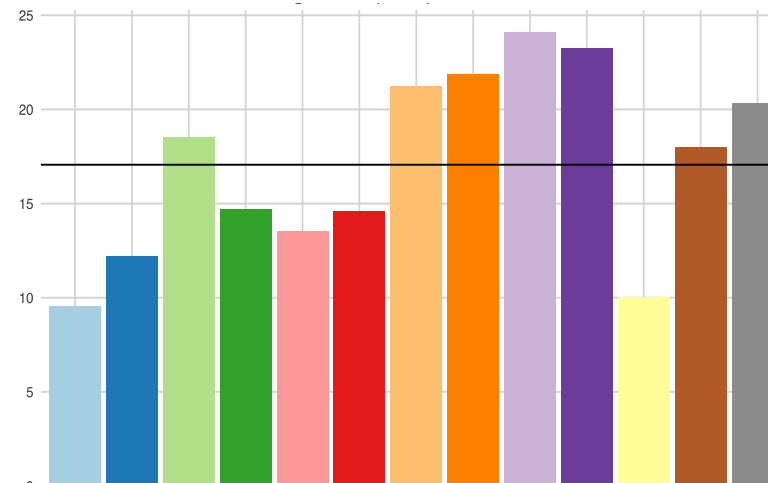
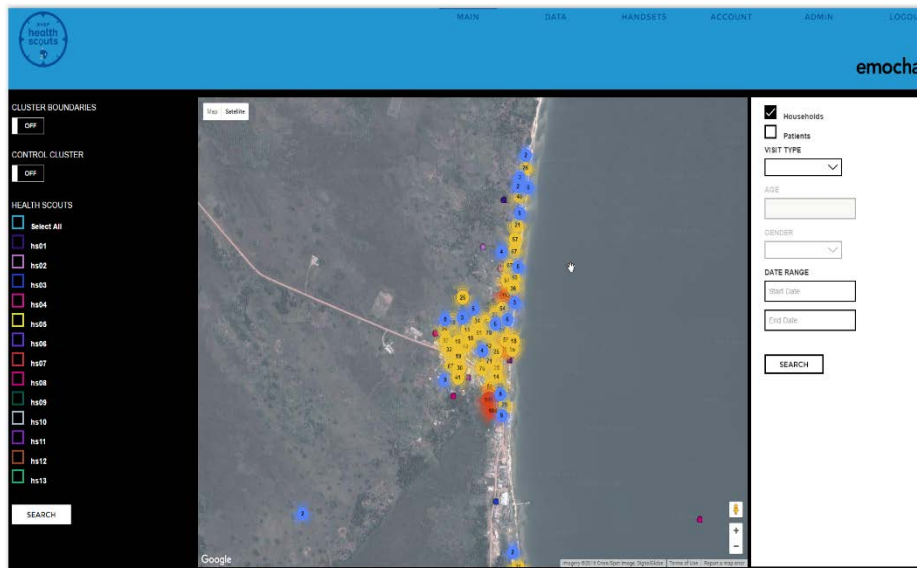
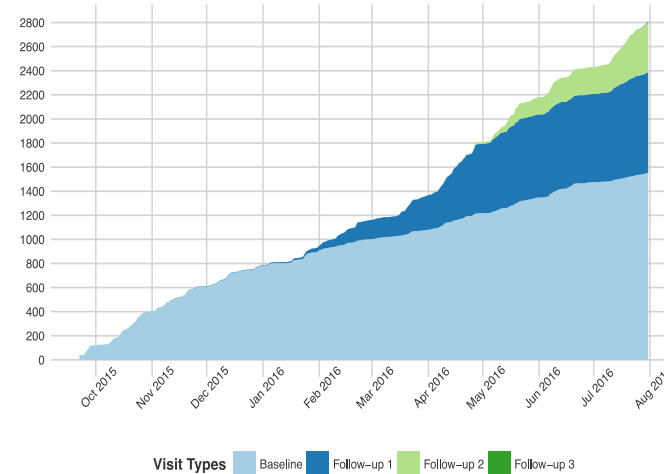


# The mLAKE HealthScouts Trial

## Design and Implementation of a Community Health Worker HIV Treatment and Prevention Intervention in an HIV Hot Spot Fishing Community in Rakai, Uganda

Amanda Long, MSPH<sup>1,\*</sup>, Ismail Mbabali, MBChB, MPH<sup>2,\*</sup>, Heidi E. Hutton, PhD<sup>3</sup>, Alvin G. Thomas, MSPH<sup>1</sup>, Eva Bugos, MSPH<sup>4</sup>, Jeremiah Mulamba, DMHN<sup>2</sup>, Kathy Rivet Amico, PhD<sup>5</sup>, Fred Nalugoda, PhD<sup>2</sup>, Ronald H. Gray, MBBS, MSc<sup>6</sup>, Maria J. Wawer, MD<sup>6</sup>, Gertrude Nakigozi, MBChB, PhD<sup>2</sup>, and Larry W. Chang, MD, MPH<sup>1,6,7</sup>

Journal of the International Association of Providers of AIDS Care  
1-7  
© The Author(s) 2017  
Reprints and permission:  
sagepub.com/journalsPermissions.nav  
DOI: 10.1177/2325957417709089  
journals.sagepub.com/home/jia  
SAGE



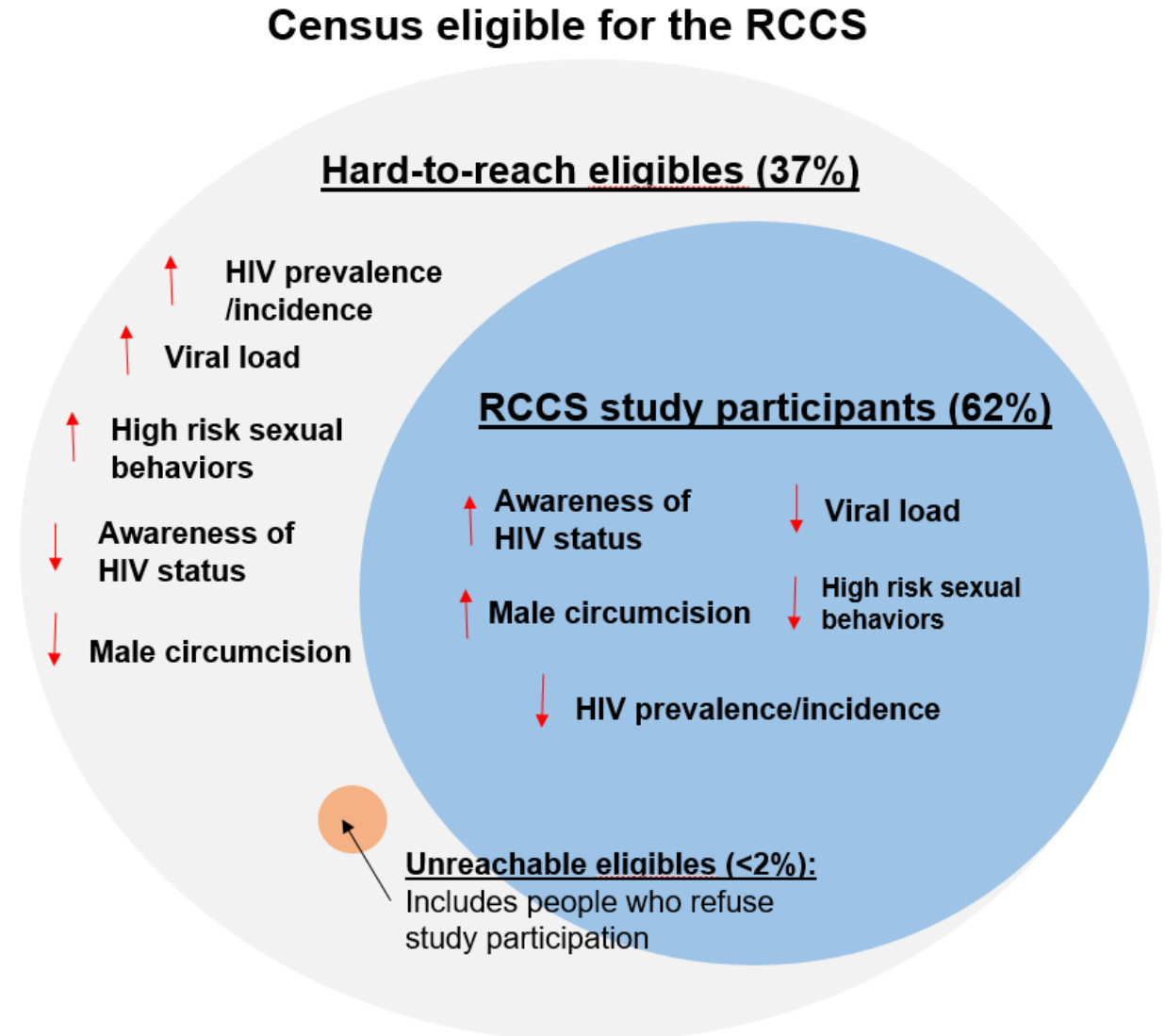
# The Hard-to-Reach Study:

Hard-to-Reach Populations

Implications for Ending the AIDS Epidemic

# The Hard-to-Reach Study

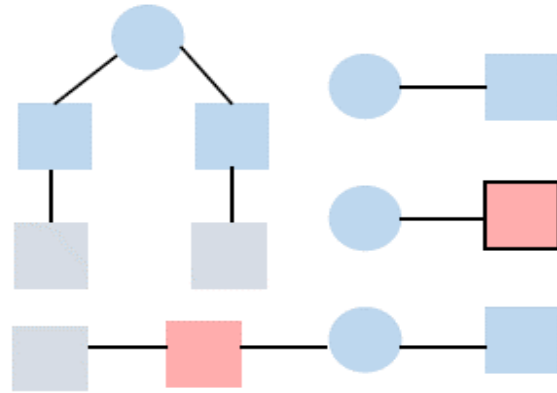
- Timeframe: 2019-2023
- What? An observational, network, and modeling study of hard-to-reach populations.
- Aim 1-Determine HIV service coverage and incidence among hard-to-reach persons using enhanced observational surveillance techniques → Tracking.



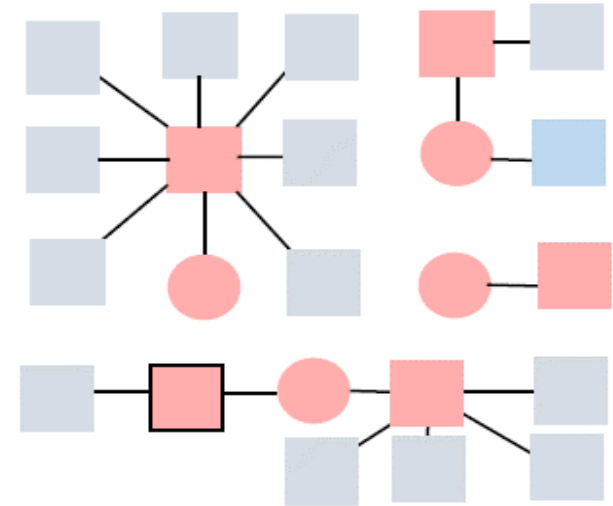
# The Hard-to-Reach Study


- **Aim 2**-Characterize ongoing sources of incident HIV infection through partner tracing, viral phylogenetics, and sexual network analyses.


Local networks  
HIV-negative index controls





Local networks  
HIV-positive index cases




 HIV-negative index controls

 HIV-positive index case  
(HIV incident case/seroconverter)

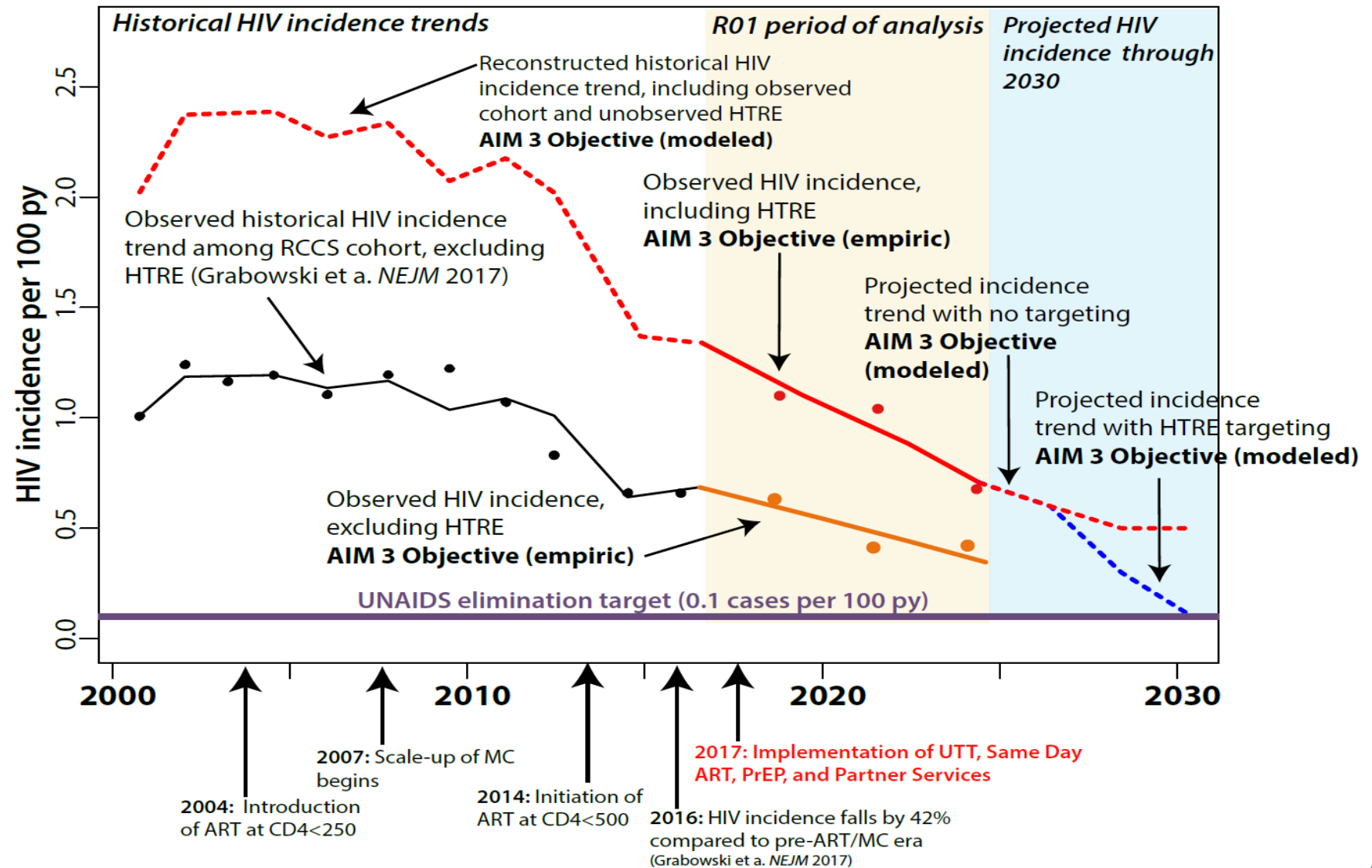
 Untreated HIV-positive partner

 Treated HIV-positive partner

 Partner of unknown HIV status

# The Hard-to-Reach Study

- Aim 3-Determine if state-of-the-art HIV interventions can engage hard-to-reach populations and eliminate HIV by 2030.





Thank You!

## Implementation Science @ RHSP:

### Cluster Randomized Trial of Voluntary Medical Male Circumcision (VMMC) to Increase Uptake in Men Aged 19+. “Stylish Man”



Stylish Man Event and Mobile Van

# Stylish Man

## Rationale

- Older men  $\geq 19$  are under-represented in VMMC programs

## Design

- Non-medicalized intervention (“Stylish Man Program”) to increase uptake of VMMC in men aged  $\geq 19$
- 34 communities were assigned to 10 clusters
  - 5 pairs with comparable geographic locations and randomized to intervention and control arms.
- **Endpoints**
  - Number of circumcisions
  - Circumcision prevalence in men  $\geq 19$



**Acceptance was higher in adolescents & lower risk men**

# Stylish Man Program

## Goals:

1. “Demedicalize” VMMC- something men WANT to do – downplay health.
2. Involve whole community (including women) in MC conversation (“buzz”)
3. Improve access to VMMC services

## Intervention Components:

1. Mass media (radio, posters)
2. Stylish Man Event, 3-4 days/community (Village Organizing Committees, multimedia, Stylish Van (i.e., pro-VMMC) music, games, raffles, testimonials, “informative fun”).
3. Simultaneous access to VMMC via mobile camp .
4. Control clusters received VMMC via routine mobile circumcision camps.

Stylish Man Van



Day 4 of Stylish Man Event



# Results

## Stylish Man VMMC

	Intervention Arm	Control Arm	Rate Ratio (95%CI)
Total Circumcisions	5992	4395	
Men Aged $\geq 19$ years	1871 (31.2%)	548 (12.5%)	2.5 (2.30-2.81)

**VMMC Camp with Stylish man**



**Men circumcised in stylish man camp**



# Conclusions

---

## The Stylish Intervention:

- Increased the number of men circumcised in the programs

Implementation Science @ RHSP:

# Community Randomized Trial of Outreach to New In-Migrants: “Welcome In-coming Neighbour (WIN)”



# “Welcome In-coming Neighbour (WIN)”

---

- **Rationale:**

- In the first 2 years after migration, HIV incidence among in-migrants is double that of residents.
- Use of combined HIV interventions (CHI) is low.

- **Design:**

- 40 communities randomized to the WIN intervention or control
- WIN Intervention: WIN Scouts identify and visit all new in-migrants, conduct up to 3 home visits
- Use motivational interviewing (non-coercive, non-judgmental, probe for in-migrant’s own goals and concerns to develop a plan of action)
- Evaluation through the RCCS (use of CHI by in-migrants and HIV incidence both arms)

# “Welcome In-coming Neighbour (WIN)”

- Launched in March, 2019
- 35 WINs successfully trained in motivational interviewing
- In-migrant enrollment by Sept 2019:
  - Target: ~1,000
  - Actual: ~2,600
    - (Yeah, WINs team!)



# Thank You!

# Rakai Health Sciences Program

## Non-Communicable Diseases (NCD) & HIV-Associated Co-Morbidities

# NCDs in Rakai, e.g. HTN

- Hypertension and CVD risk factors among HIV-infected individuals
  - 426 HIV+ enrolled (median Age=40)

	Females		Males	
	<50 yrs	≥50 yrs	<50 yrs	≥50 yrs
<b>Hypertension</b>	5.2%	28.1%	7.1%	15.3%
<b>Any Elevated BP</b>	23.0%	43.8%	27.6%	34.6%

# Smoking in Rakai

- RCCS Round 18 (2017-2018), By Gender and Age Groups
- *Do you smoke cigarettes, tobacco, or pipe? Yes or No*

	15-19	20-24	25-29	30+	Overall
<b>Women (n=10153)</b>	0.2%	1.3%	3.1%	4.9%	3.1%
<b>Men (n=8972)</b>	0.5%	4.2%	10.4%	23.1%	13.8%

# Obesity in Rakai

- RCCS Round 18 (2017-2018) BMI, By Gender and Age Groups

Females		Age Groups			
BMI	15-19	20-29	30-39	>40	Total % (n)
<18.5	10%	4%	4%	5%	6% (507)
18.5-24.9	76%	64%	53%	54%	61% (5644)
25.0-29.0	13%	24%	28%	26%	24% (2198)
≥30 (Obese)	1%	8%	15%	15%	10% (946)

Males		Age Groups			
	15-19	20-29	30-39	>40	Total % (n)
<18.5	21%	5%	7%	10%	9% (864)
18.5-24.9	77%	87%	80%	75%	81% (7345)
25.0-29.0	2%	8%	12%	14%	9% (816)
≥30 (Obese)	0%	0%	1%	2%	1% (79)