

**Seek, Test, Treat and Retain (STTR) for People
Who Inject Drugs (PWID) in Kenya: Findings
from the TLC-IDU stepped wedge study**



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TLC-IDU Study



K E N Y A
test and link to care

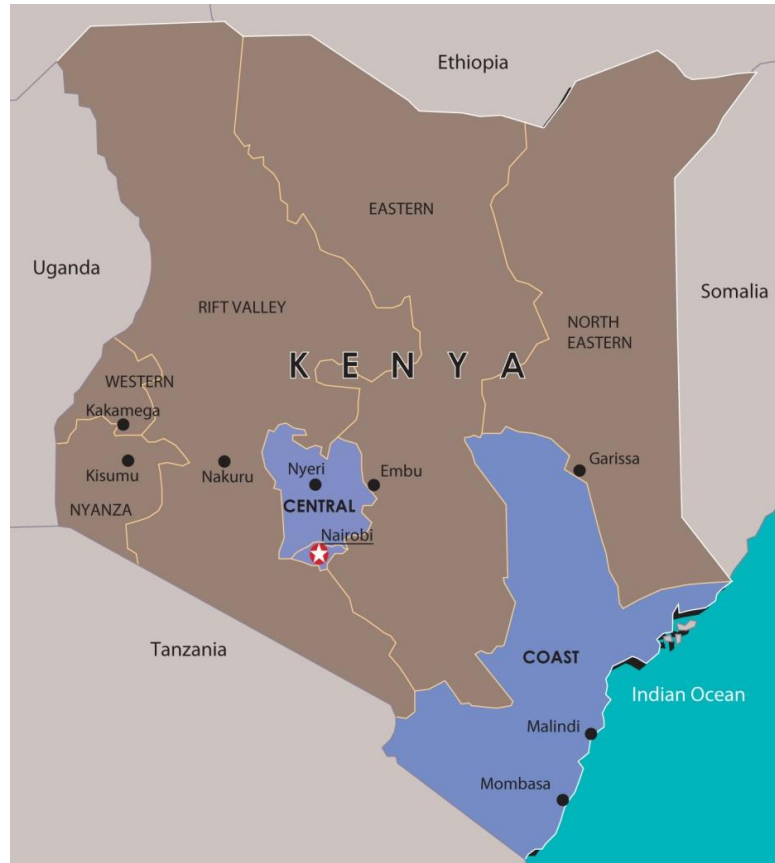
Background

- ▶ HIV infections in sub-Saharan Africa increasingly occur among people who inject drugs (PWID)
- ▶ Needle & syringe programs (NSP) and PWID-specific ART support have been nearly non-existent
- ▶ Kenya is among the first to implement gov't-run NSP at a country-wide level starting in 2013



Photo: [Jimmy Kamude/IRIN](#)
Flash blood magnifies HIV risk
of sharing needles

Study Sites: Nairobi & Coastal Region



▶ Seek

- ▶ Respondent-Driven Sampling (RDS) to find PWID

▶ Test

- ▶ Offer rapid HIV test at NSP service sites (N=10)

▶ Treat

- ▶ Offer point of care (POC) CD4 assay if HIV+

▶ Retain

- ▶ If HIV+ and CD4+ cell count $<350/\text{mm}^3$ provide peer case manager (PCM) for linkage to care
 - ▶ Conditional cash transfer to participant & PCM

Study Aims

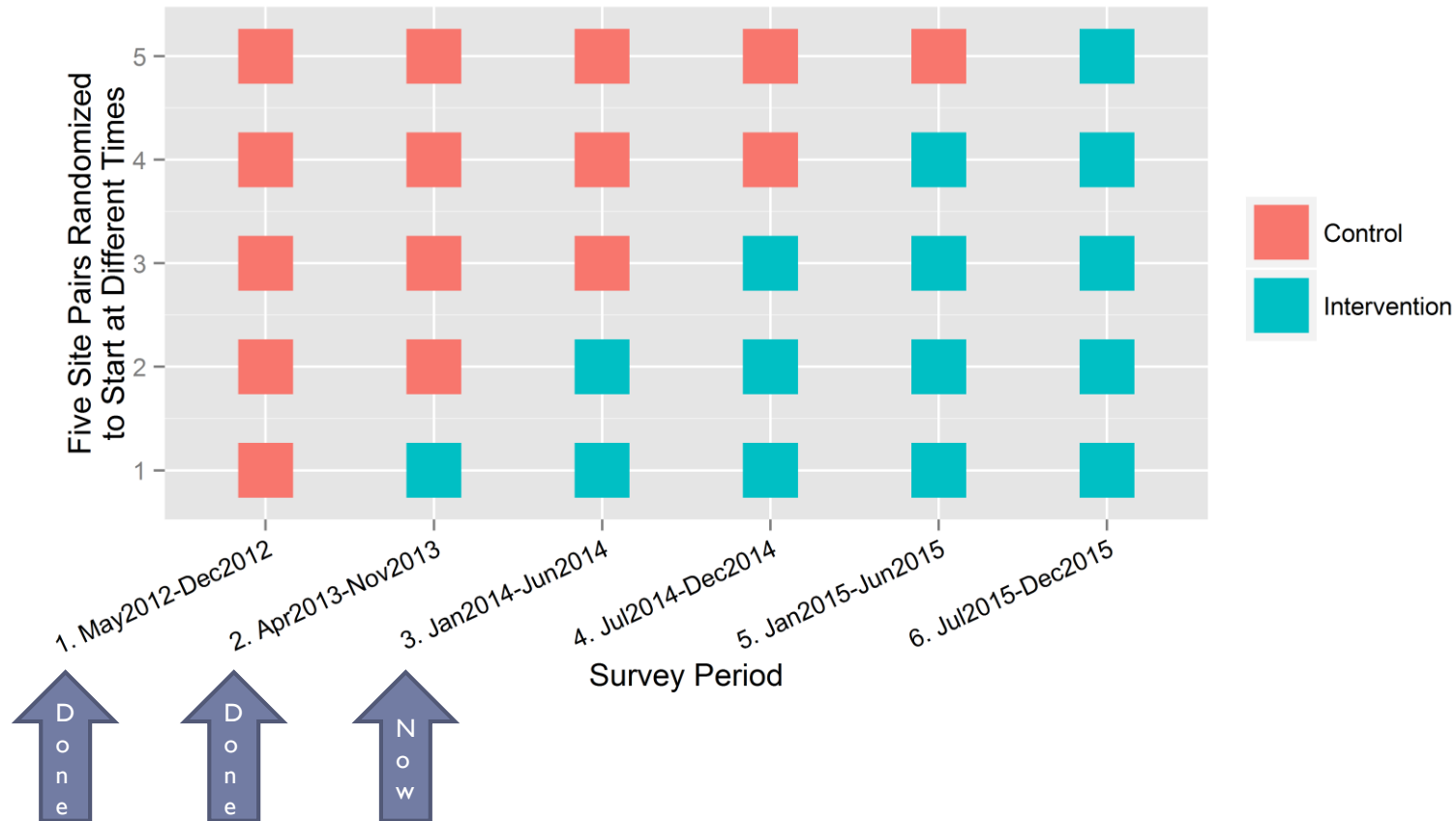
- ▶ **Aim 1:** Launch and evaluate TLC-IDU using a stepped wedge cluster randomized design
- ▶ **Aim 2:** Conduct mathematical modeling to estimate community viral load in PWID injecting and sexual networks and potential population-level impact
- ▶ **Aim 3:** Assess incremental cost-effectiveness ratio of TLC-IDU, compared with standard care

Goals

- Evaluate Gov't of Kenya NSP intervention using time-series analysis (Number of needles, HIV incidence, and community viral load)
- Evaluate linkage to care study components using original stepped-wedge design (randomized intervention roll-out sites and control sites: testing and data capture over time).

Study Design

- Ten sites, respondent-driven sampling, stepped wedge, repeated surveys, HIV testing, viral load



Study Flow

Inclusion Criteria:

- ≥ 18 years
- Live in Nairobi or Coast
- Ever injected any non-prescribed drugs
- Any non-prescribed drugs last 12 months

10 Study Sites

PWID informed of study via staff, RDS, or service site personnel

Informed Consent

Behavioral Survey on Computer Tablets

Rapid HIV Testing



HIV-



HIV+

GoK standard of care, refer for services including addiction treatment as needed

Pre-Intervention Phase

Viral Load testing

Point of Care CD4 Test



CD4 ≥ 350



CD4 < 350

Intervention Phase

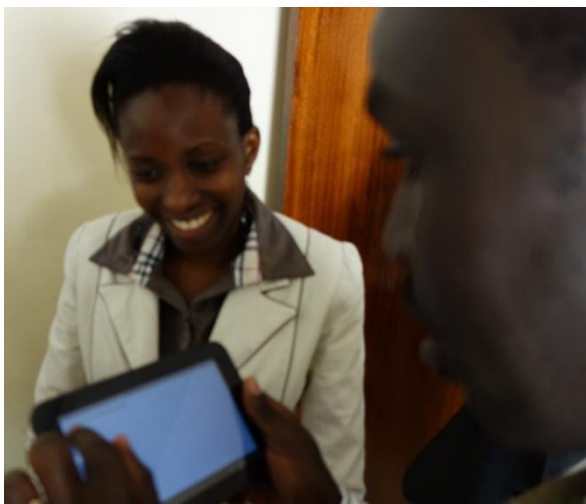
Peer Case Management

Biometrics & Data Management

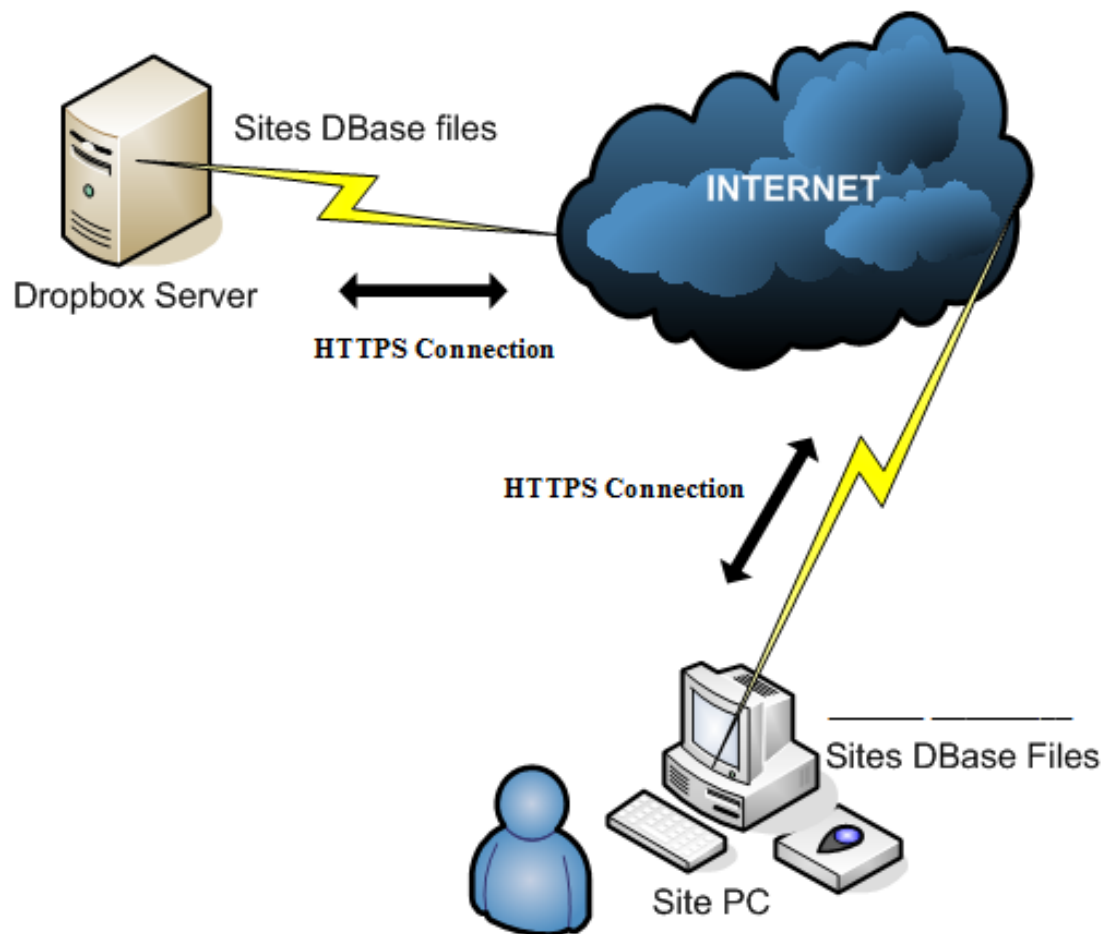


Eliminates double enrollment
in time wave

Tracks mobility, repeat
services over time, incidence



The Biometric System



Key Outcomes

- ▶ **Link to successful linkage to care**
 - ▶ # days between first test positive and first visit with HIV provider
- ▶ **Time to ART initiation**
 - ▶ # days between first test positive and ART initiation
- ▶ **‘Community Viral Load’**
 - ▶ Specimens at each site/waves over time from all PWID who tests HIV+, to document changes in infectivity (median viral load)
 - ▶ Using Dried Blood Spot (DBS) for VLs
 - ▶ We started collecting specimens for phylogenetic analysis



Study Intervention Components

- ▶ **NSP program (by KANCO, Global Fund, MDM):**
 - ▶ Sterile syringes; supplies for safer injection; peer educators to demonstrate safer injection; risk reduction and safer sex counseling; condoms; referrals for addiction tx/OST; prioritized ART (tx slots) for CD4+ cell count $<350/\text{mm}^3$
- ▶ **Study-specific elements:**
 - ▶ Point of care CD4 testing to determine who needs ART
 - ▶ Peer case managers to support HIV care access and ART initiation among PWIDs testing positive and clinically eligible
 - ▶ Conditional cash transfers to HIV+ eligible patients and peer case managers for successful linkage to care/ART initiation

NSP Start Date at Study Sites

➤ Nairobi Region

- ▶ Nairobi 1: NOSET – Ngara: April 2013
- ▶ Nairobi 2: NOSET – Racecourse/Kawangware: May 2013
- ▶ Nairobi 3: MDM – Kangemi: June 2013
- ▶ Nairobi 4: SAPTA – Pangani: June 2013

➤ Coastal Region

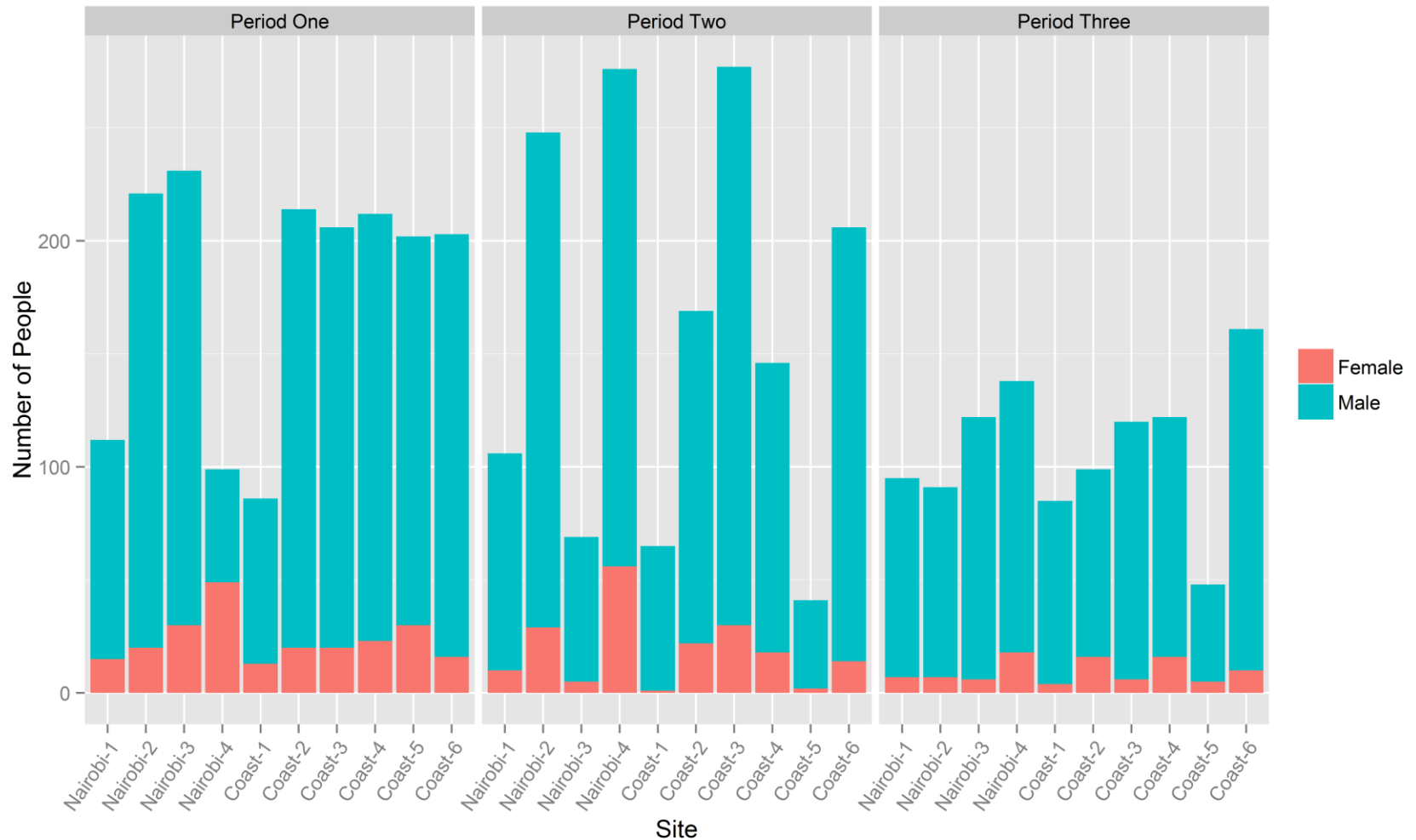
- ▶ Coast 1: Bomu Likoni: No NSP
- ▶ Coast 2: Omari Project – Malindi: December 2012
- ▶ Coast 3: MEWA – Kilifi: March 2013
- ▶ Coast 4: Reachout – Oldtown Mombasa: November 2012
- ▶ Coast 5: Bomu Hospital – Changamwe: No NSP
- ▶ Coast 6: Teens Watch – Ukunda: November 2012

Recruitment and Demographics

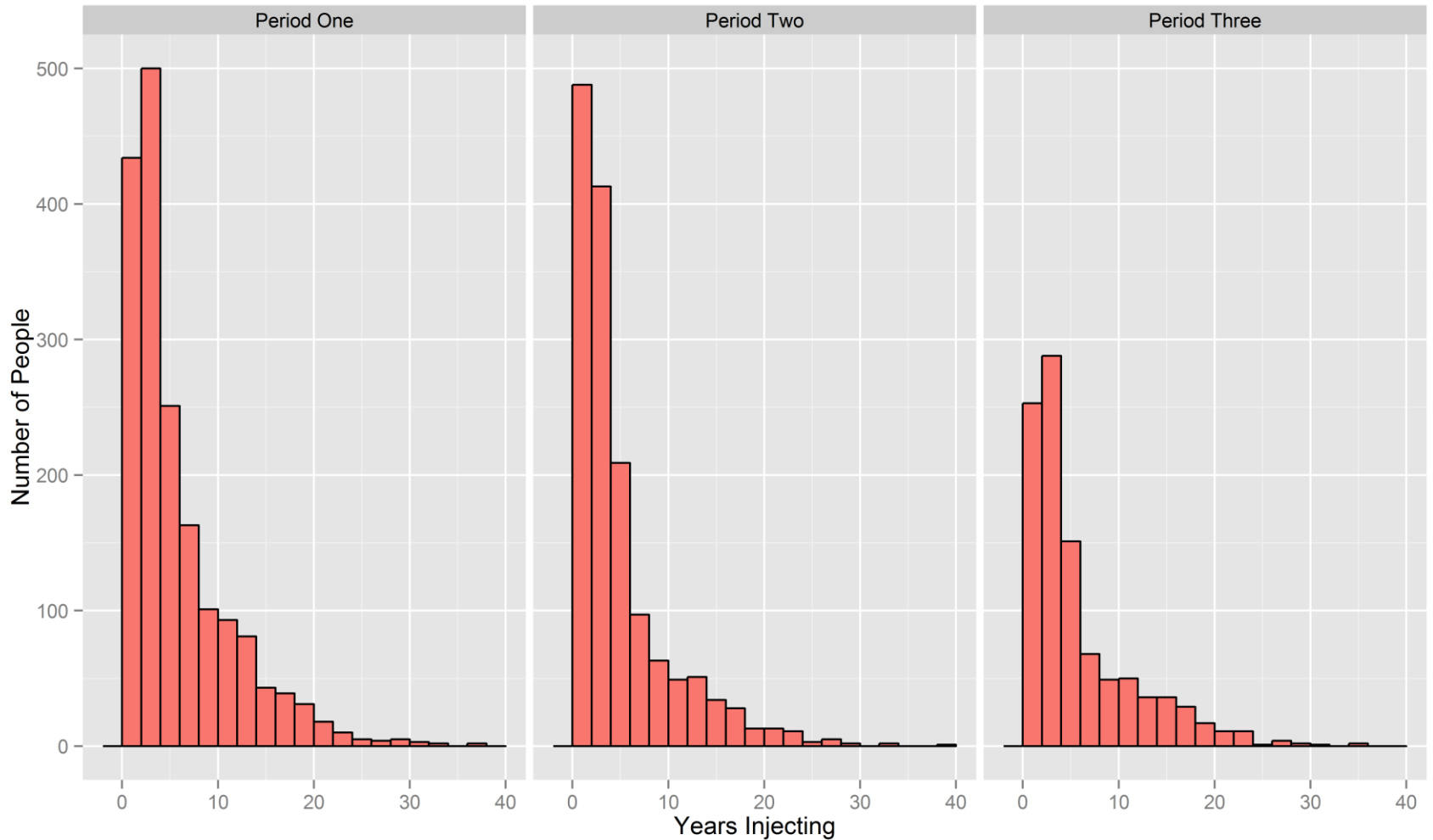
	Period One	Period Two	Period Three*
Screened	1947	1739	1048
Enrolled	1785	1489	984
Median Age	30	31	32
% Male	86.8	87.9	91.0
% Married/Living as Married	14.2	14.8	14.9
% Nairobi	37.1	41.4	41.3
% Coast	62.9	58.6	58.7
% Homeless	20.1	25.3	22.4
% Participated Before	--	34.5	61.1

* Survey Period Three is in progress.

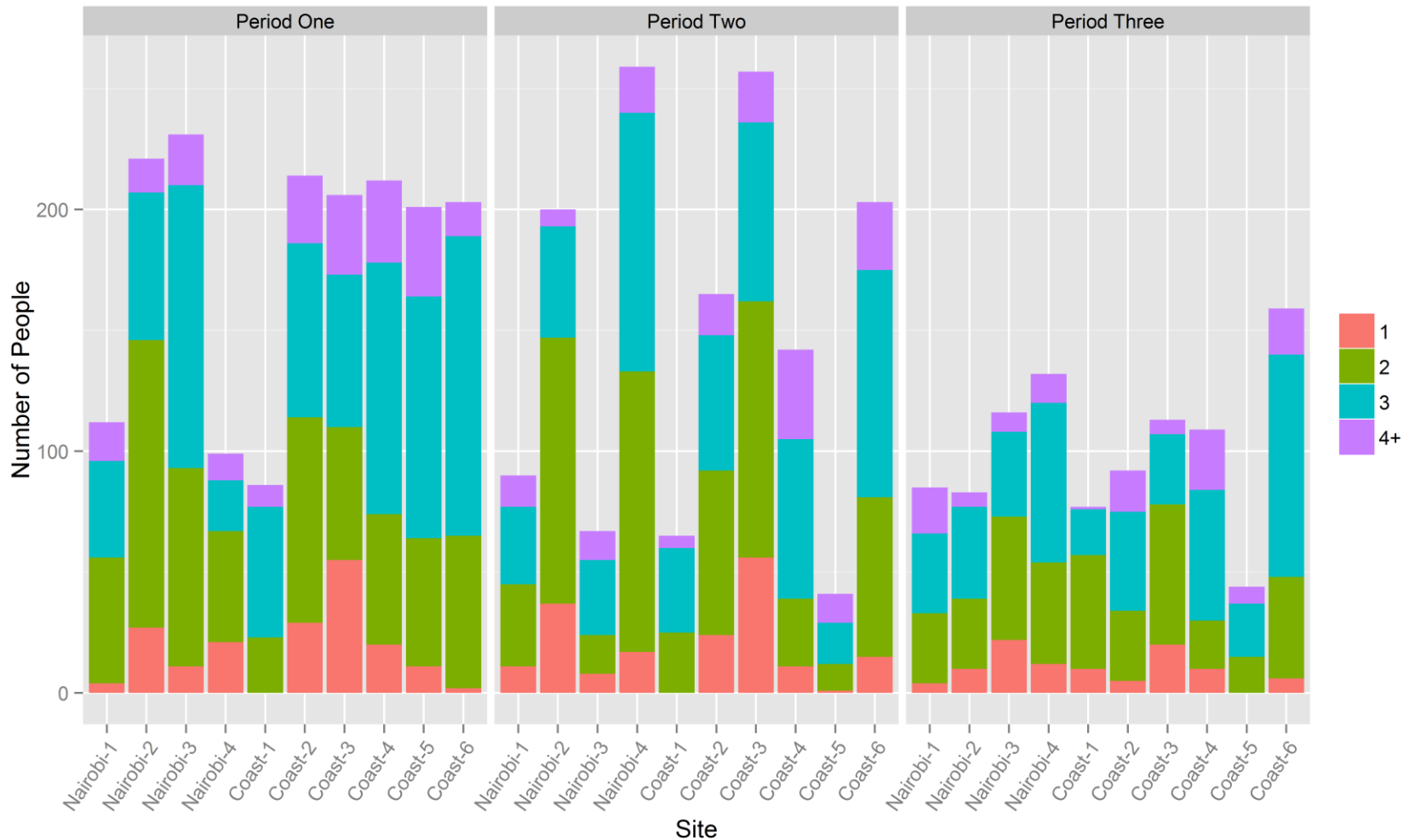
Gender



Years Injecting



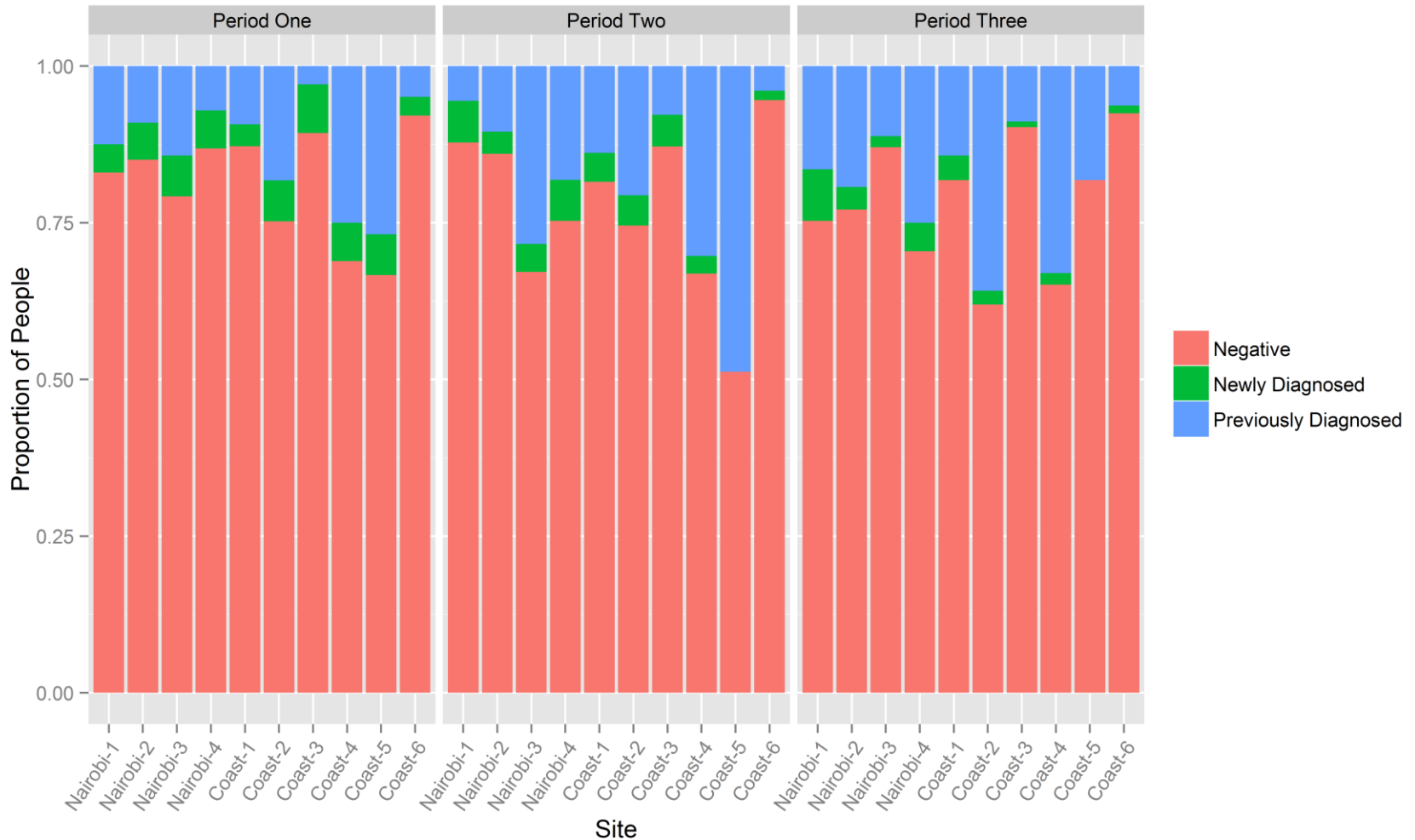
Times Injecting on an Average Injecting Day



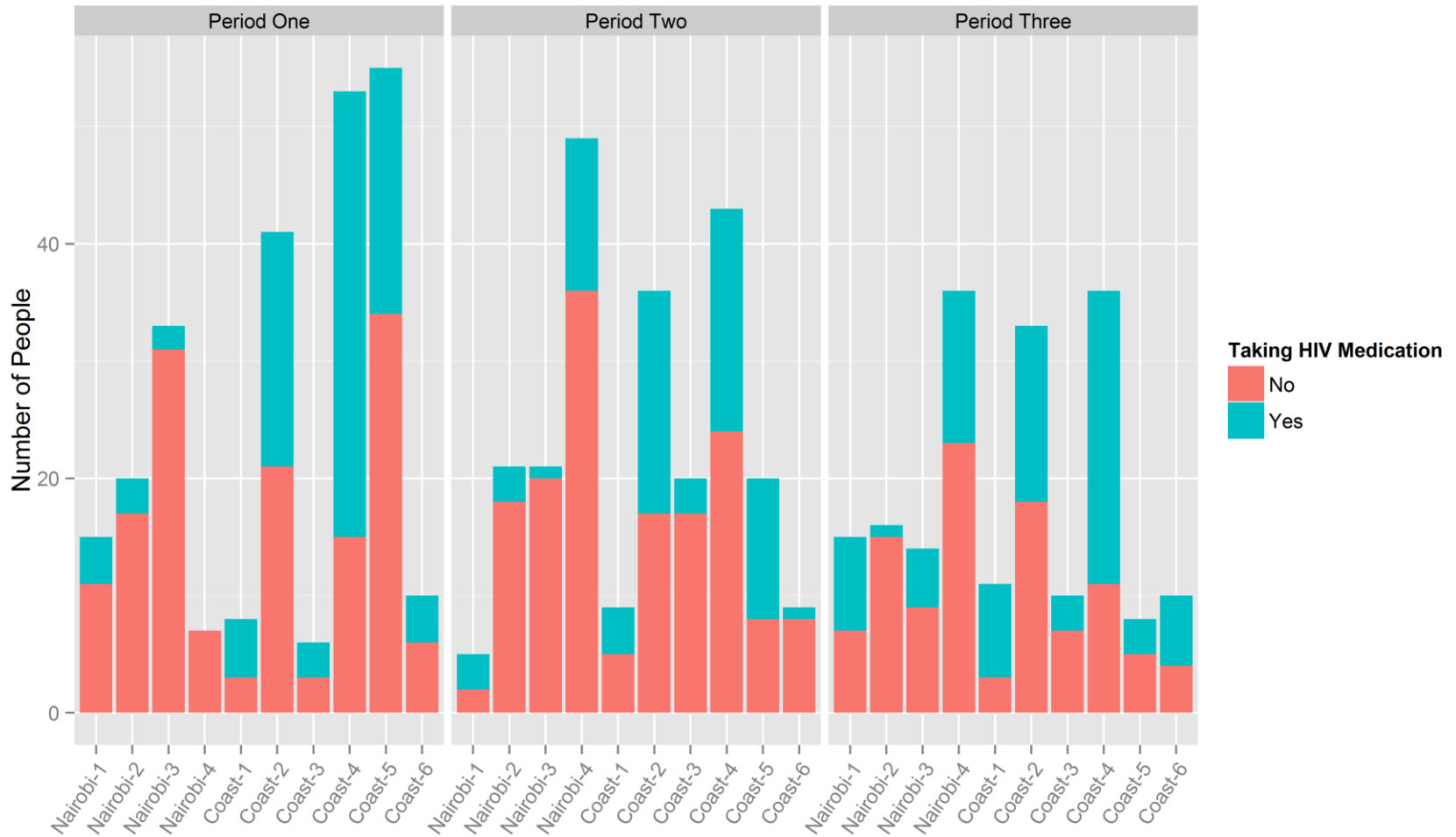
Injection Equipment Sharing

	Period One : (May–Dec 2012) NSP Start : Nov - Dec 2012 (Sites C7, C8, C9)	Period Two: (April–Nov 2013) NSP Start: April – June 2013 (Sites N1, N2, N3, N4, C6)	Period Three (In progress. Started Feb 2014) NSP started at 8 sites
% Receptive sharing of the most recent needle/syringe	10.6	4.0	2.4
% Receptive sharing of cooker, cotton, or water at last injection	39.0	13.2	6.9
% Ever frontload/backload	31.7	31.4	23.0
% Ever flashblood	2.8	3.3	1.5

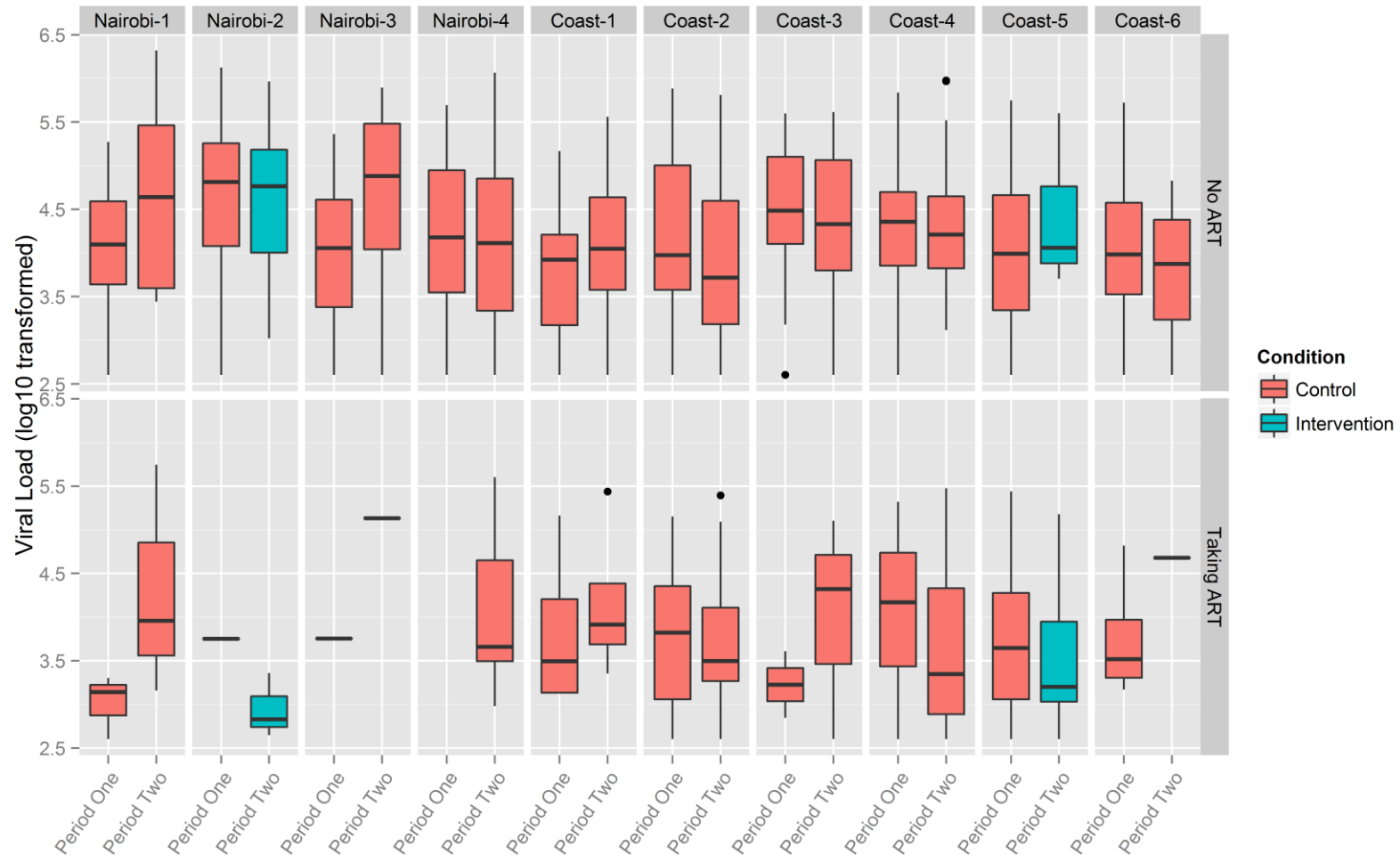
HIV Testing Results



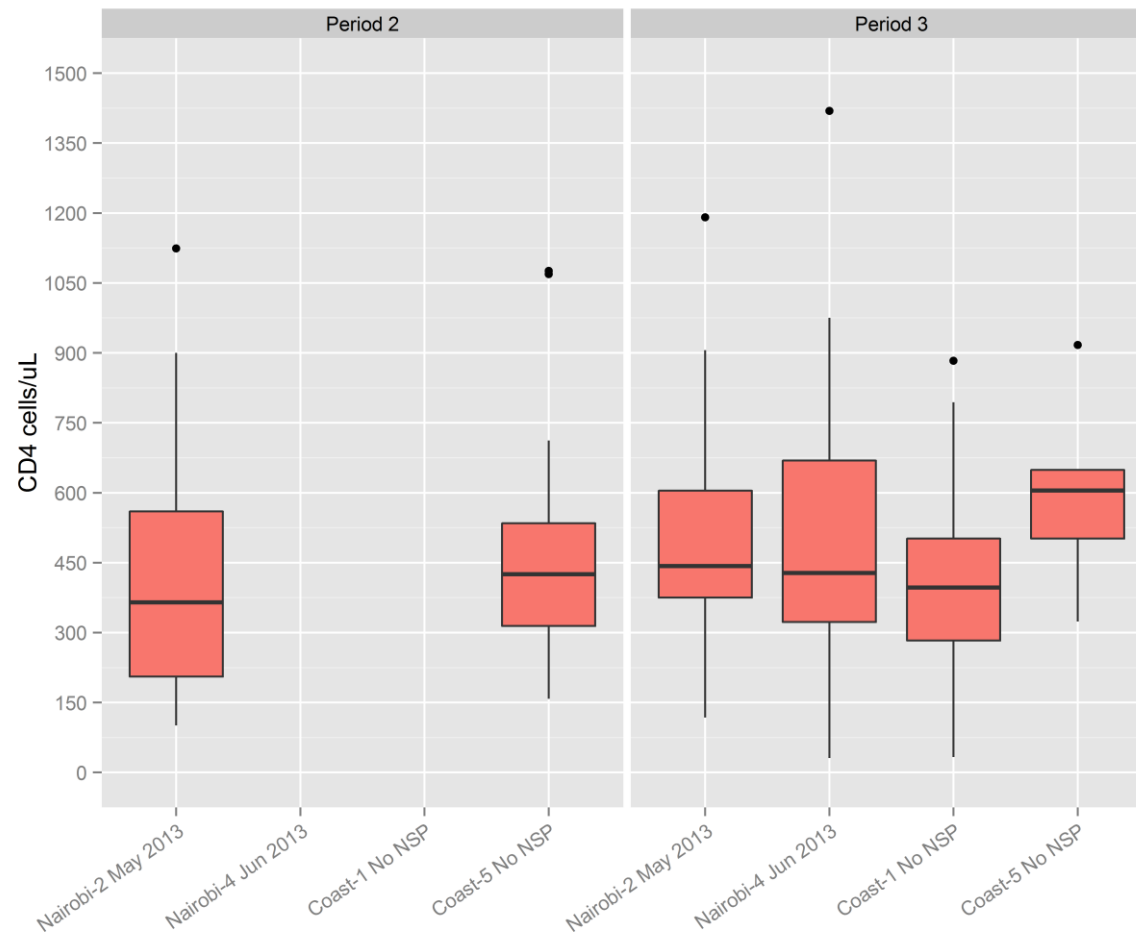
Taking HIV Medication



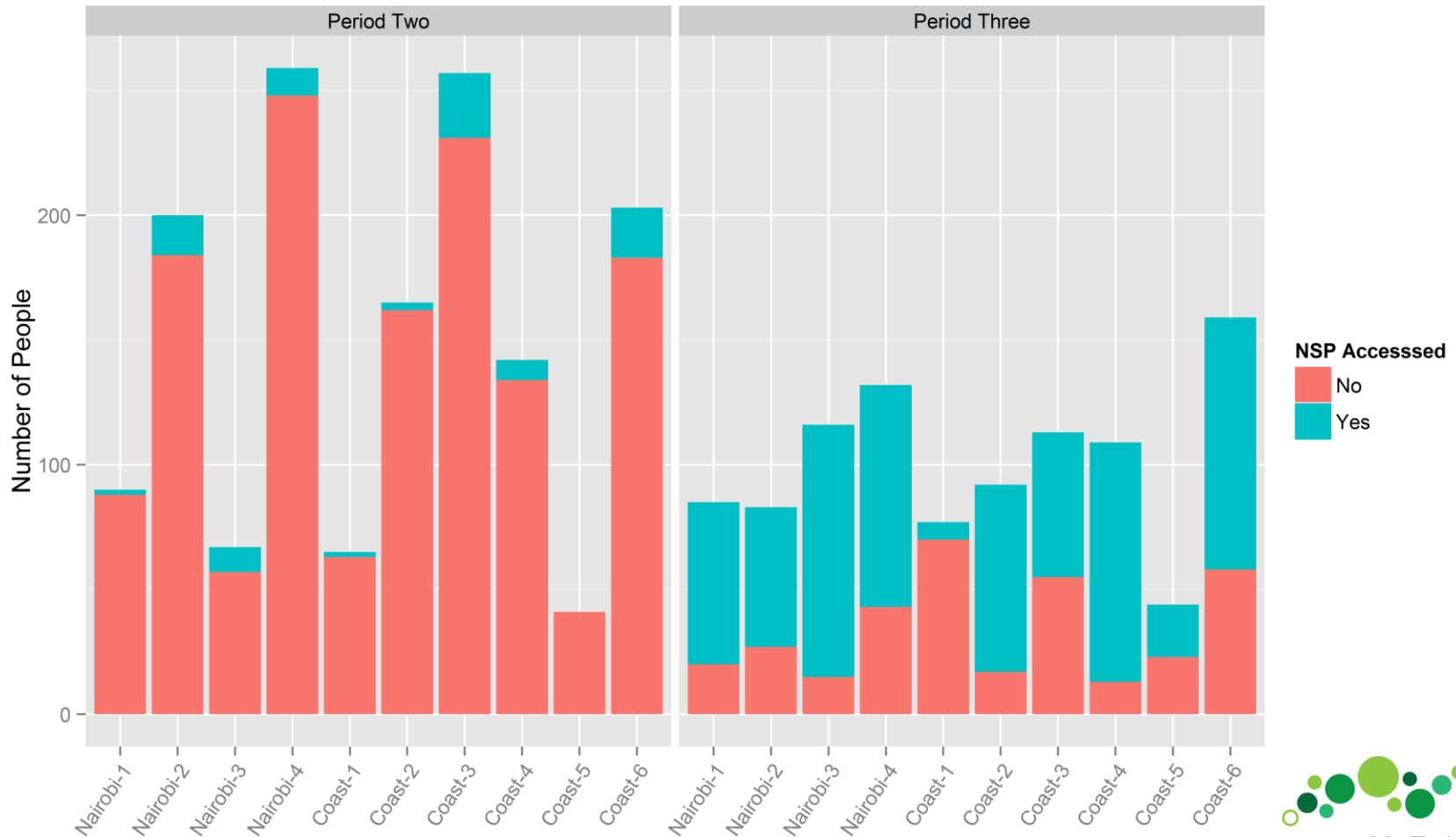
Viral Load among Participants with HIV Infection



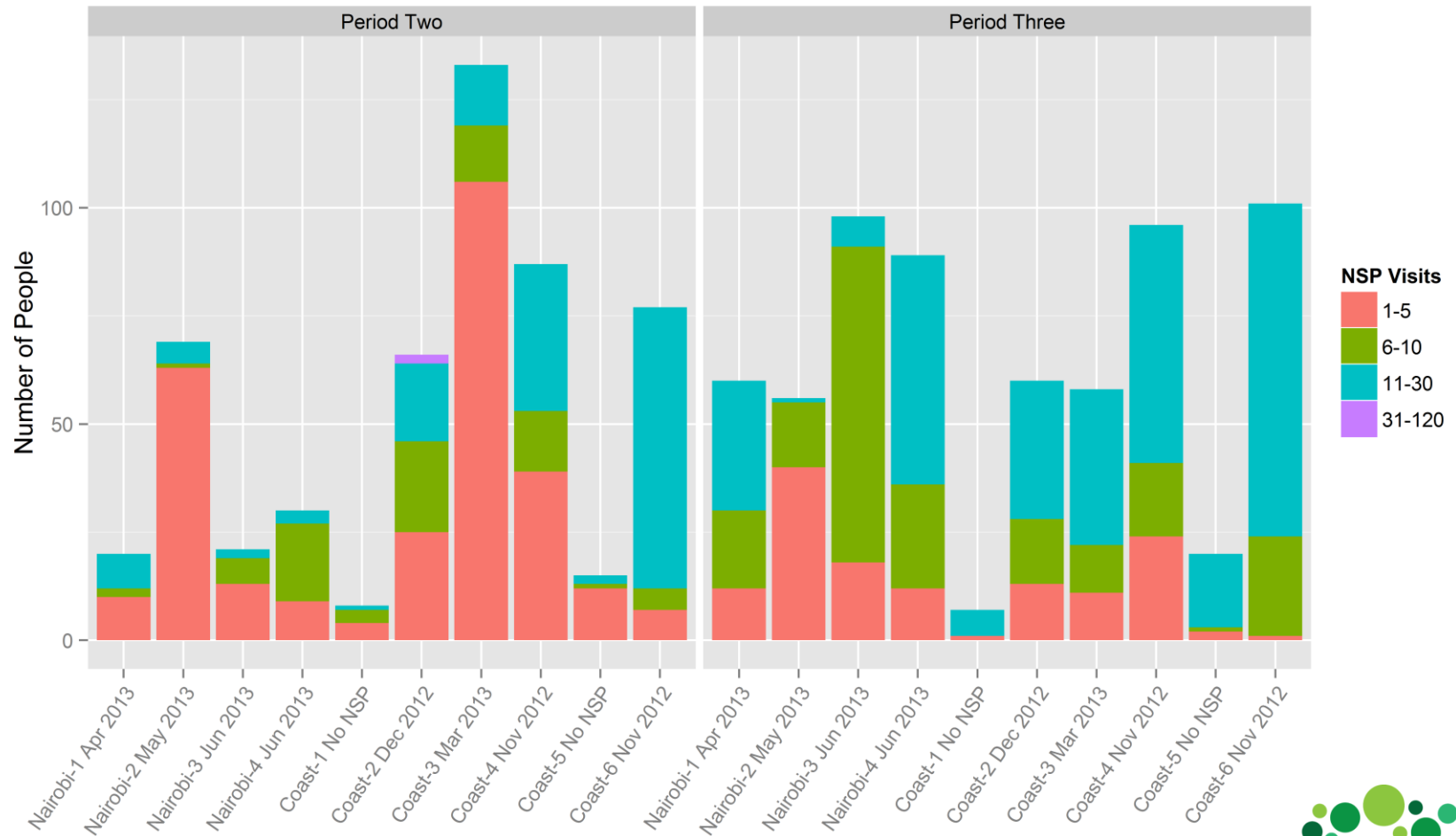
CD4 Levels



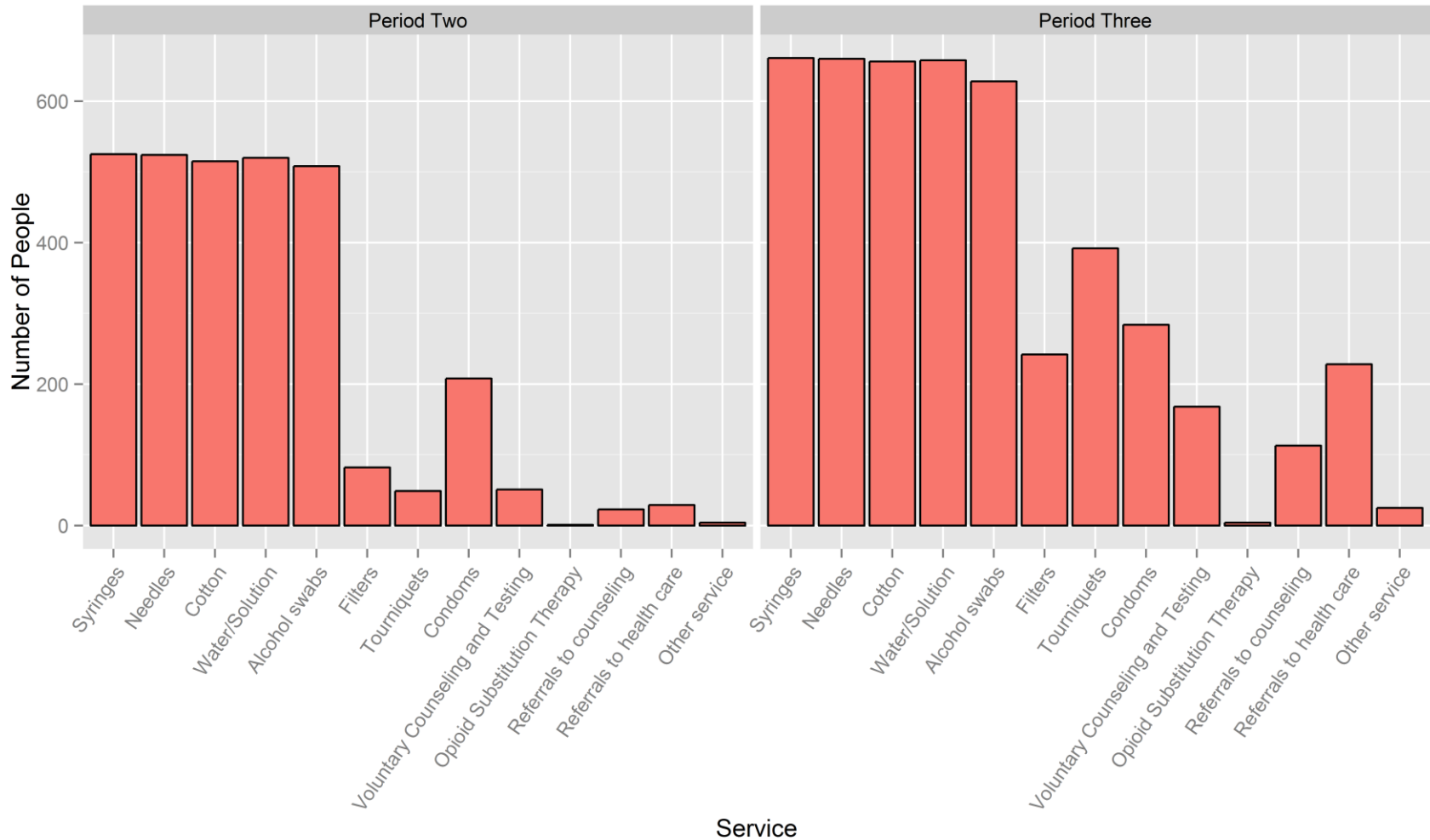
Accessed NSP in the Last 12 Months



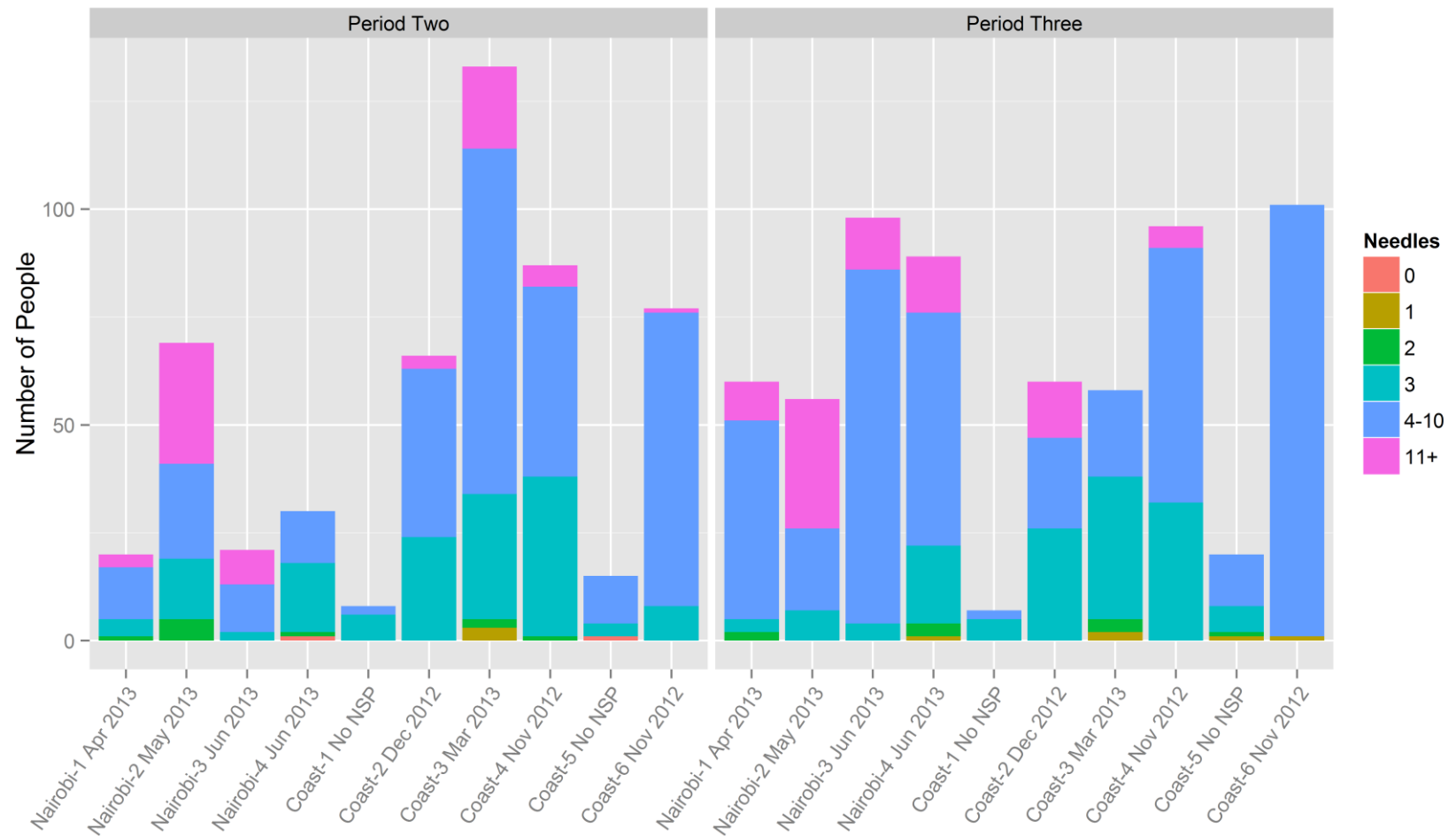
Average Times per Month Visit NSP



Services Received at NSP

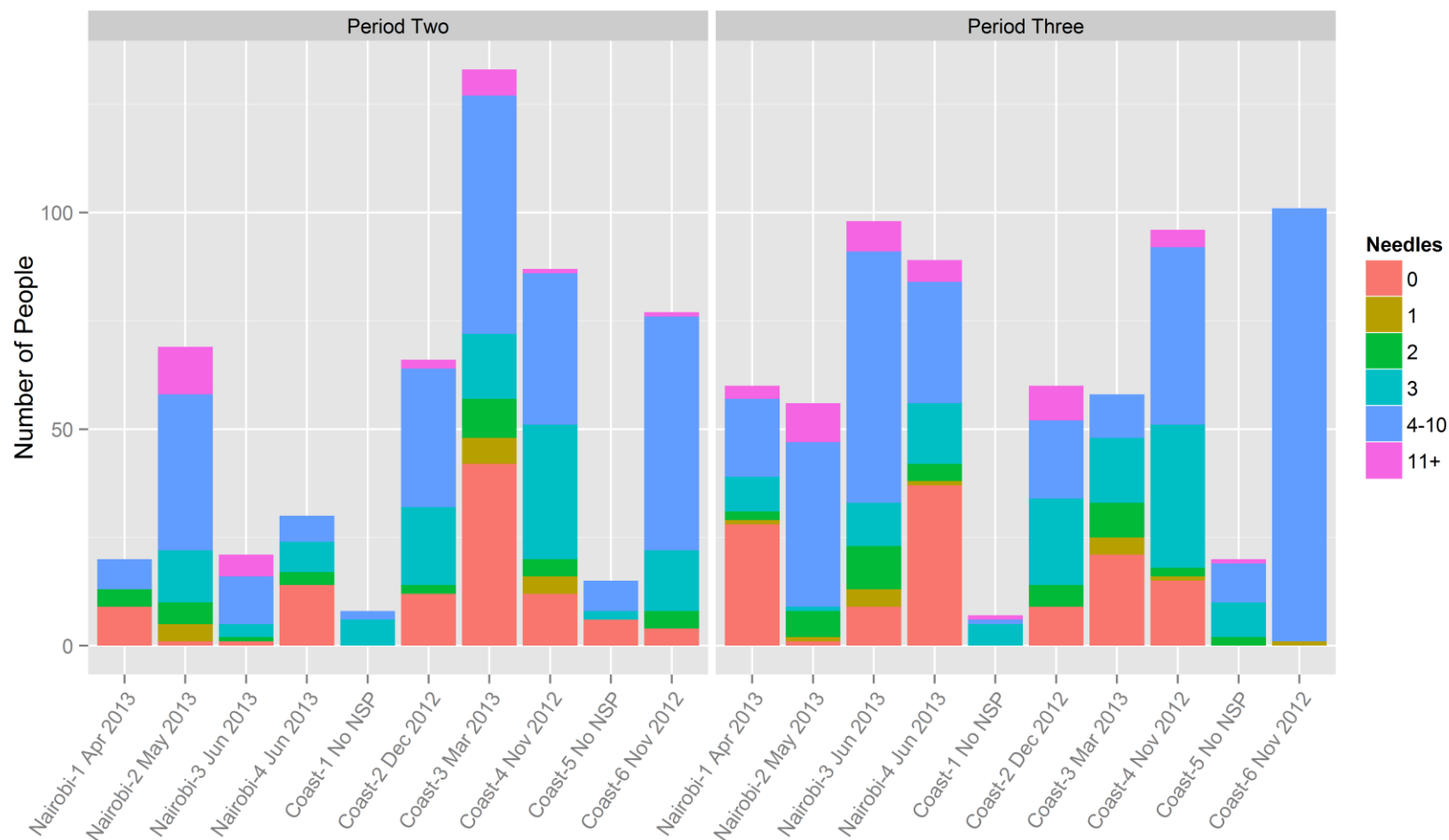


Number Needles Received Last Visit



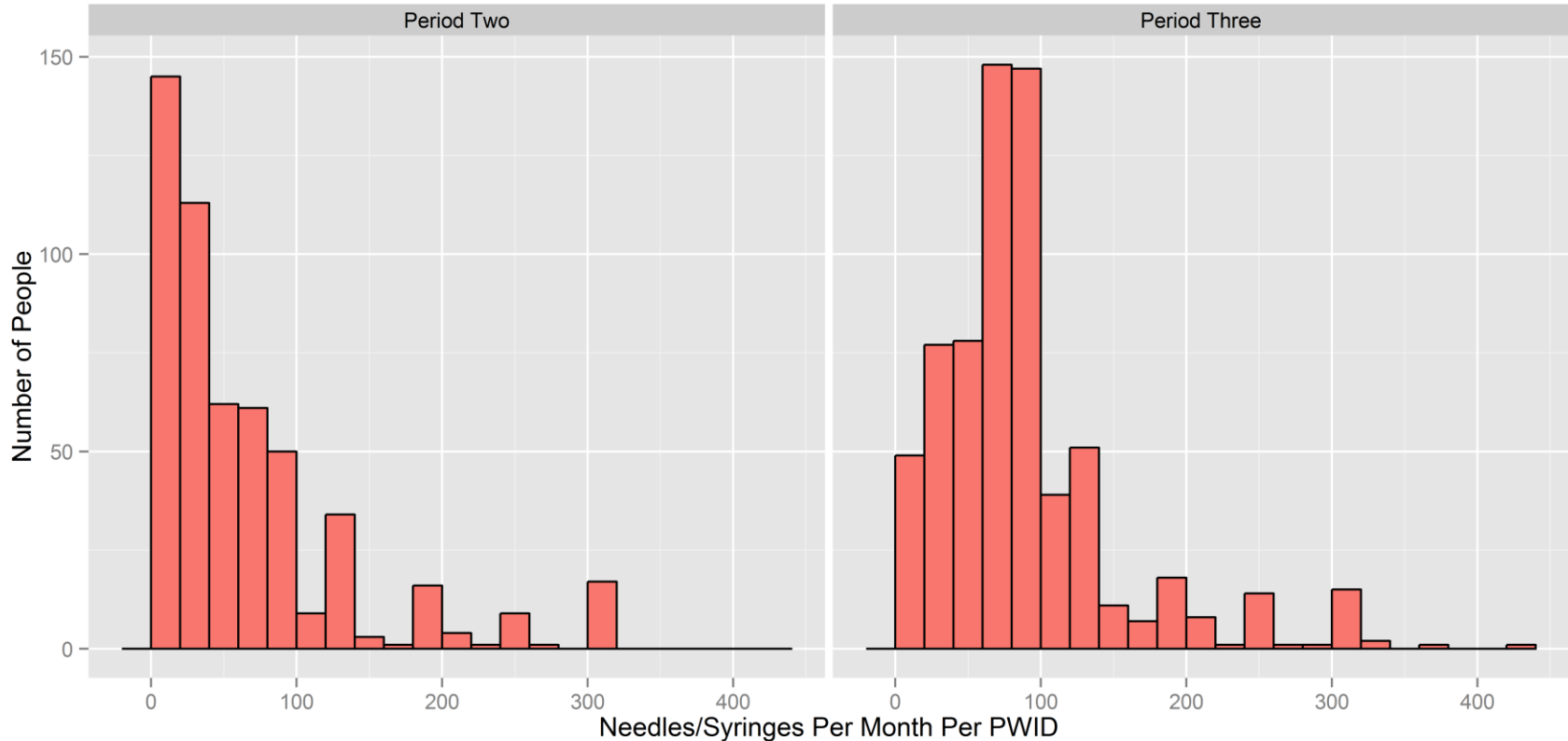
Period	N	Mean	SD	Median	Min	Max
Two	526	6.55	4.18	6	0	30
Three	645	7.20	4.04	6	1	40

Number Needles Returned Last Visit



Period	N	Mean	SD	Median	Min	Max
Two	526	4.33	3.73	4	0	30
Three	645	4.82	4.10	5	0	40

Needles/Syringes Per PWID Per Month

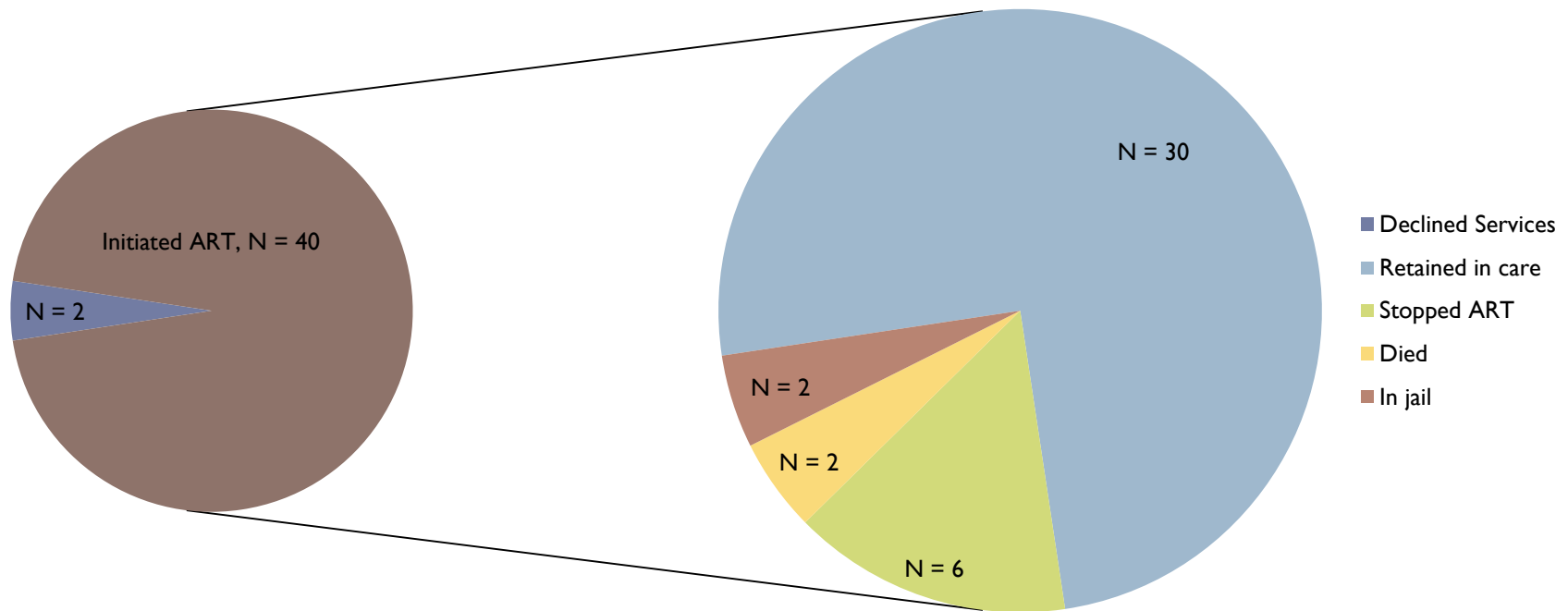


Period	N	Mean	SD	Median	Min	Max
Two	526	62	68	40	0	300
Three	669	84	63	72	0	420

Clinically Eligible Participants Retained in Care

Number of Participant Eligible for ART (N= 42)

124 HIV+ participants were assessed for eligibility. Only 42 were clinically eligible for ART



All eligible participants were linked to ART within 24 hours after testing. Initiation of ARVs took a maximum of 2 weeks.

RDS - Social Connections & HIV

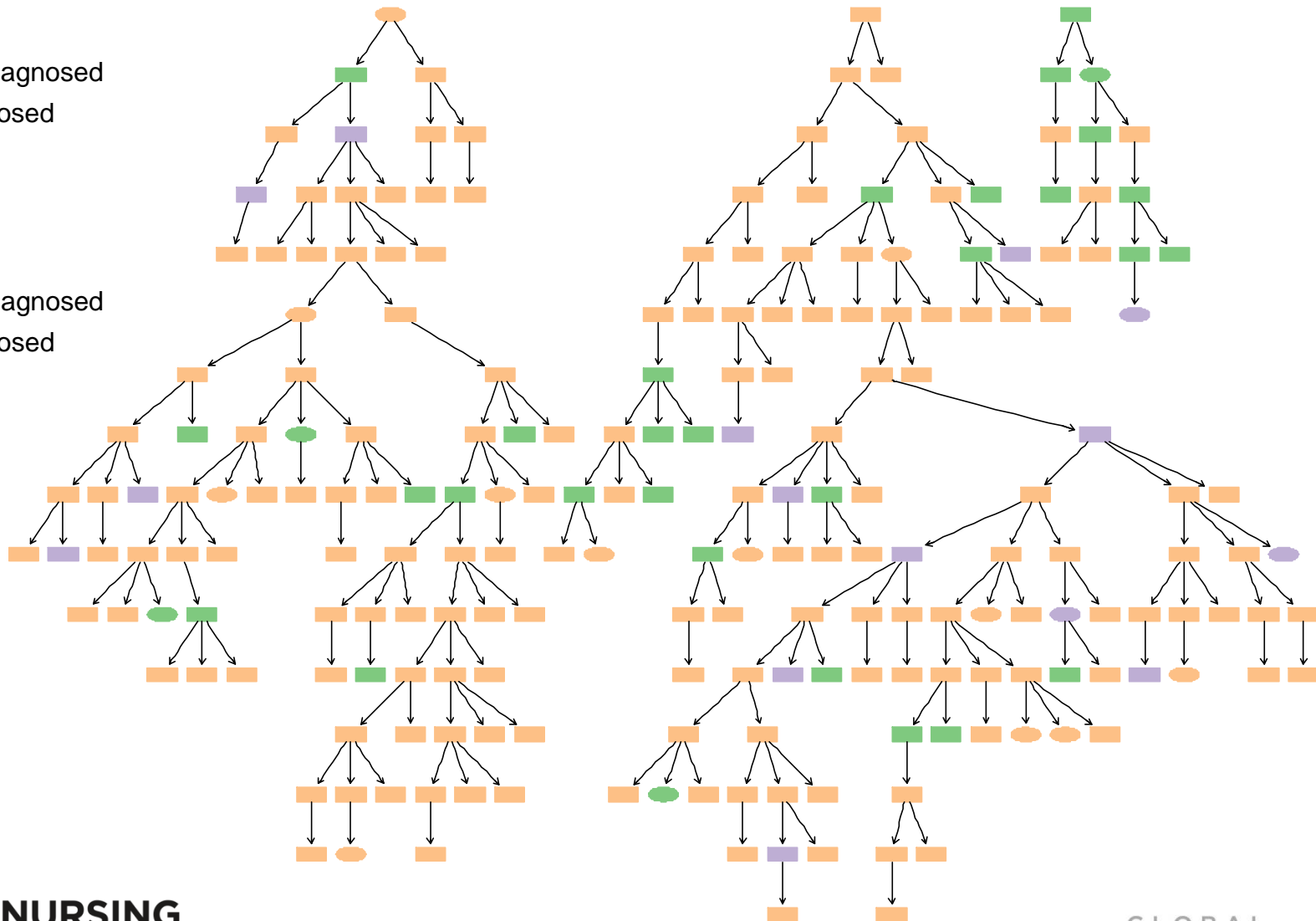
- ▶ PWID readily able to recruit each other
- ▶ Long recruitment chains
- ▶ Fast convergence to sample equilibrium for HIV prevalence estimate
- ▶ Discordant HIV status among PWID with social connections
 - ▶ Recruiter positive and recruit negative
 - ▶ Recruiter negative and recruit positive

Male

- Previously Diagnosed
- Newly Diagnosed
- Negative

Female

- Previously Diagnosed
- Newly Diagnosed
- Negative



Conclusion

- Combination of RDS and rapid testing effective strategy for finding PWID with HIV infection, including those not previously diagnosed
- Some way to go to get to suppression
- Linkage to care by Peer Case Managers can be effective for ART initiation
- Use of PCM to link clinically eligible PWID to ART helpful
- Relationships built among the PCMs, HIV-positive PWID, and HIV clinic staff have made linking to care easier and seems to have reduced some discrimination towards PWID

Team Members

▶ NASCOP/MOH KENYA

- ▶ Peter Cherutich (co-PI)
- ▶ Mercy Nyakowa, Eva Muluve, Paul Macharia, Daniel Fedha
- ▶ Research Assistants (RAs)
- ▶ Helgar Musyoki
- ▶ Martin Sirengo

▶ Expert Advisors, CAB

- ▶ Claris Obiero, Elizabeth Ngugi, Fred Owiti
- ▶ Don Des Jarlais, Steffanie Strathdee

▶ NYU

- ▶ Ann Kurth (co-PI)
- ▶ Chuck Cleland
- ▶ Scott Braithwaite
- ▶ John Lizcano

▶ Population Council

- ▶ Jerry Okal, Scott Geibel

▶ NSP Implementers (NGOs)

▶ **Thanks to NIH – NIDA**

- ▶ 1R01 DA032080
 - ▶ Redonna Chandler
 - ▶ Shoshana Kahana
 - ▶ Dionne Jones

Implementers & Staff



PCMs, RA & Participants

All photos have consent

