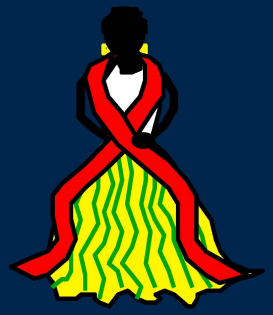
Challenges in Alcohol Behavioral Research: Woman-focused HIV Prevention Interventions in the Era of ART in South Africa



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Cis-women's Susceptibility to HIV

Biological and Anatomical

- Larger surface area of transmission
- Vaginal tissue is less mature
- Bacterial infections increase risk

Social Determinants

- Poverty-Housing-Social-economic factors
- Health care access
- Discrimination
- Transportation
- Social and environmental stressors
- Influence of male partners
- Human trafficking
- Education access
- Access to employment/skills training

Individual Risk

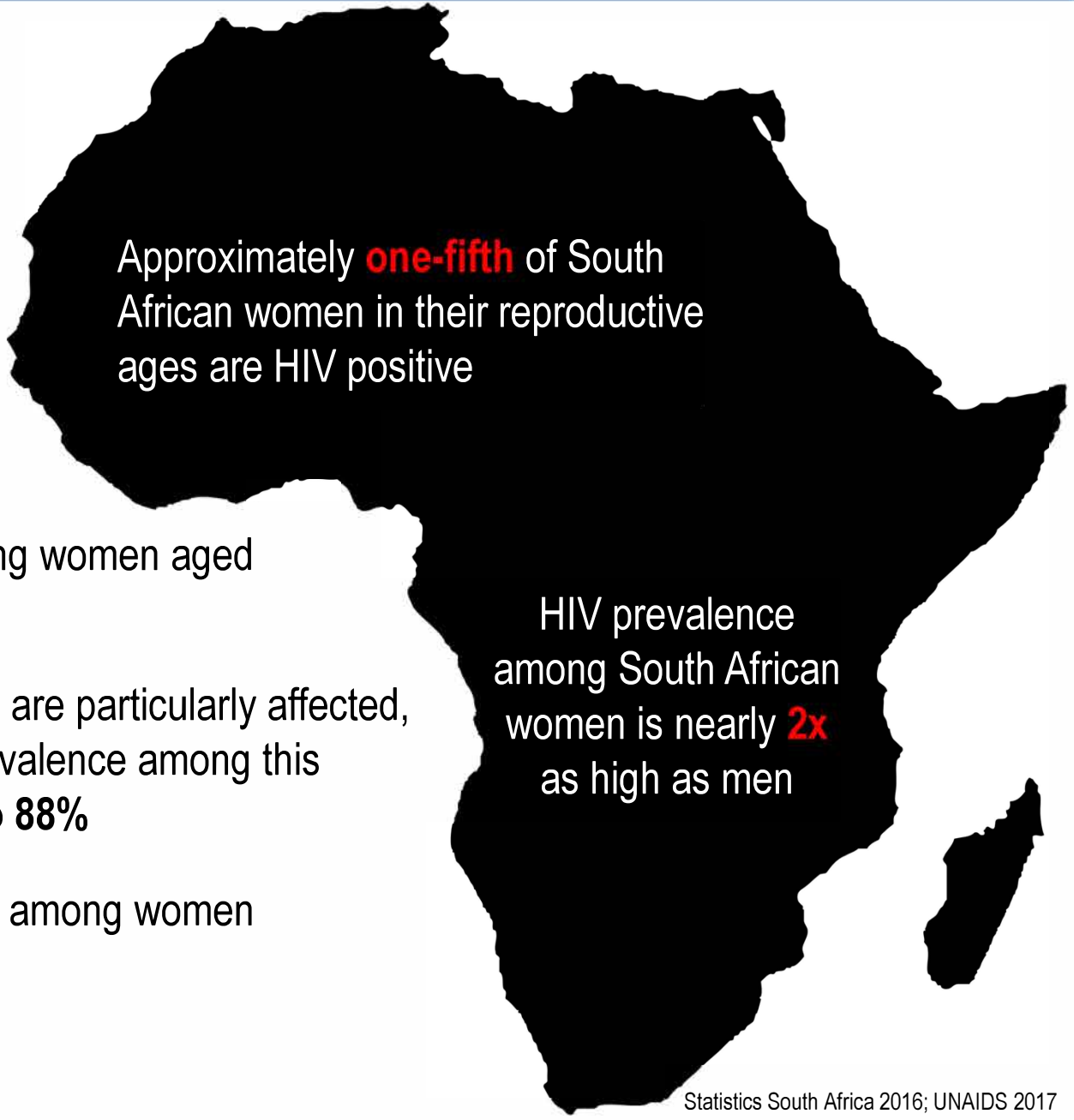
- Previous or untreated STIs
- Low self-efficacy
- Lack of individual agency
- Low literacy
- Lack of knowledge and skills
- Condom access
- Lack of violence prevention

Role in Society and Cultural Expectations

- Patriarchal societies
- Male sexual expectations
- Cultural practices i.e. multiple wives, child brides
- Lobola (bride price)
- Multiple/concurrent partnerships
- Caregiver role in family/community

HIV fact check: South Africa

- **4,100,000** women aged 15 and older living with HIV in South Africa
- Nearly **60%** of people living with HIV in South Africa are women age 15 or older
- **22.3%** HIV prevalence among women aged 15-49 in South Africa
- Female sex workers in S.A. are particularly affected, with studies finding HIV prevalence among this group to range from **40% to 88%**
- **50,000** deaths due to AIDS among women aged 15 and older in 2016



Statistics South Africa 2016; UNAIDS 2017

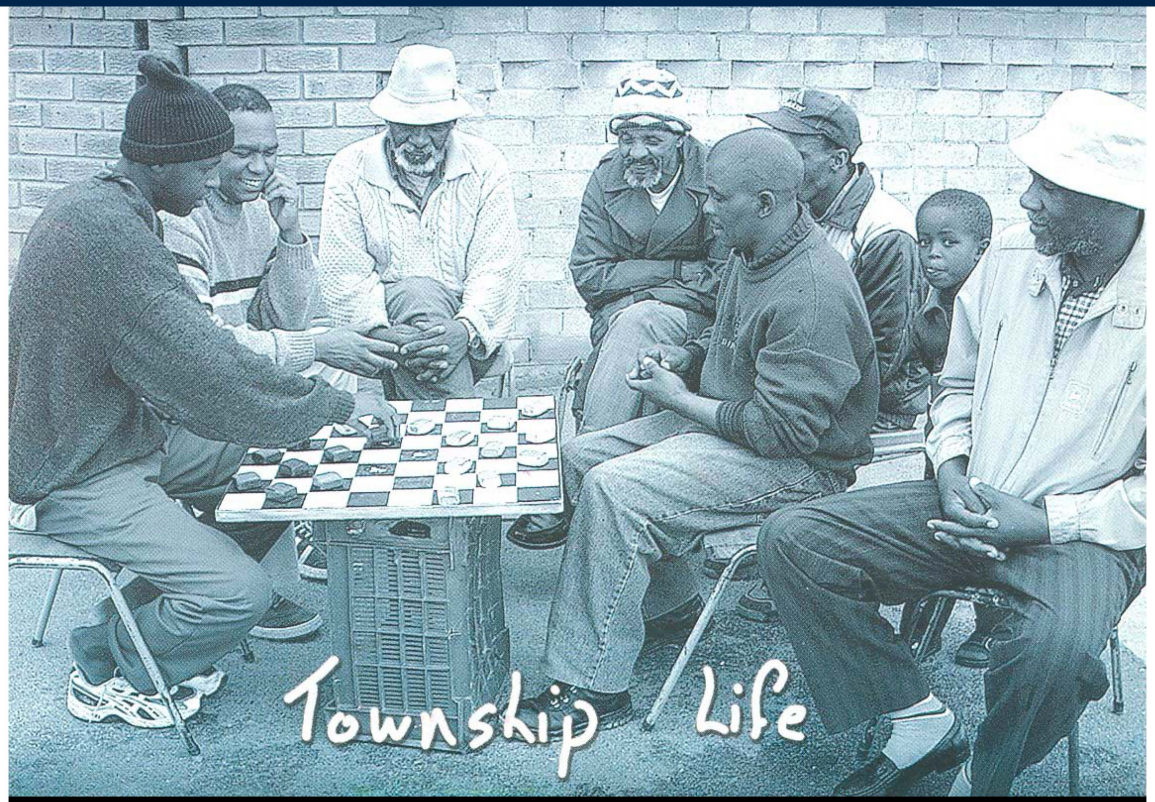
Key populations

Pockets of concentrated HIV epidemics occur among key populations, such as **women who use alcohol and other drugs** and **sex workers**.

Black African women who live in disadvantaged communities also live where **violence is ubiquitous and abuse in relationships is accepted**.

It is **important** to examine the **contextual factors** that may be associated with **substance use** patterns and **HIV risk** to better inform intervention approaches.

South Africa is unique because of gender-based violence… and the traditional ways of thinking.



"Women who go out and drink deserve to be raped."

(Men's focus group participants in Cape Town)

Deeply entrenched patriarchal attitudes make violence against women "an almost acceptable phenomenon" in South Africa

SA shocked by murders and rapes

Crime & Courts | 20 May 2017, 3:13pm

Staff Reporters

Johannesburg - The discovery of a child's body, in an open field in Lenasia, has added to a spate of violent killings and child rapes that have shocked South Africans in recent weeks.

A hunter discovered the body on Friday, believed to

Gang-raped Joburg woman is pregnant

Crime & Courts | 17 May 2017, 07:44am

Nokuthula Zwane, Masbata Mkwananzi and Tankiso Makhetha

Johannesburg – With gruesome crimes perpetrated against women across the country in the public spotlight, a 22-year-old pregnant woman was brutally gang-raped in Joburg's inner city, while three Soweto women were murdered after apparently being raped.

Eleven monsters vs one pregnant woman

Opinion | 19 May 2017, 1:42pm

OPINION

They stood in a queue, waiting for their turn to rape her. Eleven men, and not one of them had the conscience to say this has got to stop, writes Omphitlhetse Mooki

Woman in hijacking and gang rape horror

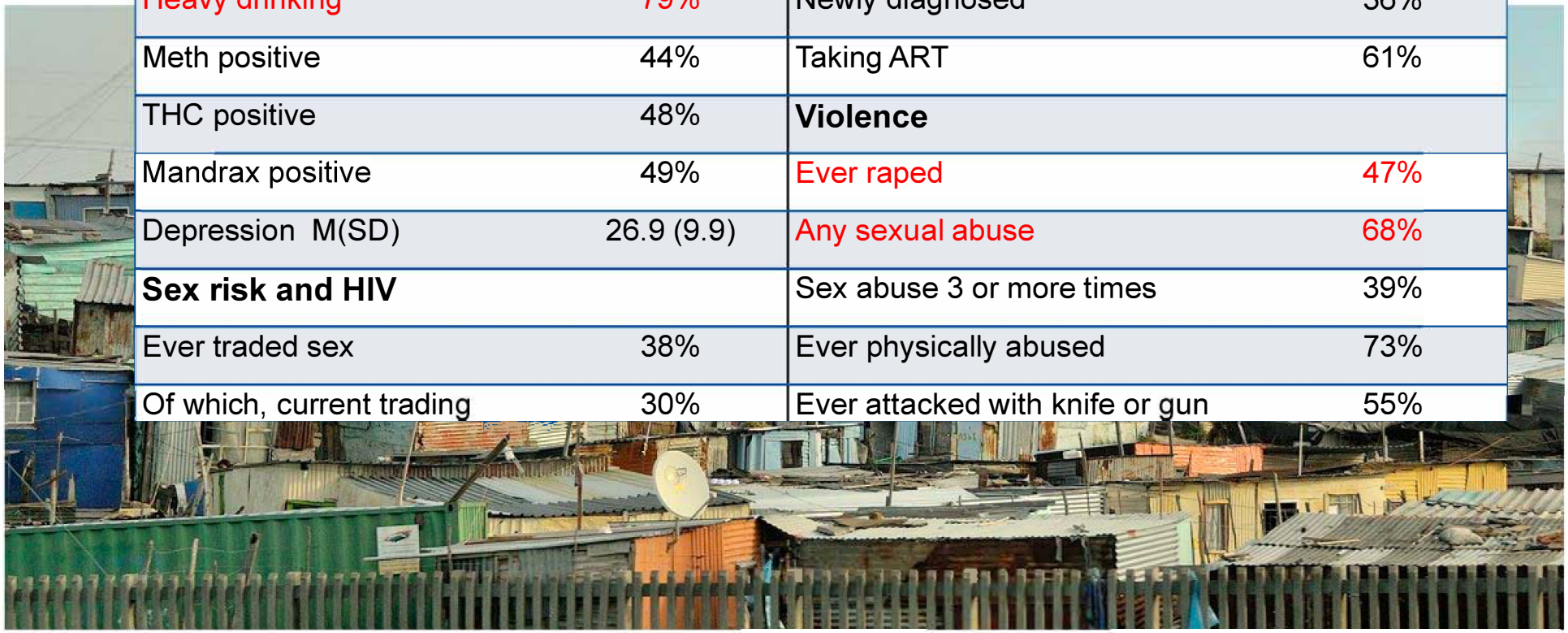
Crime & Courts | 3 April 2017, 06:32am

Bernadette Wolhuter

Durban – A New Germany woman was gang-raped during a harrowing hijack ordeal on Saturday afternoon.

Feasibility study of young women in Cape Town

Variables	Overall	Variables	Overall
Age (M, SD)	22.2 (2.1)	Condom at last sex	17%
Completed high school	13%	STI symptoms	73%
Unemployed	88%	Substance-impaired last sex	50%
Mental health		HIV positive	47%
Heavy drinking	79%	Newly diagnosed	36%
Meth positive	44%	Taking ART	61%
THC positive	48%	**Violence**	
Mandrax positive	49%	Ever raped	47%
Depression M(SD)	26.9 (9.9)	Any sexual abuse	68%
Sex risk and HIV		Sex abuse 3 or more times	39%
Ever traded sex	38%	Ever physically abused	73%
Of which, current trading	30%	Ever attacked with knife or gun	55%

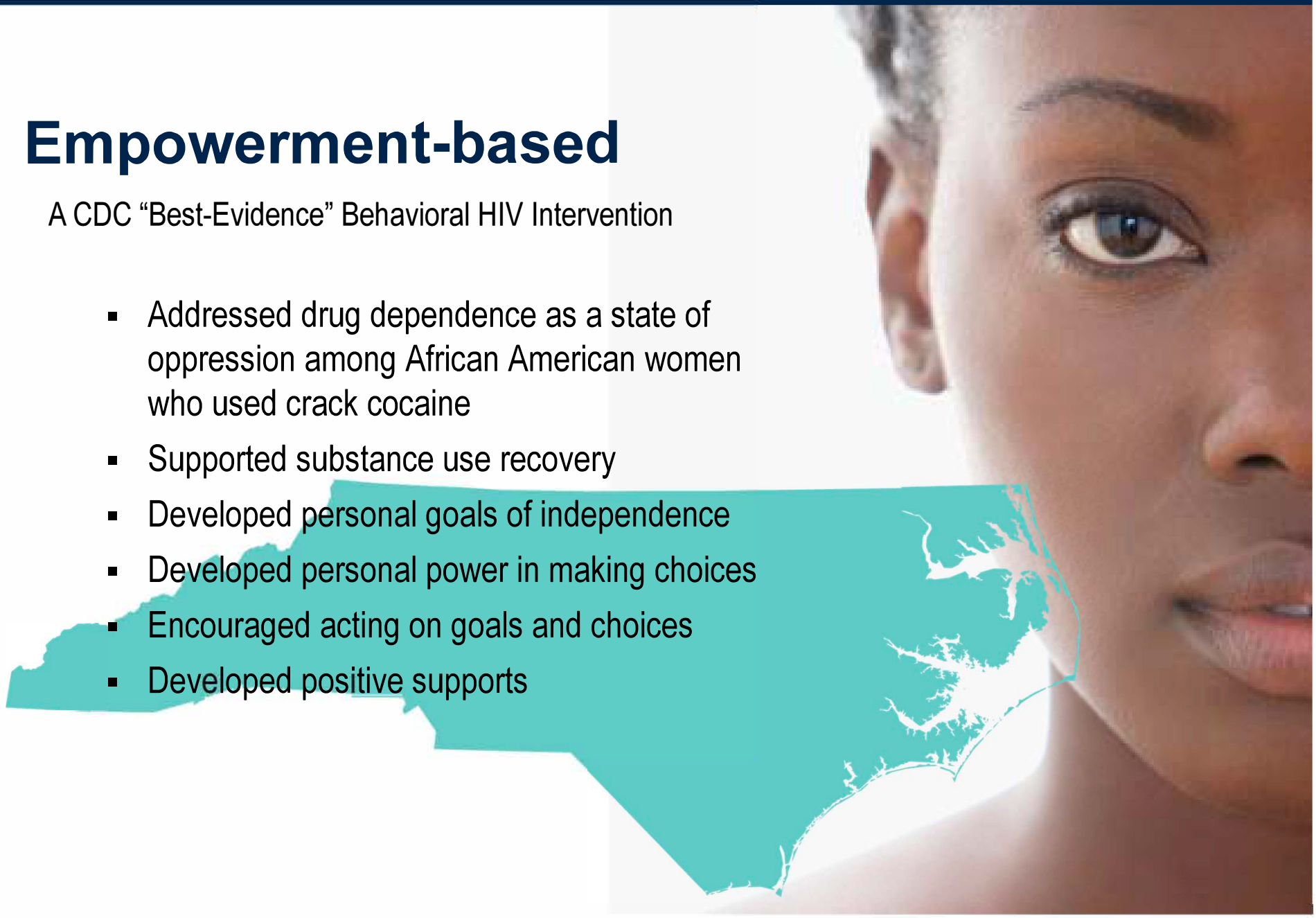


The Original Women's CoOp – United States

Empowerment-based

A CDC "Best-Evidence" Behavioral HIV Intervention

- Addressed drug dependence as a state of oppression among African American women who used crack cocaine
- Supported substance use recovery
- Developed personal goals of independence
- Developed personal power in making choices
- Encouraged acting on goals and choices
- Developed positive supports



The Women's CoOp: Key components & outcomes

Intervention Components

- Addressed the nexus of alcohol or other drug (AOD) use & risky sex & violence
- Personalized assessment of AOD and sex risks
- Risk reduction skills/roleplaying/rehearsal
- Goal setting and communication skills
- Facilitated personal empowerment within a resource scarce environment

↓Substance use ↓ Sexual risk

↓ Homelessness ↑Employment

Global Adaptations

South Africa

Black and Coloured women
Woman substance users
Adolescent girls and young women
Sex workers
Couples
Pregnant women
Out-of-school teens
HIV+ women who use substances

US

Pregnant women
Out-of-school teens
Women who are incarcerated
Adolescent girls and young women

Russia

Women who inject drugs

Republic of Georgia

Women who inject drugs

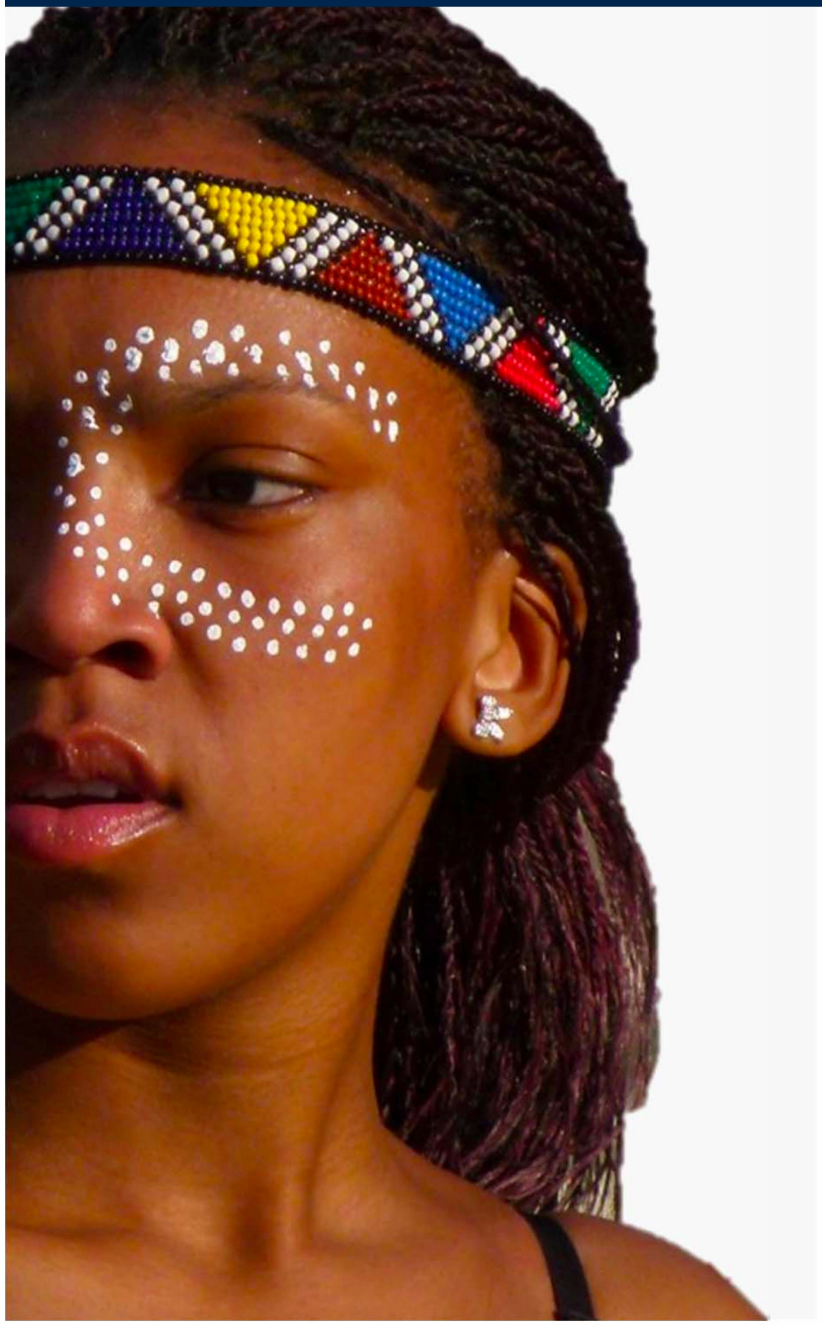
Tanzania

Sex workers

India

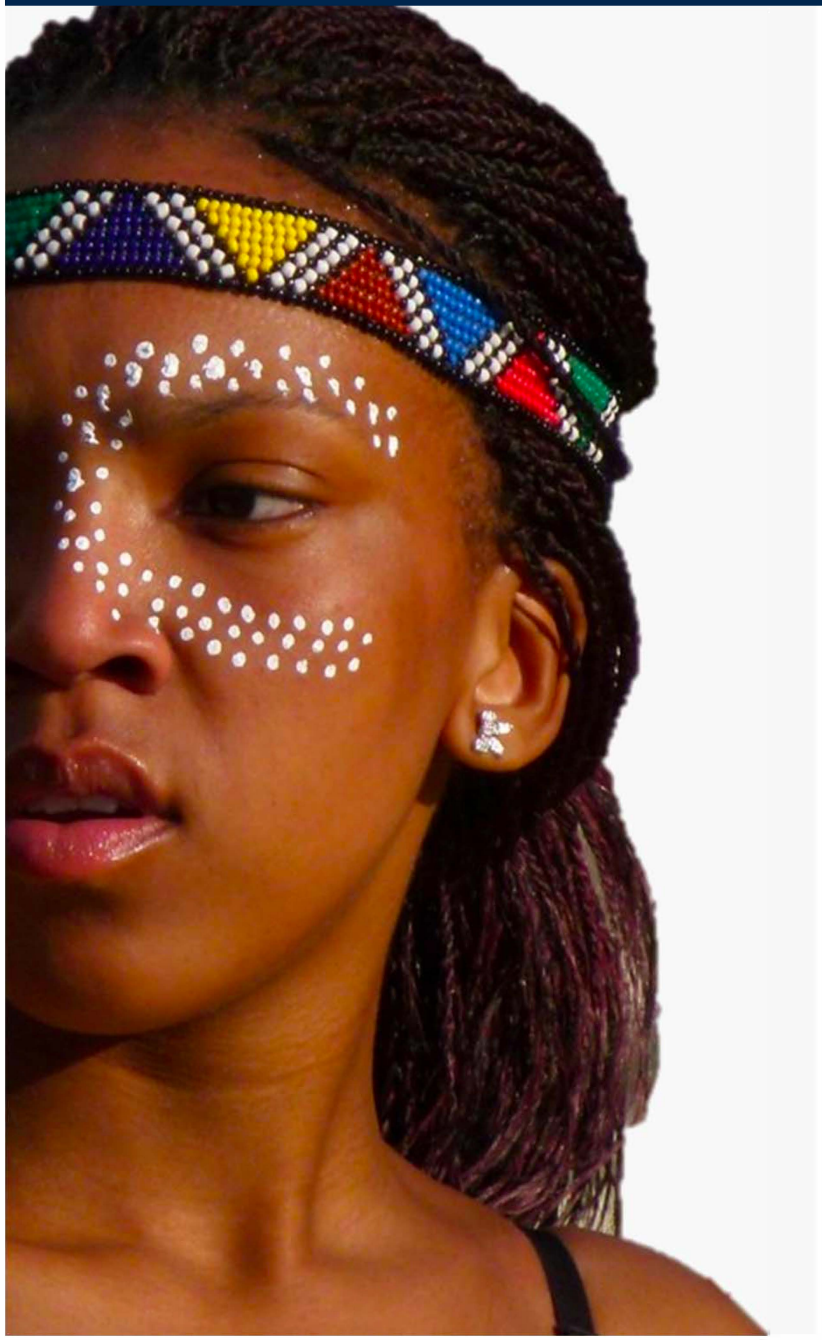
Women in micro-economics

The Women's Health CoOp – South Africa studies



The **Women's Health CoOp (WHC)** is an evidence-based woman-focused behavioral HIV intervention designed to reduce sex risk behavior, substance use, and victimization among underserved adolescents, women who use drugs, including female sex workers.

The Women's Health CoOp: Goals – South Africa

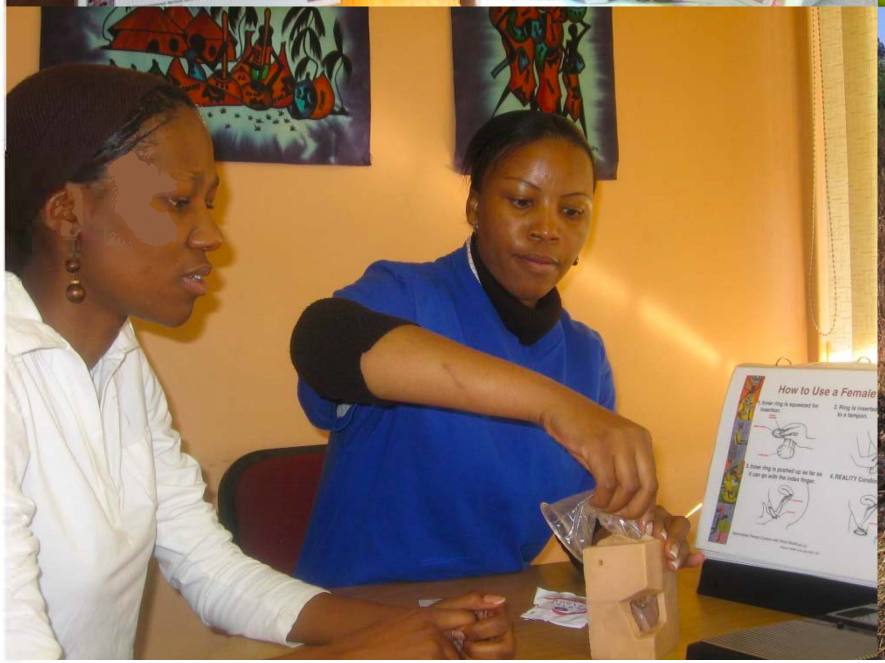


- Increase knowledge
- Increase skills
- Decrease substance use
- Increase sexual protection/negotiation
- Increase violence prevention
- Personalized Action Plan with case management

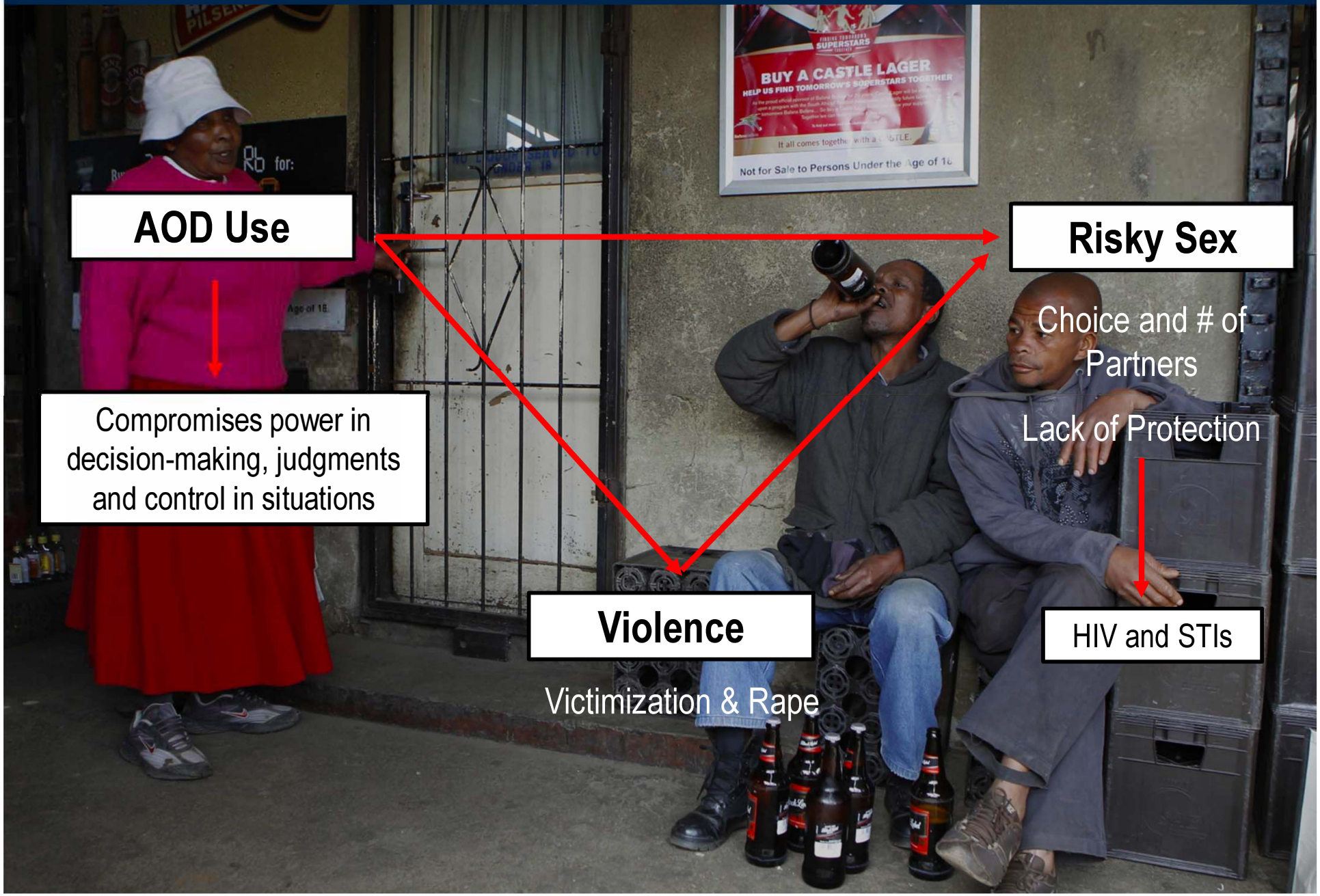
Empowerment = Less alcohol & drug use > Personal power

- Focused on reducing **Gender-based violence**
- Role play on how to use male and female condoms as foreplay for **SEXY SAFER SEX**

The Women's Health CoOp: Photos from the field



The Women's Health CoOp addresses the nexus

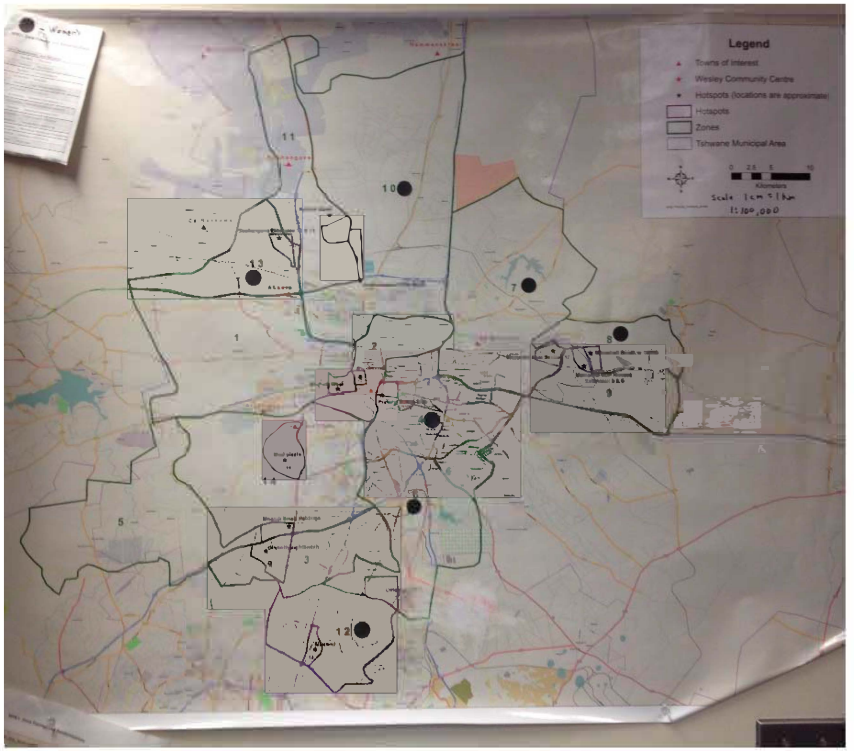


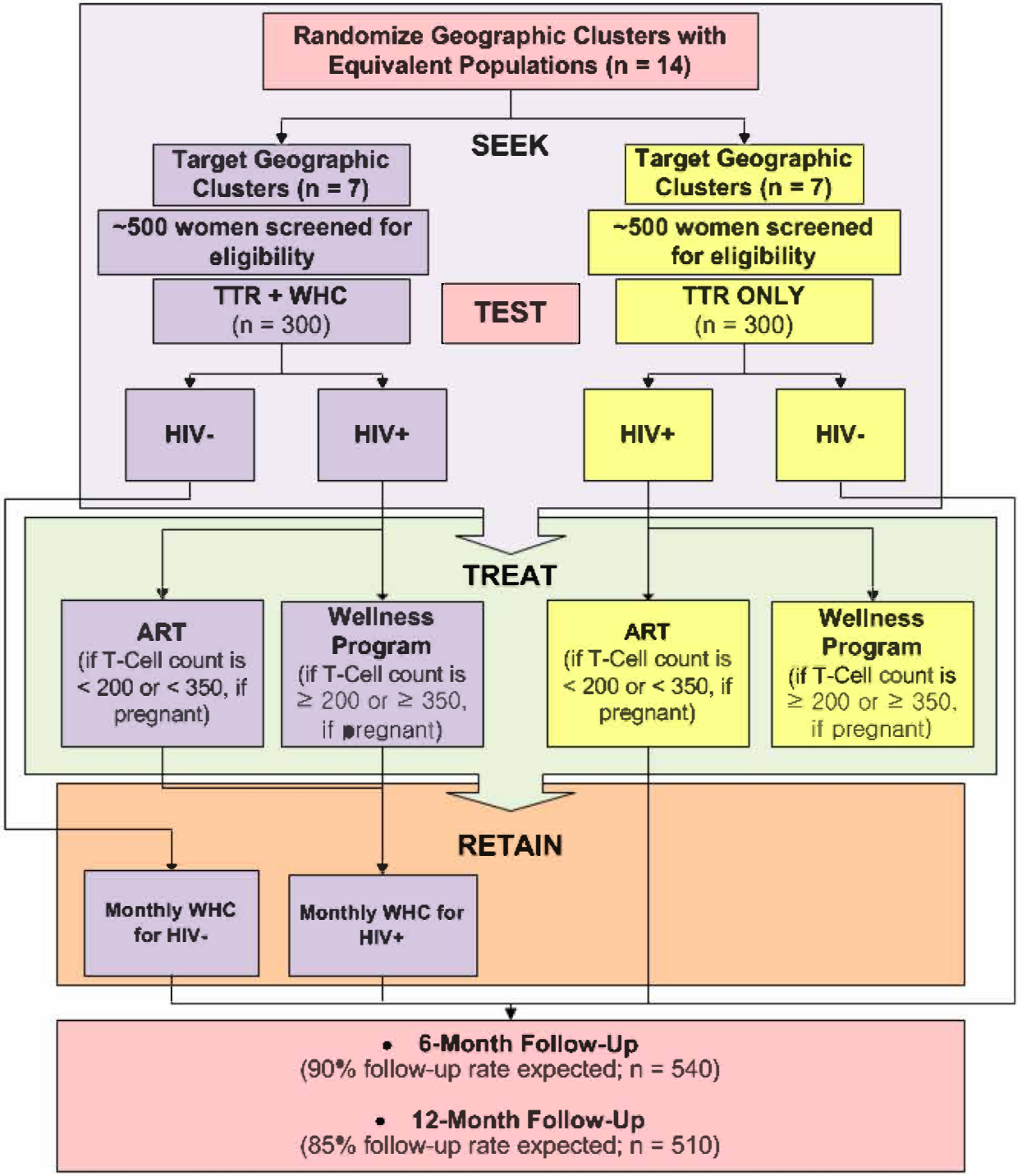
Combination Prevention for Vulnerable Women in South Africa (WHC+)

NIDA R01 DA032061

This study tests whether adding the WHC to **standard Treat, Test, and Retain (TTR)** practices results in more HIV-positive Alcohol and Drug (AOD)-using women getting medical evaluations (e.g., CD4, viral load), starting treatment, staying in treatment and in **greater reductions in risk behaviors (e.g., AOD use, condom use, victimization)** among all women—***positive or negative***

A cluster randomization was conducted with 14 geographic zones across the City of Pretoria blocked on hot spots into a two-group design for the Women's Health CoOp (WHC) intervention or standard HIV testing and counselling.



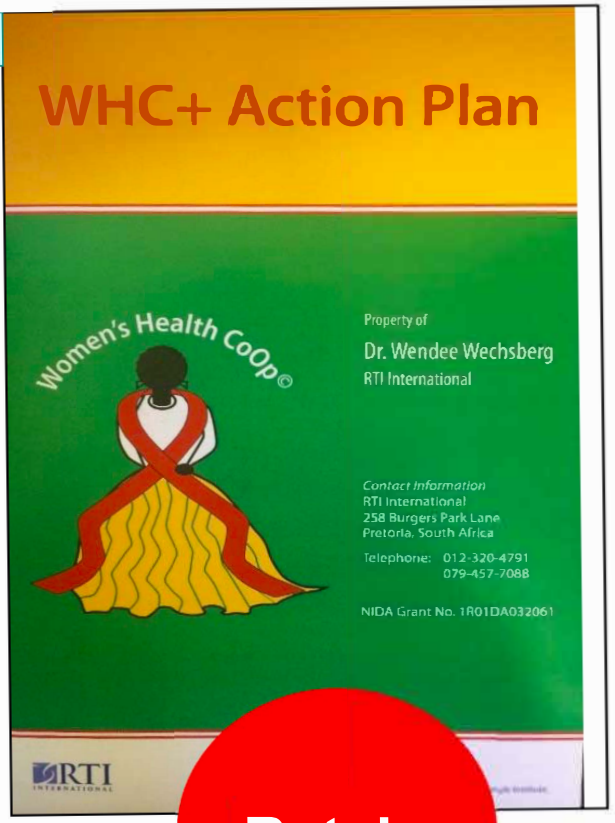

Randomize Geographic Clusters with Equivalent Populations (n = 14)
SEEK
Target Geographic Clusters (n = 7)
~500 women screened for eligibility
TTR + WHC (n = 300)
TEST
Target Geographic Clusters (n = 7)
~500 women screened for eligibility
TTR ONLY (n = 300)
HIV-
HIV+
HIV+
HIV-
TREAT
ART (if T-Cell count is < 200 or < 350, if pregnant)
Wellness Program (if T-Cell count is ≥ 200 or ≥ 350, if pregnant)
ART (if T-Cell count is < 200 or < 350, if pregnant)
Wellness Program (if T-Cell count is ≥ 200 or ≥ 350, if pregnant)
RETAIN
Monthly WHC for HIV-
Monthly WHC for HIV+
• 6-Month Follow-Up (90% follow-up rate expected; n = 540)
• 12-Month Follow-Up (85% follow-up rate expected; n = 510)

CD4 and Personalized Action Plan

Seek

NJ2

Test



Retain

Slide 17

NJ2 What about Referral for Treatment

Ndirangu, Jacqueline, 12/5/2017

Participant eligibility

Participant eligibility was based on the following criteria:

- Female
- Identify as Black/African
- Being 15 years or older
- Report use of at least one substance weekly for the past 90 days
- Report condomless vaginal sex with a male partner in the last six months
- Speak English, Sesotho, Zulu/Xhosa, or Setswana
- Consent to HIV rapid testing and drug testing
- Provide verifiable locator information or Pretoria and plan to stay there in the next 12 months

At Intake

A total of* 641 *Black African women were enrolled.

At enrollment:

- 88% had a main partner, mean age was 30 years old
- 41% reported sex work ***68% HIV***
- 55% tested positive for HIV
- 36% **were newly diagnosed with HIV**
- 56% of these who knew their status and were eligible for treatment, were on ARVs*

*Treatment eligibility criteria changed over time

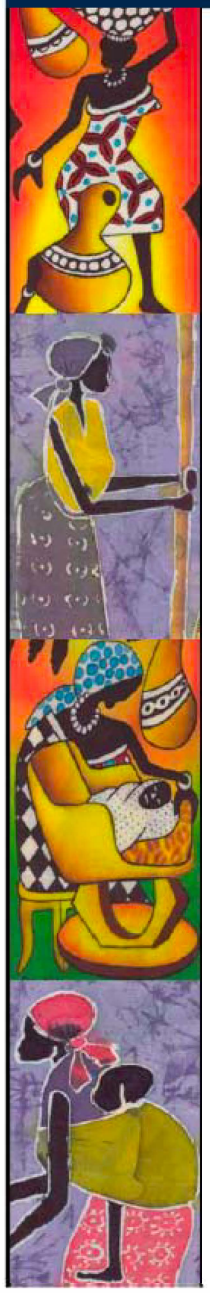
Biologicals at Intake by intervention (n=641)

	Standard n=274	Women's n=287
HIV confirmed* (p=0.006)	61%	50%
Confirmed Pregnancy	5%	5%
Alcohol	15%	13%
Benzodiazepines	2%	2%
Cocaine (p<0.0001)	8%	21%
Methamphetamine	1%	1%
Opiates (p<0.0001)	10%	26%
Marijuana (p=0.0007)	25%	38%

Biologicals at Intake (n=641)

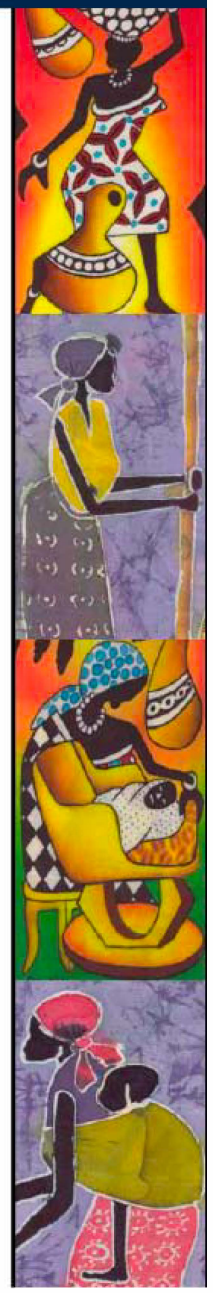
	Sex Worker n=262	Non-Sex Worker n=379
HIV confirmed (p<0.0001)	68%	47%
Newly dx HIV	18%	18%
Confirmed Pregnancy (p=0.01)	2%	7%
Alcohol (p=0.01)	11%	17%
Benzodiazepines	3%	2%
Cocaine (p=0.008)	20%	11%
Methamphetamine	2%	1%
Opiates	23%	15%
Marijuana (p=0.001)	40%	25%

Not all things are perfect: Retention barriers & feedback



- Tracking challenges; lack of cell phones or charged cell phones and distance from the field site
- Lack of rehabilitation centers with pro bono slots
- Lack of adherence to substance abuse treatment once allocated slots
- Lack of a proper medical referral system
- Trying to change behavior in tough surroundings
- Poor treatment in clinics
- Short rehab; not enough time for behavior change for some

Follow-up at 6 months was 91% and 12 months 94% with 15 deaths unrelated to the project.



Behavioral results – at follow up

Logistic regressions were conducted to examine the effect of treatment from baseline to 6-month follow-up and from 6-month follow-up to 12-month follow-up on:

- **victimization**
- **number of protected sex acts with a main partner**
- **number of protected sex acts with a casual partner**

[While controlling for baseline and 6-month reports of victimization (for models predicting 6-month and 12-month estimates, respectively) and sex worker and HIV status, accounting for the clustering of the data by zone.]

90% follow-up at 6-months
94% follow-up at 12-months

Results - Number of protected sex acts

with a main partner

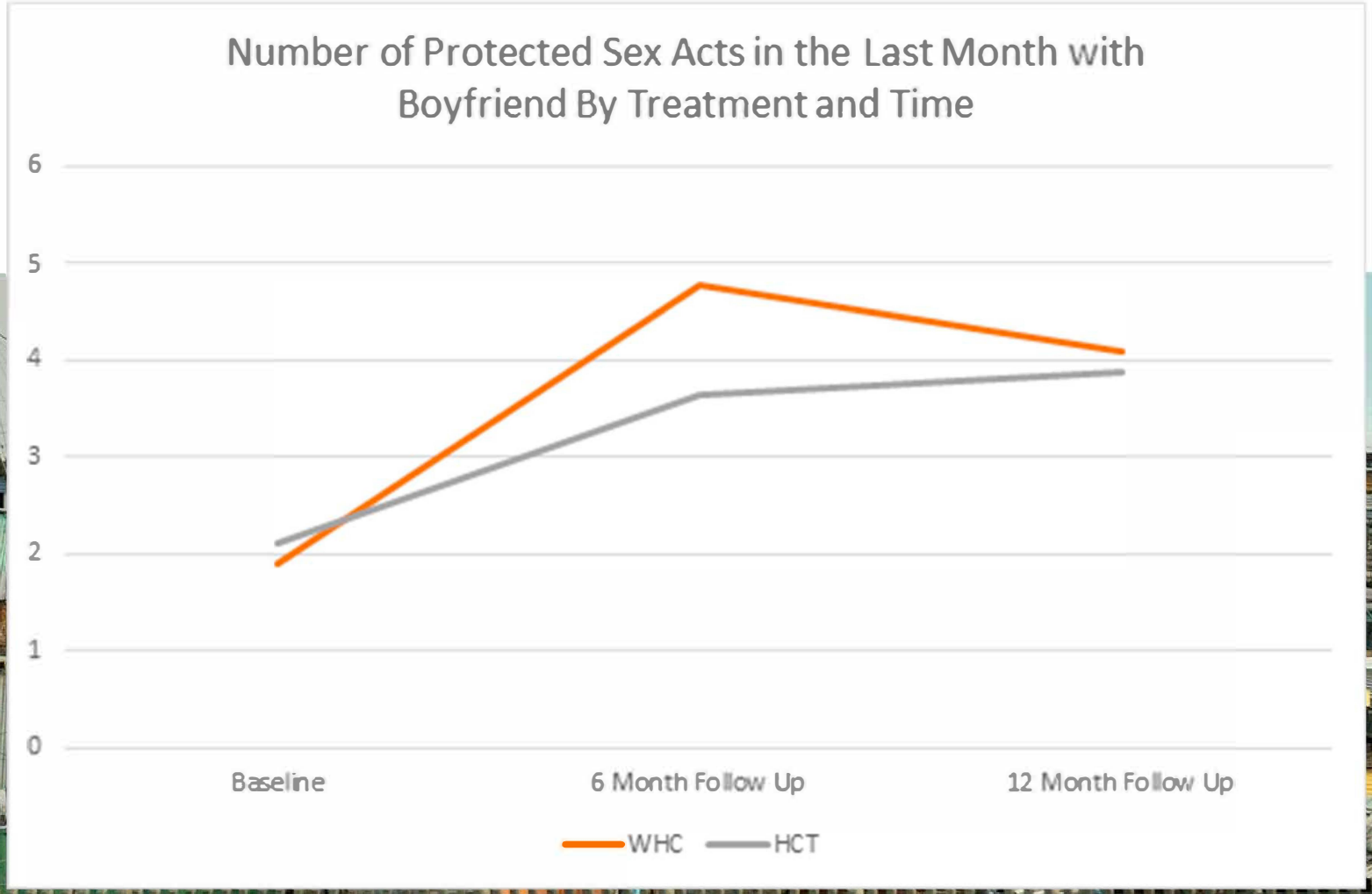
- Results indicated that there was a significant difference, by treatment, **in the number of protected sex acts with a main partner at 6-month follow up**.
- Specifically, **women in the WHC+ arm reported more protected sex acts with their main partners** compared to those in the HTC arm (p = .02).
  - *However, this difference did not persist at the 12-month follow up* (p = .70).

with a casual partner

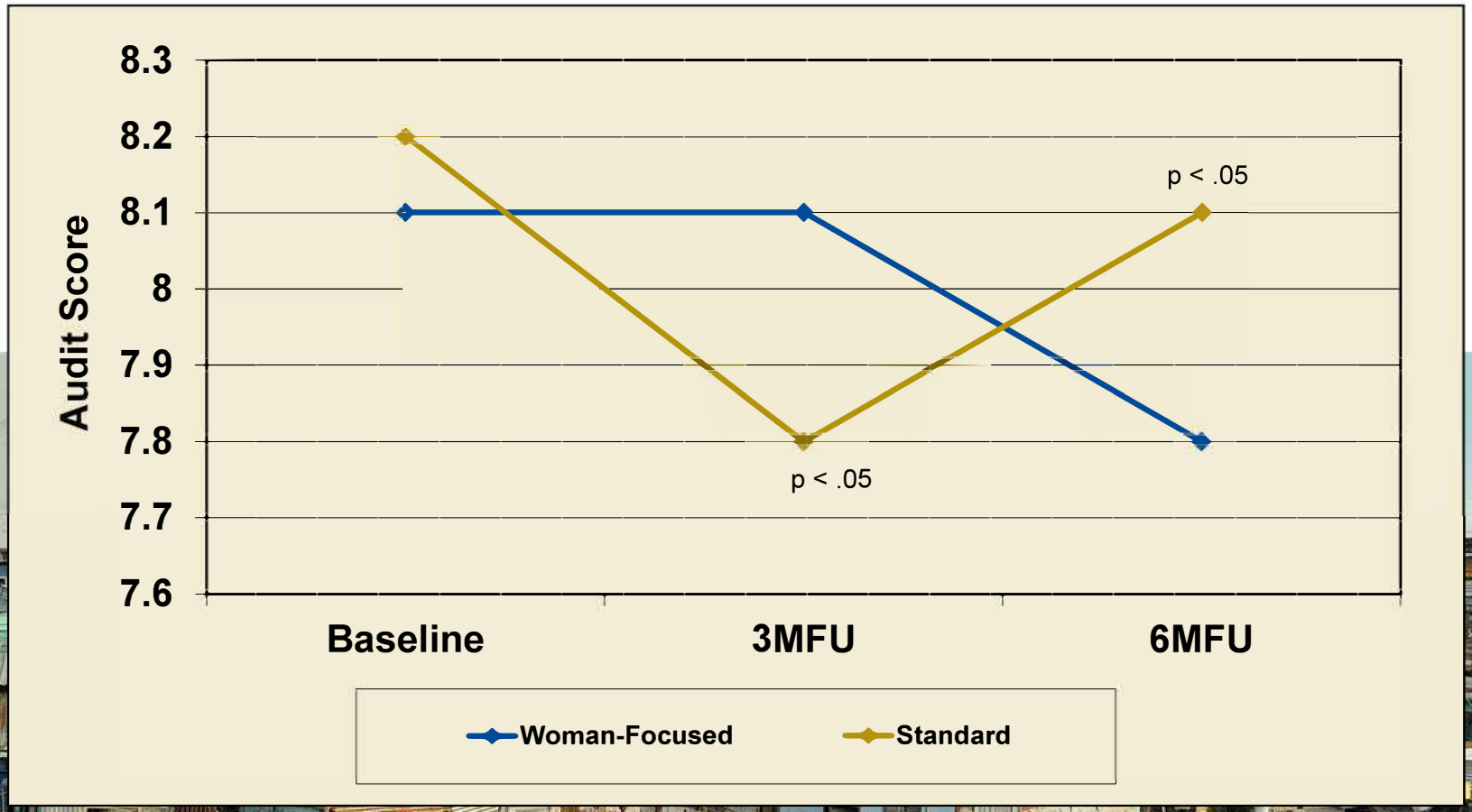
- Results indicated that there was no significant difference in the **number of protected sex acts with a casual partner** in the last month at 6-month follow up (p = 0.62) or 12-month follow up (p = 0.73) **by treatment arm**.

Number of protected sex acts in the last month with boyfriend by treatment and time

Baseline, 6- & 12- months

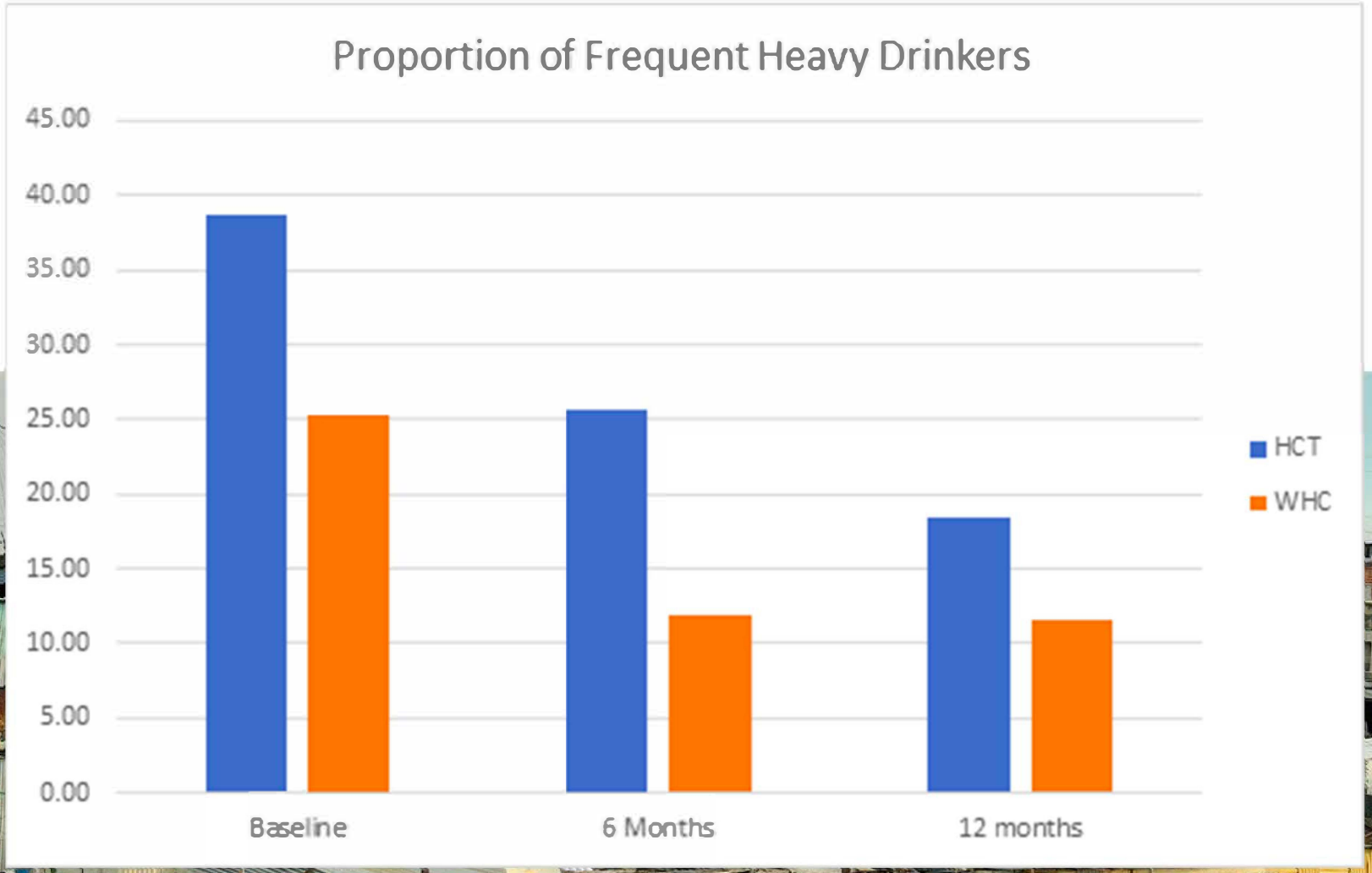


Reduced Alcohol Use at Follow-up in Earlier WHC Study (n= 550)



Wechsberg et al, 2011 *Journal of Drug Issues, 41*(2), 233–252.

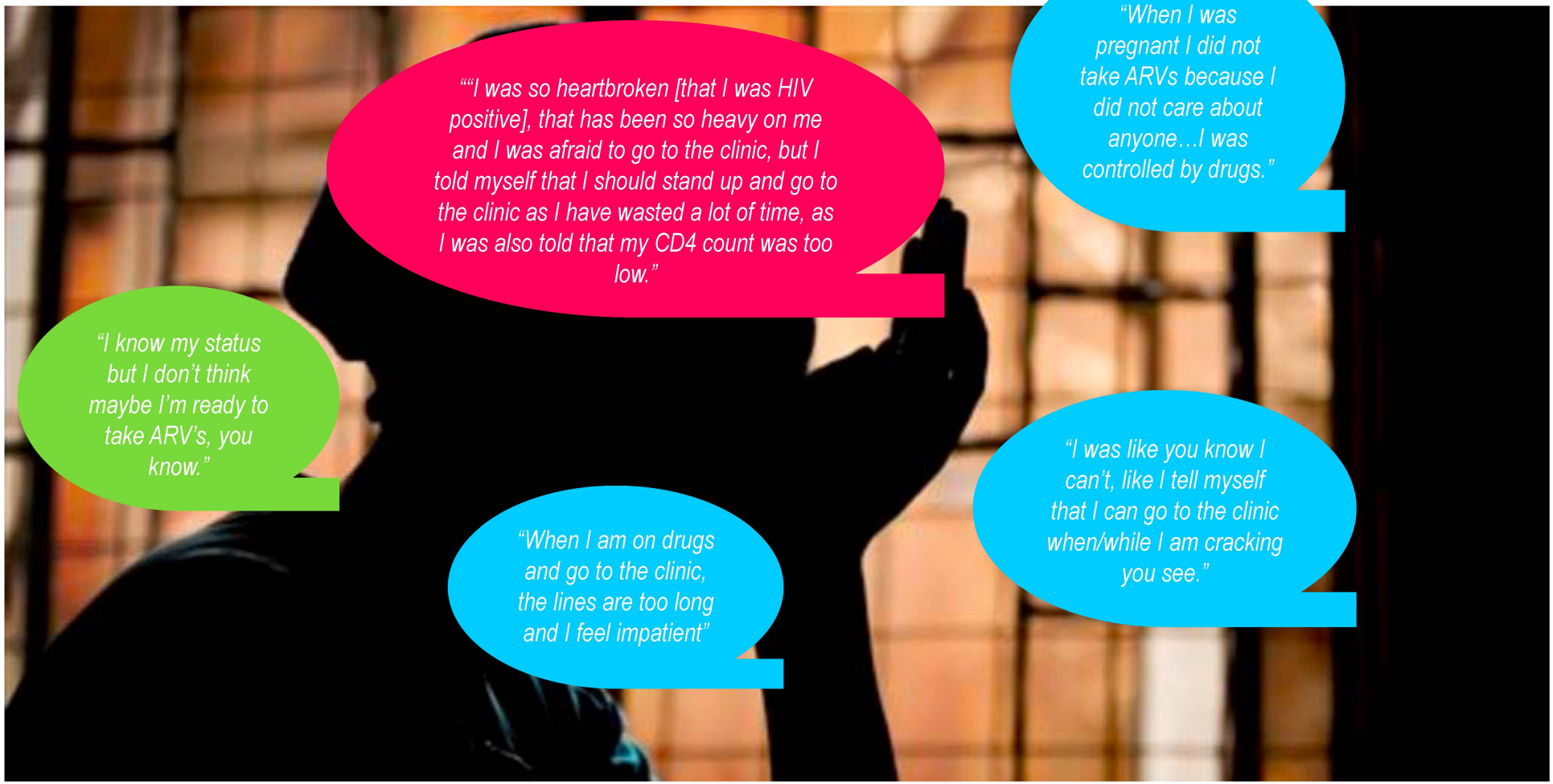
Significant outcomes (p<.001) heavy drinkers 6 months



Quotes: HIV+ women reporting sexual and substance-use risk behaviors

Themes

I. **Denial of HIV status was a major barrier in health seeking behavior**
II. **Not ready to start ARVs**
III. **Substance use**



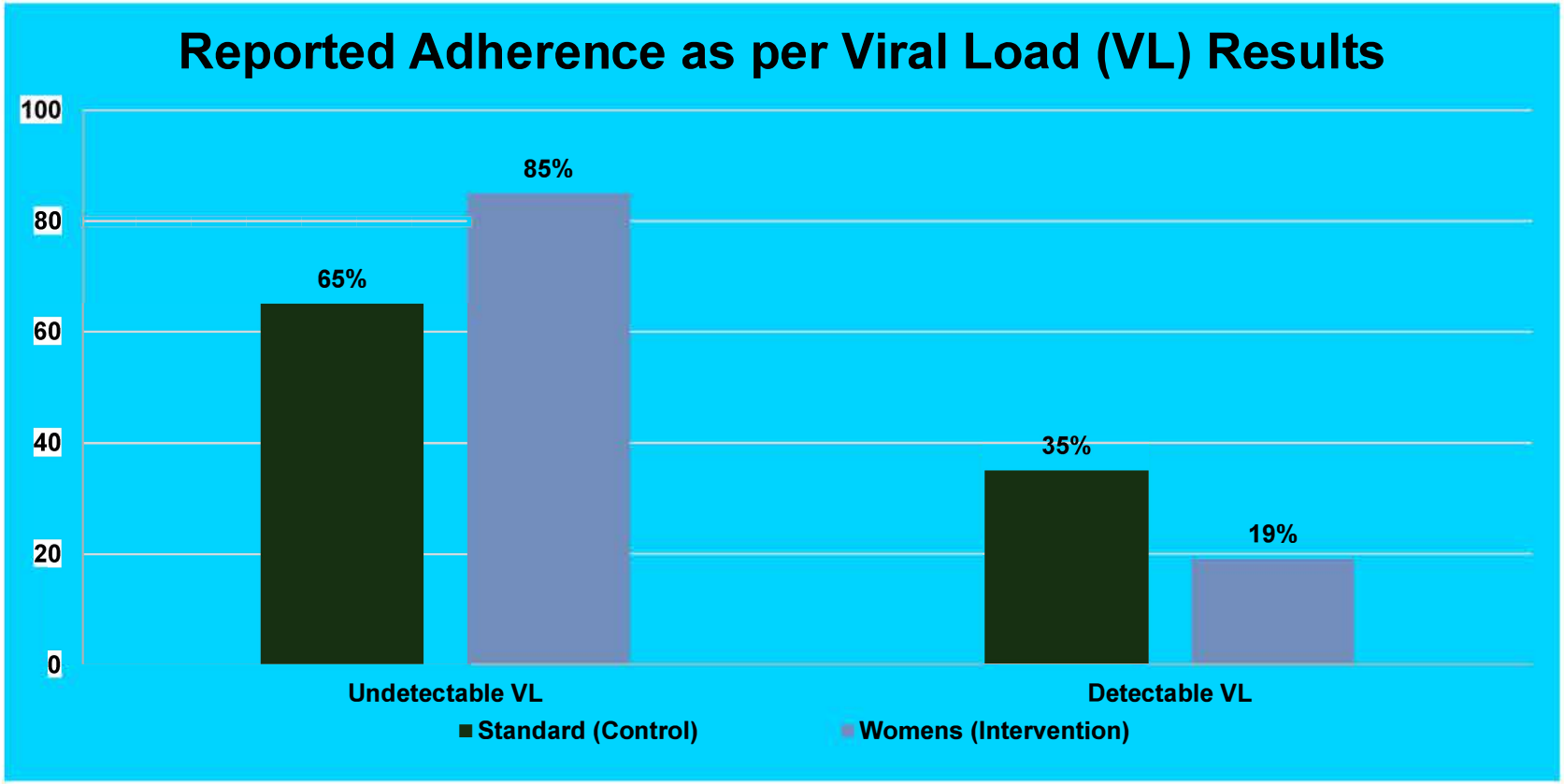
Quotes: HIV+ women reporting sexual and substance-use risk behaviors

Themes

IV. Structural barriers

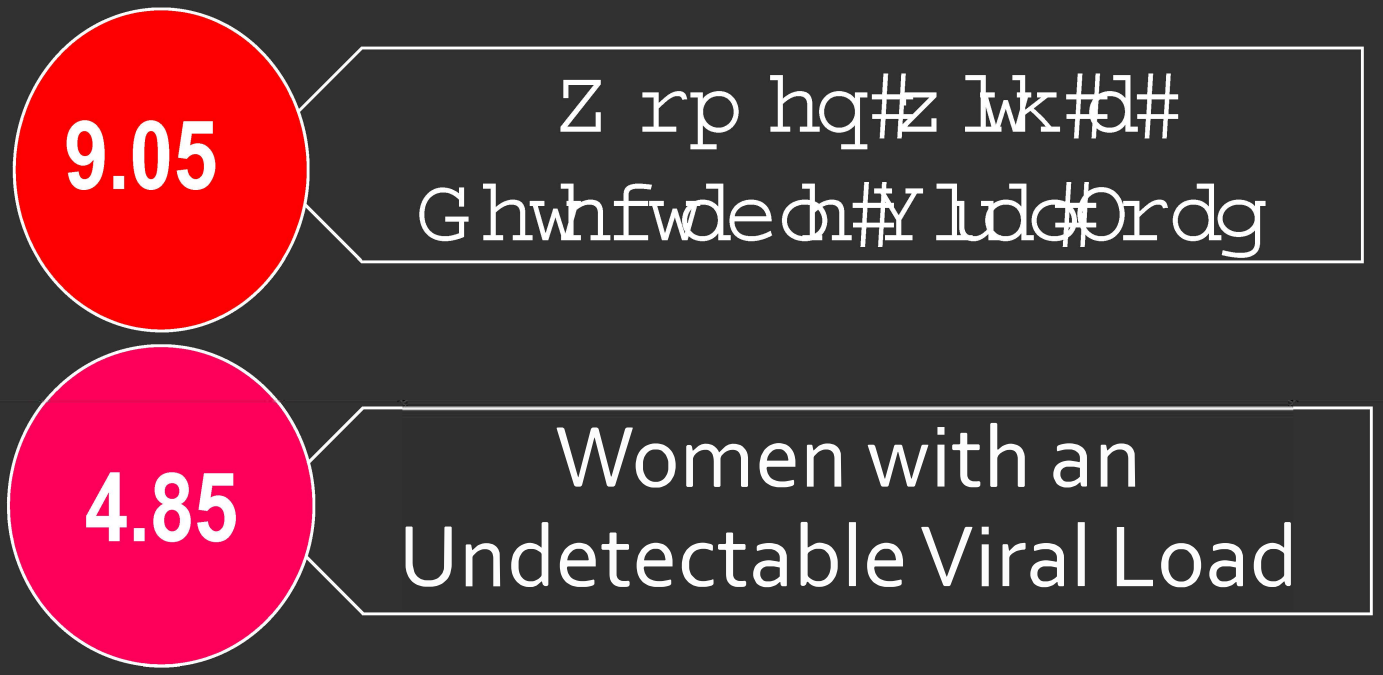
V. Treatment in clinics

Viral Load (VL) Results by Treatment Arm



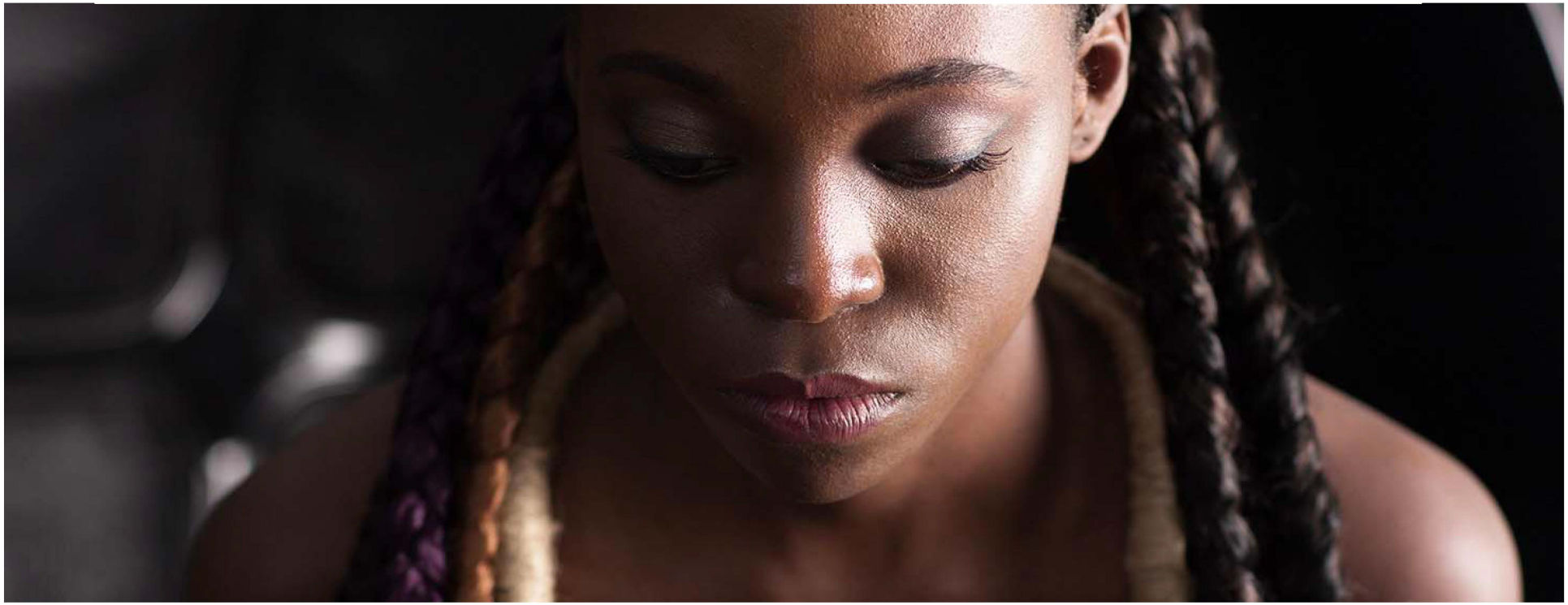
81% of participants in the intervention arm reported adhering to their treatment compared to 65% of participants in the control arm (p=.01)

Mean Number of Days in the past Month reporting binge drinking (4 or more drinks)

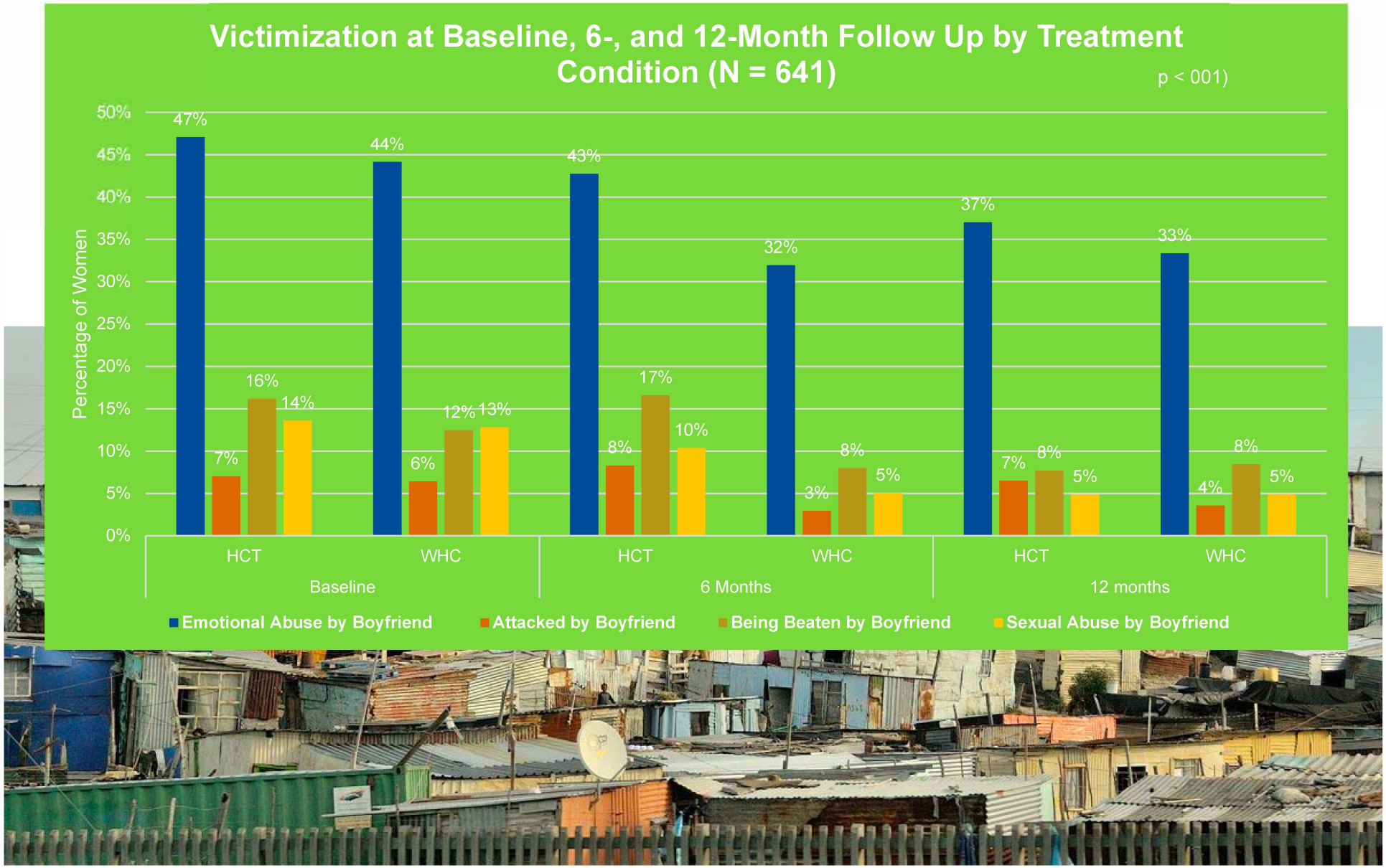


ART adherence among participants under 30 years

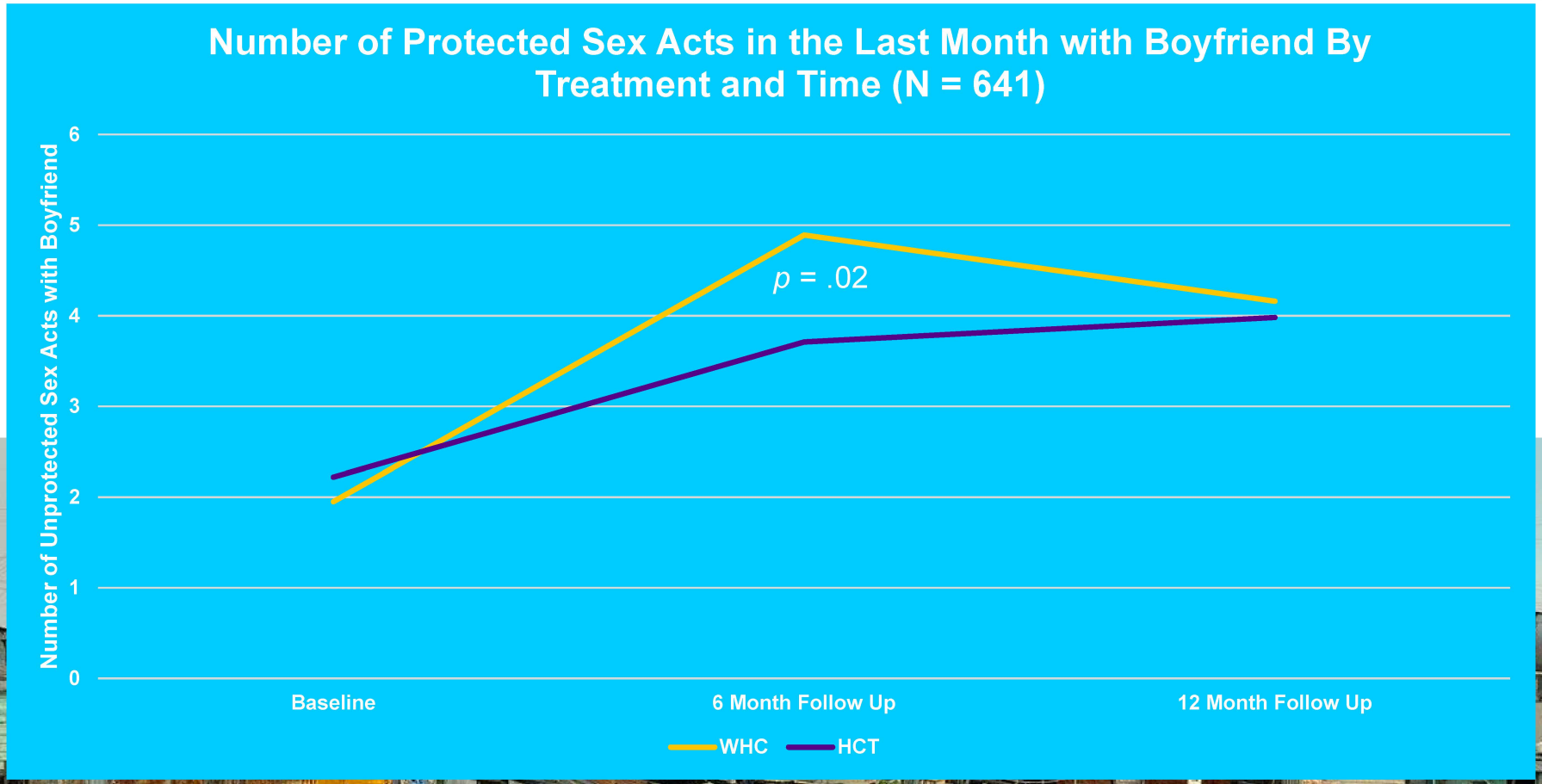
50%	Were not adhering to their treatment as per VL results
50%	Had discordance between self-reported adherence and VL results

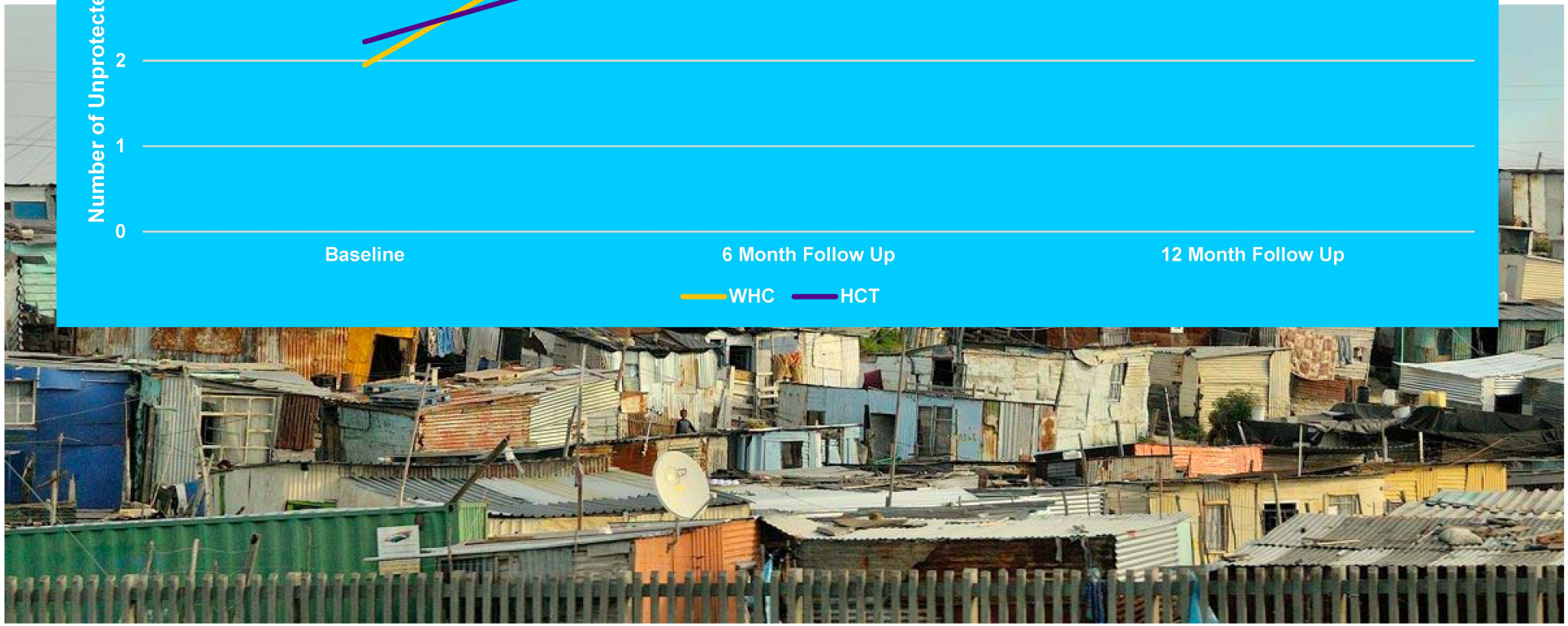


Victimization



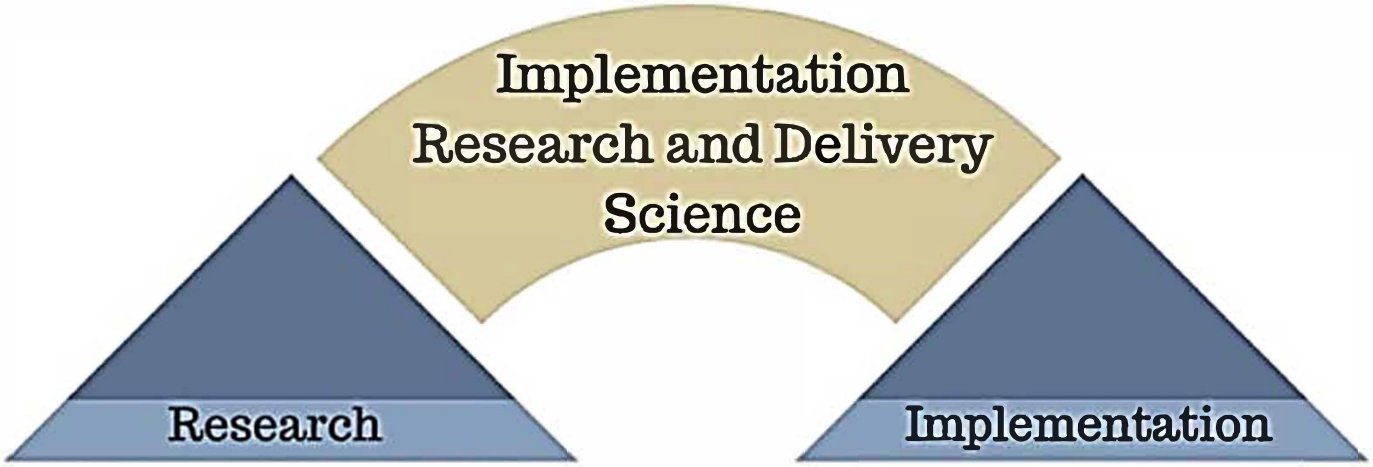
Protected sex acts





Implementation Science Research for Women Living with HIV in South Africa 2014–2019; NIAAA

Research using an implementation science approach integrating the Women's Health CoOp (WHC) in usual care setting is the logical next step before a larger scale-up of this evidence-based program.



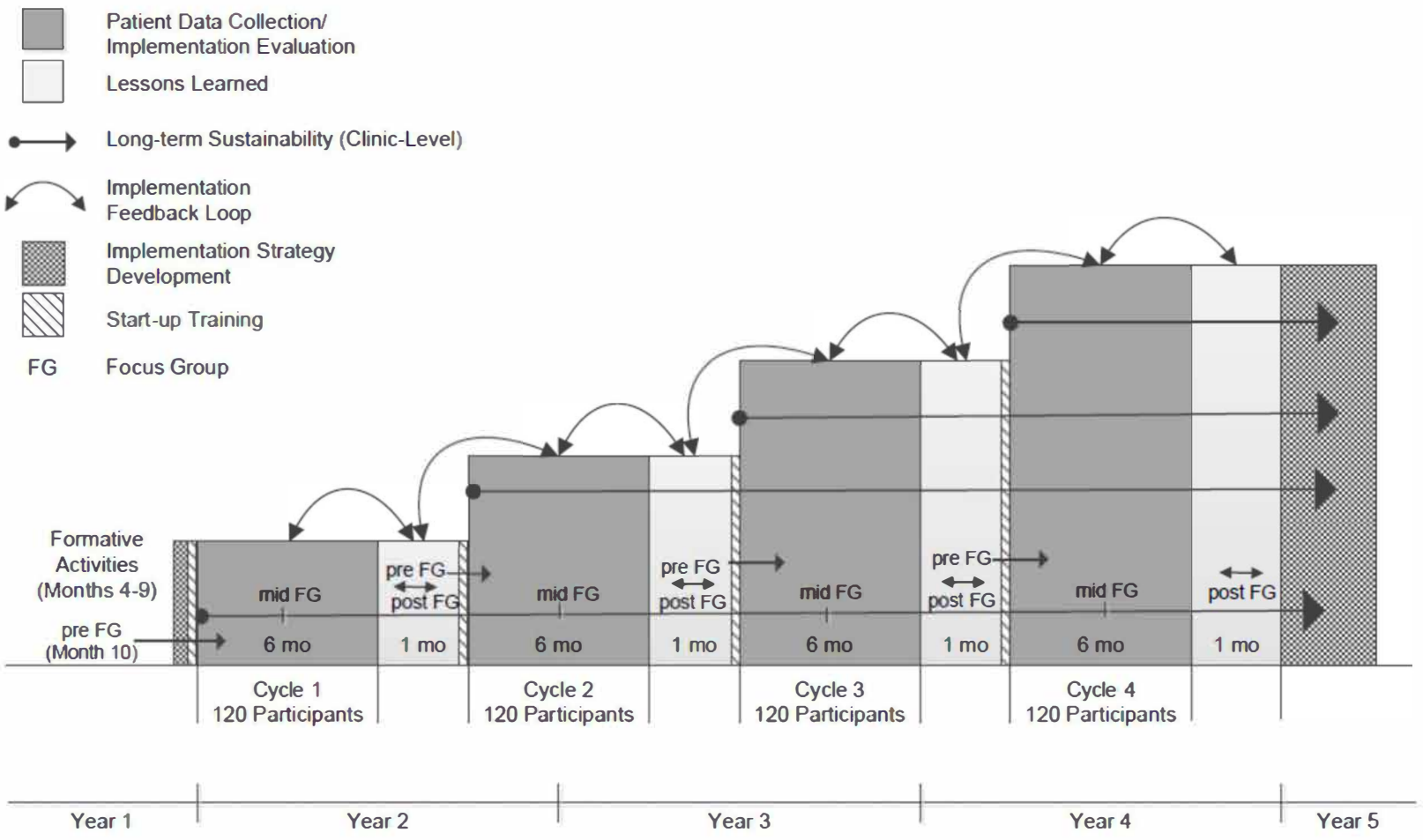
Specific aims

Aim 1: Develop, implement, and assess the appropriateness of a marketing plan to facilitate entry into health centers (HCT) and rehab sites (Matrix) for the implementation of the WHC.

Aim 2: Deliver the WHC via a stepped-wedge design across health and rehab clinics to evaluate implementation (acceptability, adoption, cost, fidelity, and sustainability) and service outcomes (comprehensive services and timely service linkages).

Aim 3: Assess WHC patient outcomes (effectiveness, satisfaction) at 6-month follow-up

Stepped-wedge design with mixed methods



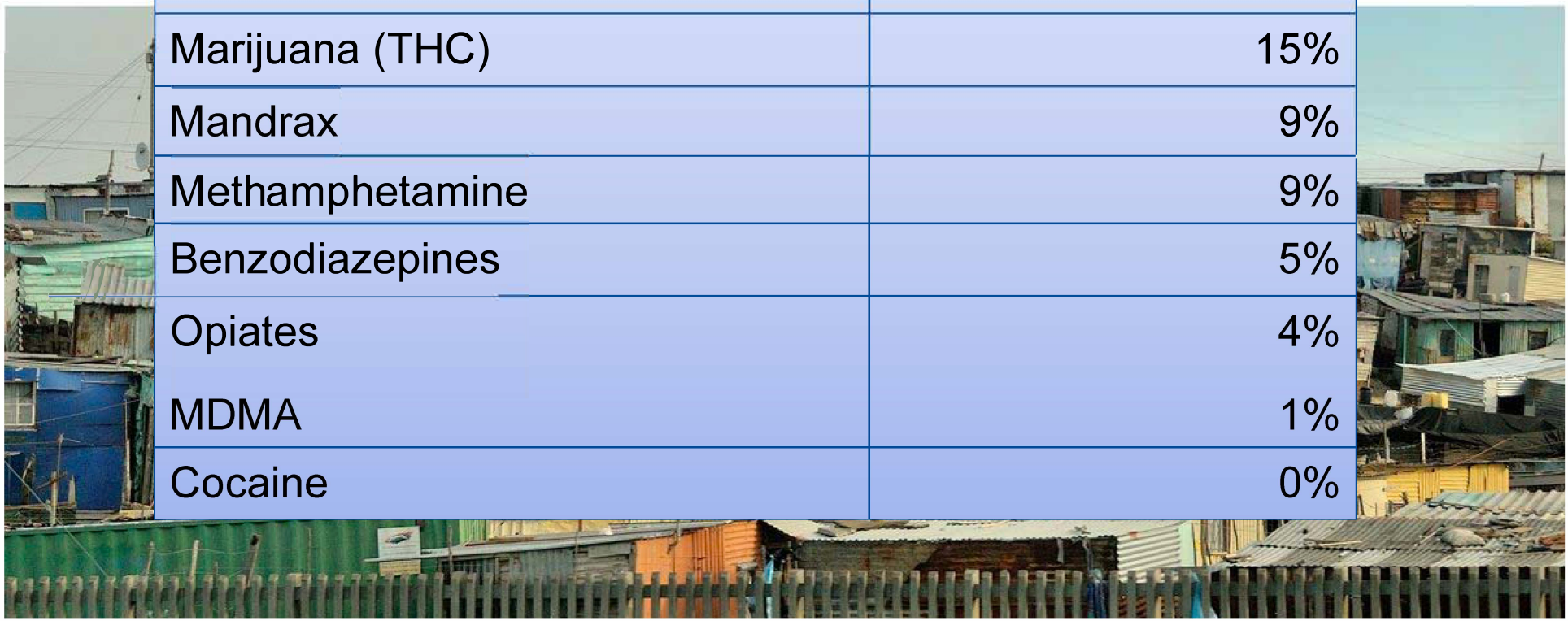
Clinics entrenched in local communities

Women living with HIV who use AODs (N=242 to date)

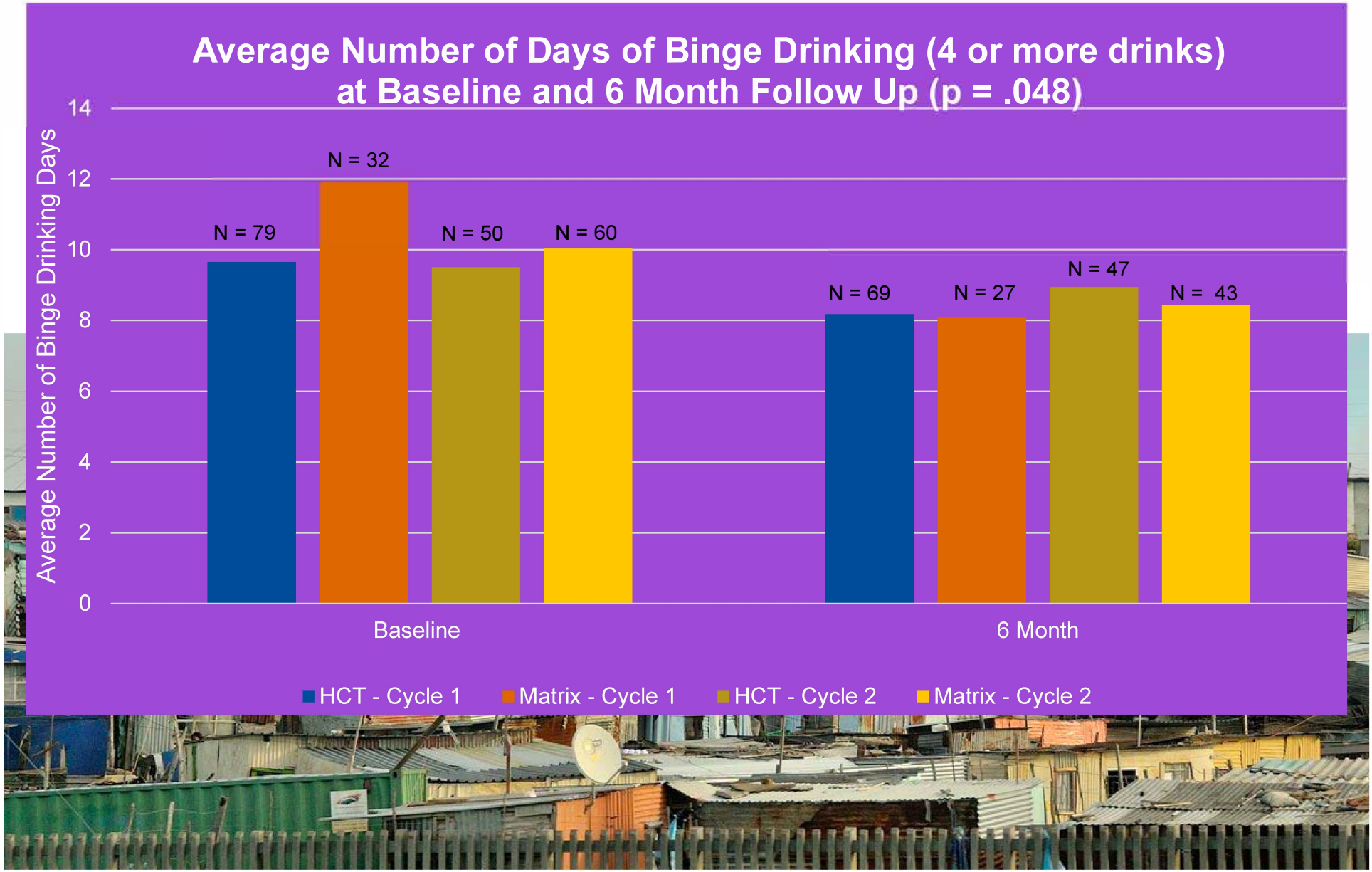
Age	32.6 years (SD = 6.21)
Main sex partner	94%
Education	
None to Primary	27%
Secondary	73%
Number of Children (Average)	2.3
Living Condition	
No running water	**45%**

Biologicals at Intake (N=427)

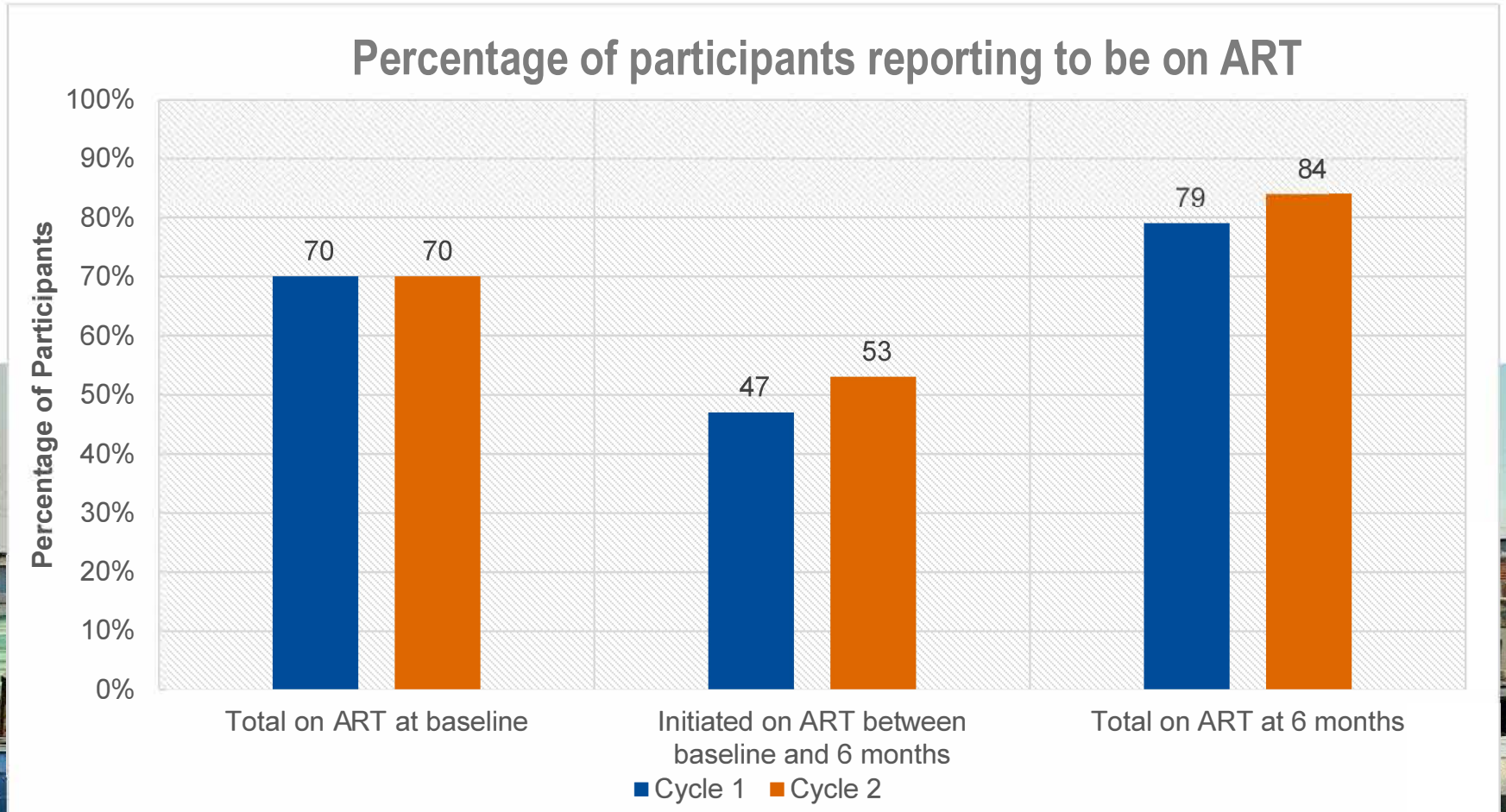
	N = 242
HIV Status	**100%**
Confirmed Pregnancy	6%
Alcohol	15%
Marijuana (THC)	15%
Mandrax	9%
Methamphetamine	9%
Benzodiazepines	5%
Opiates	4%
MDMA	1%
Cocaine	0%



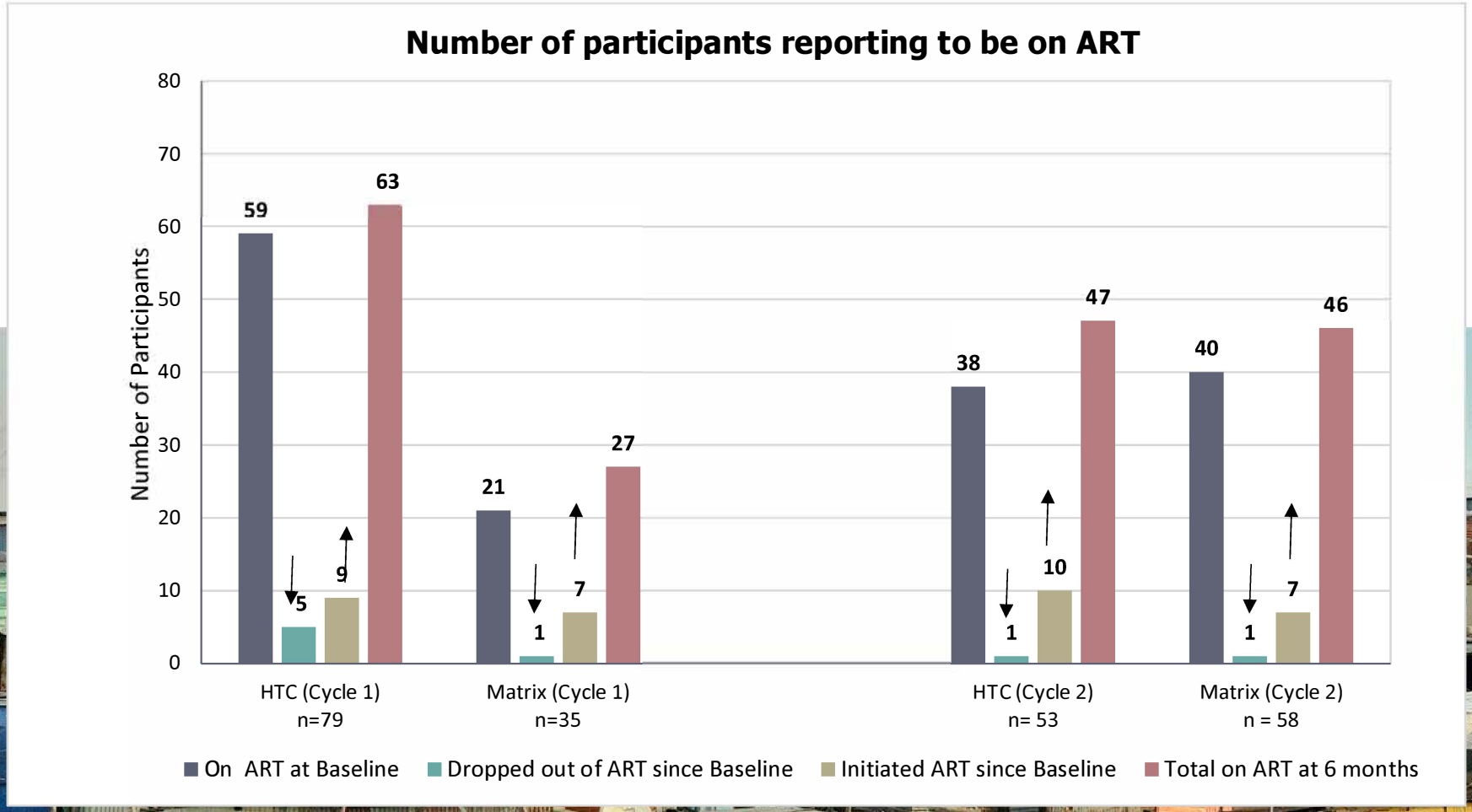
Binge drinking



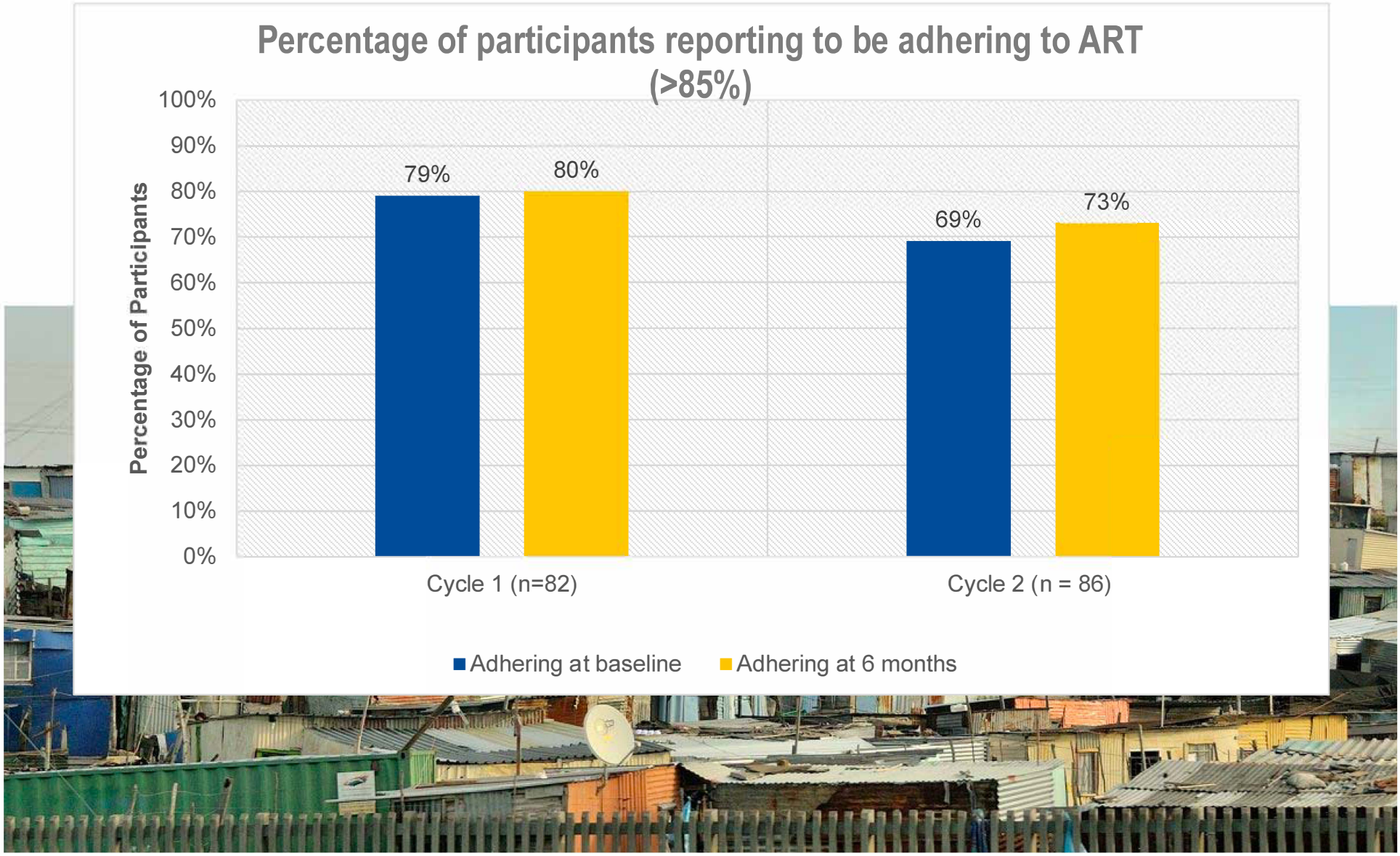
ART initiation baseline to 6-months for Cycle 1 (n=114) & Cycle 2 (n= 112)



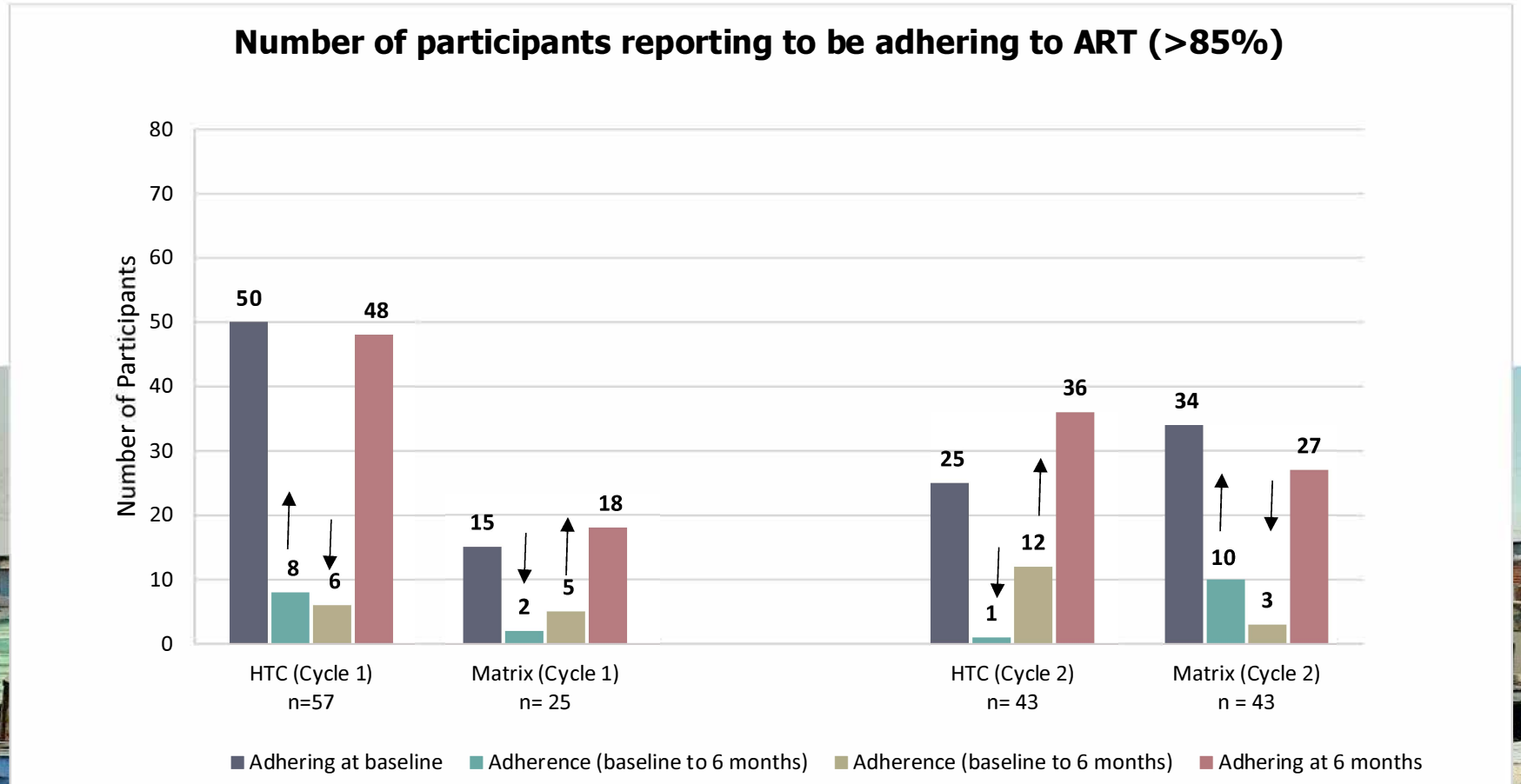
ART initiation baseline to 6-months for Cycle 1 & Cycle 2 by facilities



Total ART adherence (>85%) at baseline to 6-months for Cycle 1 & Cycle 2



Total ART adherence (>85%) at baseline to 6 months follow-up by facilities



Cycle 1: 6-month follow-up rate of 95%
Cycle 2: 6-month follow-up rate of 92%

Road blocks to ART adherence

Violence

…in an abusive relationship, [her] husband is kicking her out of the house and beating her and also sleeps with her against her will ,she stays with him just because she has nowhere to go. She needs help ……..

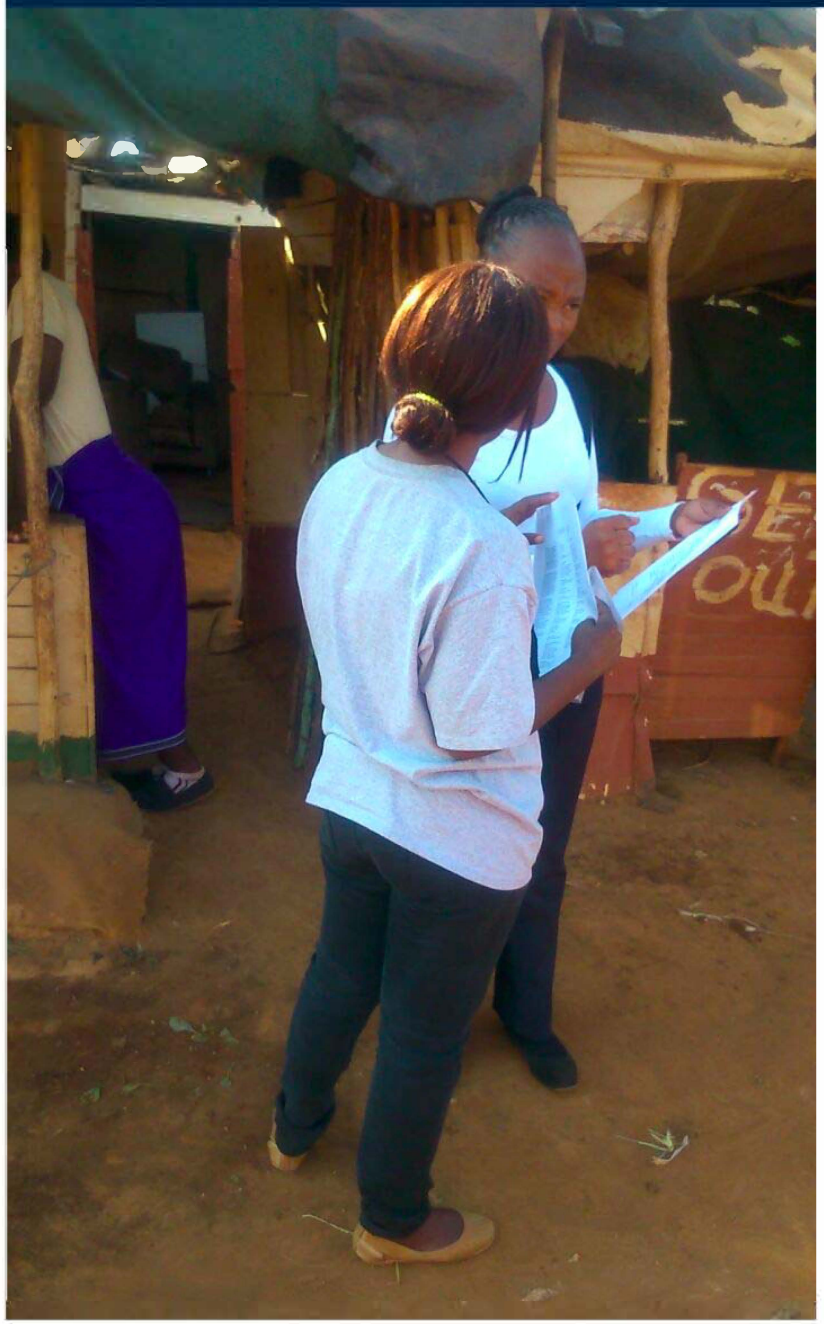
The boyfriend rapes her when she is drunk but she does not think that is rape…

Substance use

I didn't care about my health; I was drinking too much and didn't care about myself. I was depressed….

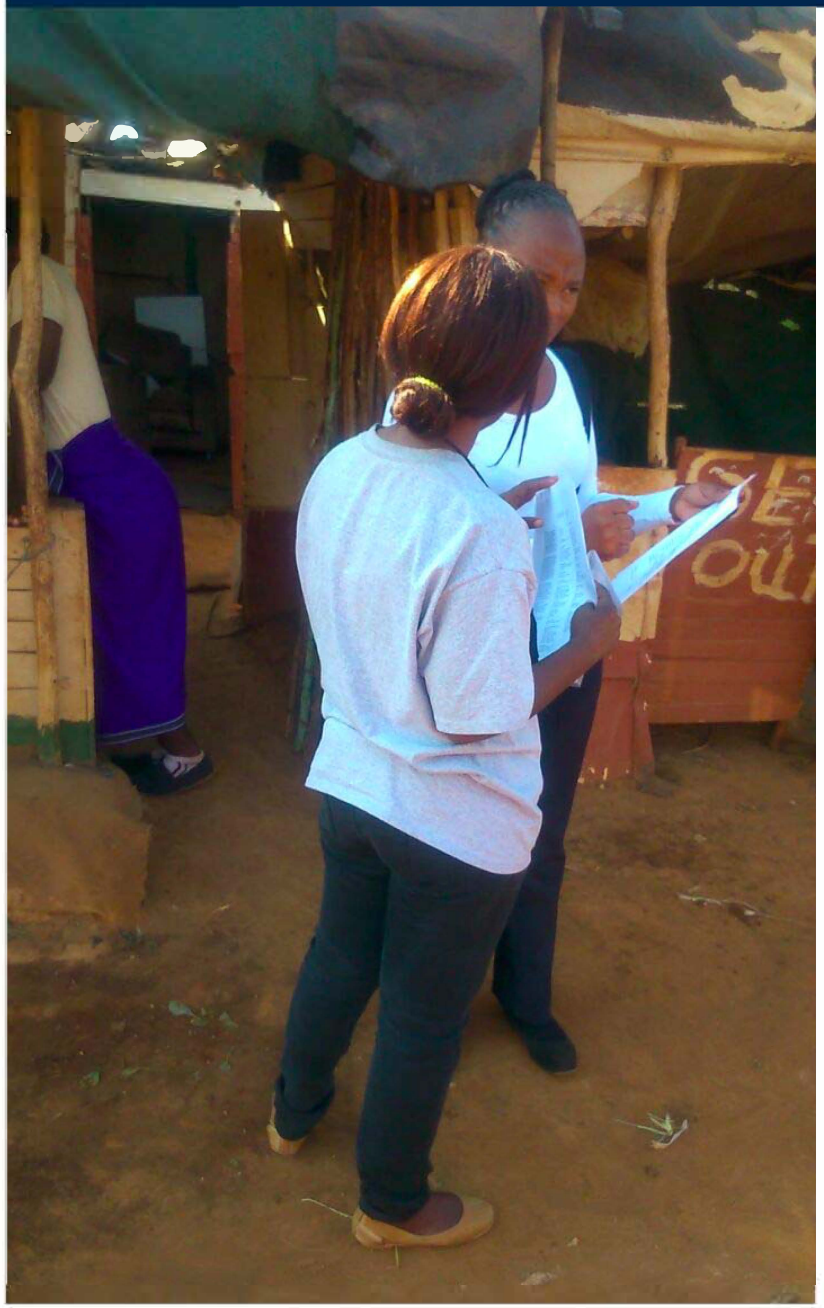
When I am drinking, I don't take them [ARVs], and that's every weekend.

Challenges: Patient-level on the ground



- Lack of follow-through with HIV-related referrals
- May not want to initiate ART at a (closer) neighborhood clinic
- Afraid of going back for re-initiation into ART due to defaulting
- Afraid of ARVs due to severe side effects
- Lack of HIV status disclosure due to stigma

Challenges: Patient-level on the ground cont.



- Distance from community to health facilities
- Substance treatment centers (Matrix Centers) are out of reach for some participants (particularly Black Africans)
- Lack of social support structure
- “ART adherence holidays“ particularly over the weekends when drinking
- Lack of diversity of treatment staff

Lessons learned from Cycles I & 2 from patients

- The WHC has taught women about HIV and STIs, the importance of ART initiation and adherence and empowered them to prevent violence and have greater personal agency
- Drug use and violence are still major problems in the communities
- Women need extra support navigating the health systems
- Case management is essential
- Child care and transportation are important factors related to clinic attendance
- The need for job creation and skills development may provide an important boost to positive outcomes

Social-ecological factors: Change cannot happen in isolation

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Thank You

Funding sources: Research reported is supported by R01AA014488; R01DA032061; R01AA022882; R21HD082866