Closing the Second 95 in KwaZulu-Natal

Retention and re-engagement in HIV care

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Disclosures & Disclaimer

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The views and opinions expressed in this presentation are my own and do not necessarily reflect those of Africa Health Research Institute or Massachusetts General Hospital.

Overview

1. **Where we stand:** the second 95 gap and how we measure it
2. **Why these gaps persist** : root cause analysis
3. **What works:** evidence to address barriers

Definitions

First 95: people living with HIV *know* their HIV status

Second 95: **people who know they are living with HIV are receiving ART**

Third 95: people *receiving ART* have achieved viral suppression

← **One time event**

Dynamic, changing with individuals' environment, resources, priorities

Where are we currently?

96%

FIRST 95

Know their HIV status

80%

SECOND 95

Diagnosed people on ART

≈ 1.1 million

97%

THIRD 95

On ART and virally suppressed
*caveat fewer VL done

KwaZulu-Natal:

80% males, 89% females on ART

276,131 additional people without ART

WHO South Africa. 2025 Annual Results Report, pp. 18–19

South Africa District HIV Estimates. Naomi model estimates for December 2025, calibrated to Thembisa 5.0, released 13 May 2026. KwaZulu-Natal provincial dat

Who are the key individuals?

KwaZulu-Natal | public + private ART sectors | December 2025								
	FEMALES				MALES			
Age group	Living with HIV	On ART	ART coverage	Gap: not on ART	Living with HIV	On ART	ART coverage	Gap: not on ART
0-4	2,621	1,130	43%	1,492	2,653	1,143	43%	1,510
5-9	4,720	2,914	62%	1,806	4,794	2,958	62%	1,836
10-14	9,718	7,540	78%	2,178	9,696	7,152	74%	2,544
15-19	30,856	19,160	62%	11,696	18,930	13,305	70%	5,625
20-24	66,122	46,310	70%	19,812	27,216	16,624	61%	10,592
25-29	113,207	94,977	84%	18,231	38,155	24,107	63%	14,048
30-34	175,578	156,795	89%	18,783	69,230	49,336	71%	19,894
35-39	218,623	200,473	92%	18,150	109,940	87,155	79%	22,785
40-44	217,626	201,519	93%	16,107	126,309	106,148	84%	20,160
45-49	167,495	155,568	93%	11,927	98,381	84,803	86%	13,578
50-54	119,930	111,265	93%	8,665	66,889	57,966	87%	8,923
55-59	80,273	74,223	92%	6,050	39,340	34,009	86%	5,331
60-64	53,873	49,695	92%	4,178	23,469	20,154	86%	3,315
65-69	29,217	26,891	92%	2,326	12,466	10,634	85%	1,832
70-74	12,898	11,843	92%	1,055	5,597	4,744	85%	853
75+	5,467	5,036	92%	431	2,629	2,211	84%	418
All ages	**1,308,223**	**1,165,337**	**89%**	**142,886**	**655,693**	**522,449**	**80%**	**133,245**

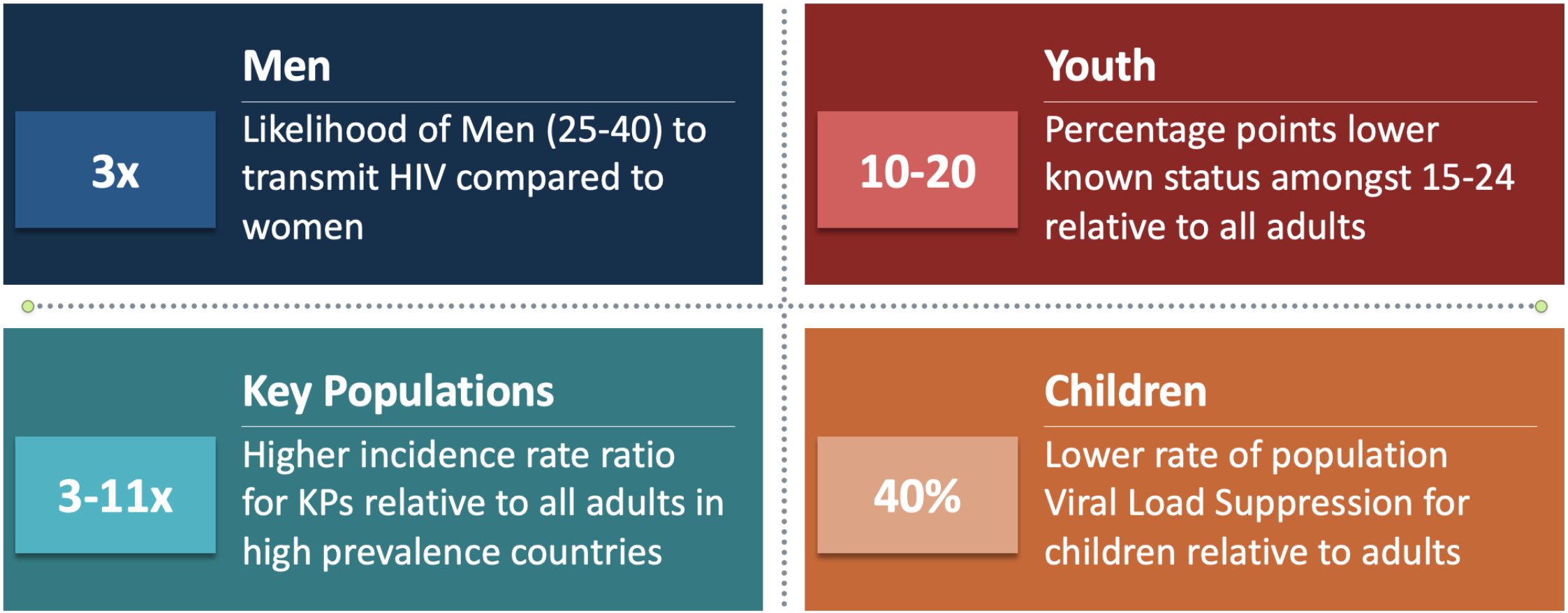
South Africa District HIV Estimates. Naomi model estimates for December 2025, calibrated to Thembisa 5.0, released 13 May 2026. KwaZulu-Natal provincial dat

Children, young adults, men up to age 40 years

KwaZulu-Natal – Public + private ART sectors | December 2025								
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South Africa District HIV Estimates. Naomi model estimates for December 2025, calibrated to Thembisa 5.0, released 13 May 2026. KwaZulu-Natal provincial dat

Populations at greatest risk for not achieving second 95

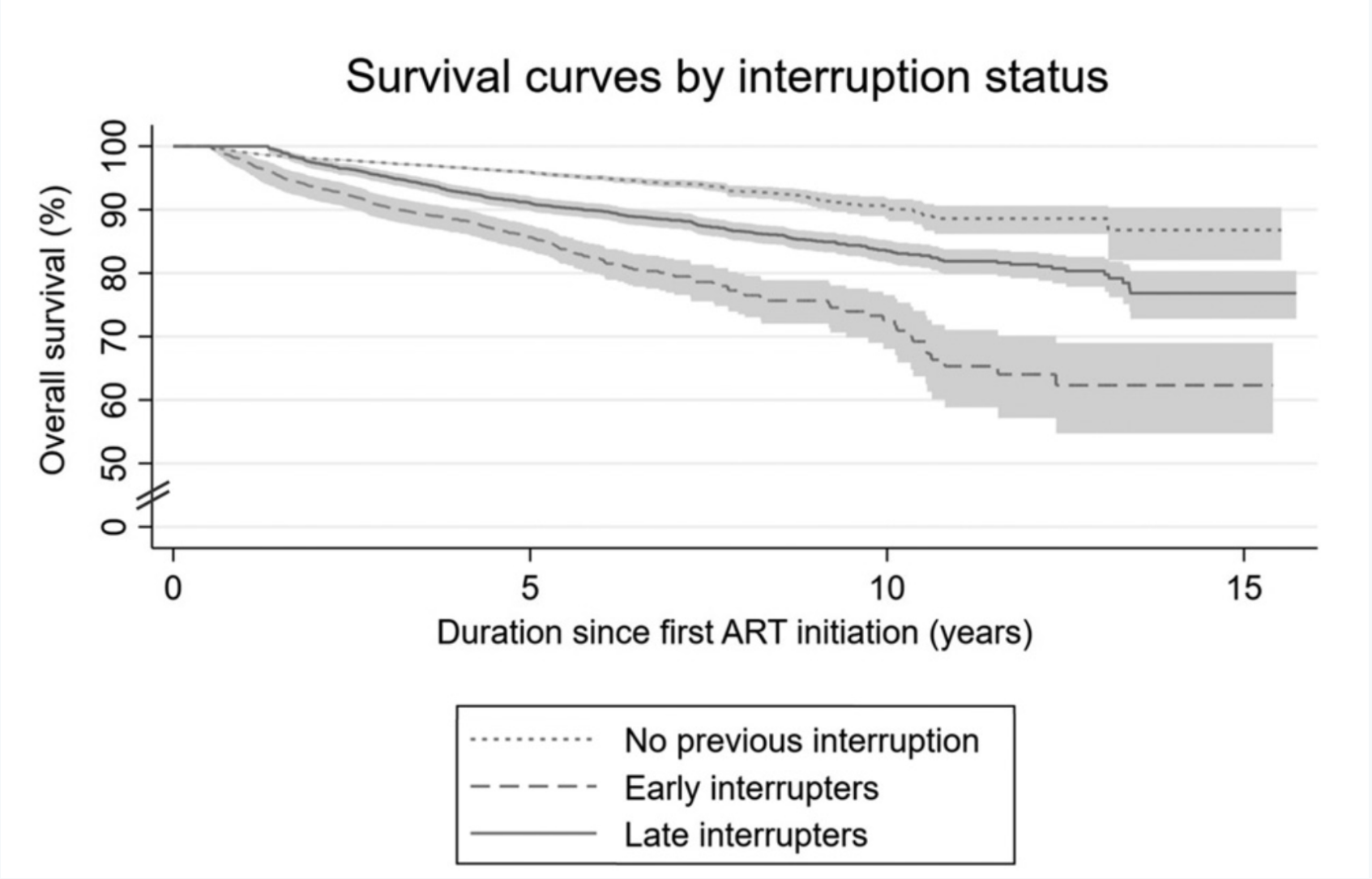


Reid, Mike “Perspectives from PEPFAR” HIV Infectious Diseases and Global Health Implementation Research Institute (HIGH IRI) Conference. October 2024. St. Louis

Korenromp EL,et al. New HIV Infections Among Key Populations and Their Partners in 2010 and 2022, by World Region: A Multisources Estimation. J Acquir Immune Defic Syndr. 2024 Jan 1;95(1S):e34-e45. doi: 10.1097/QAI.0000000000003340. Epub 2024 Jan 4. PMID: 38180737

What are the consequences?

1) Higher mortality for the individuals who interrupt ART



4.4×

HR (95% CI 3.87-4.95)

Early interrupters vs no interruption

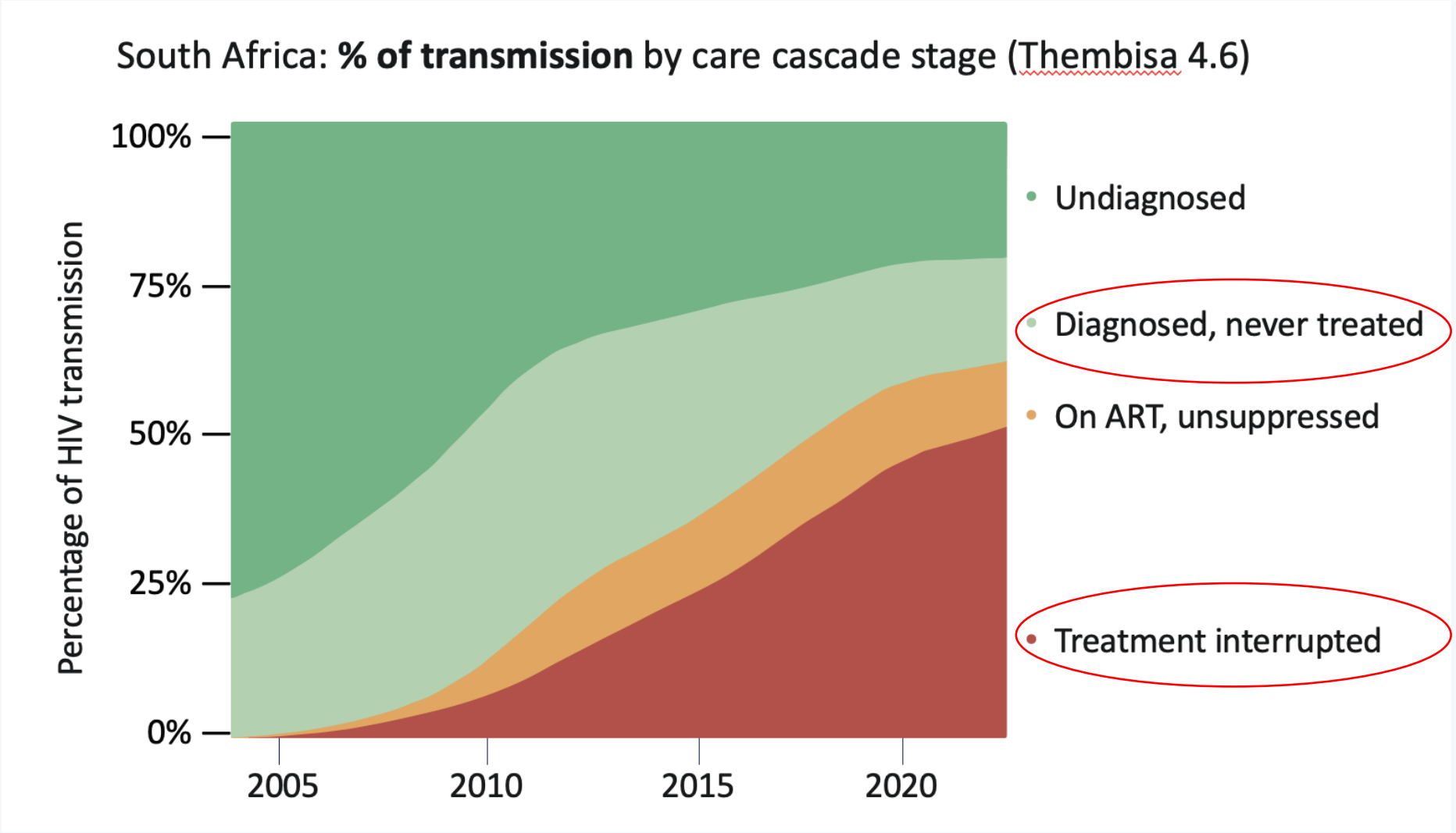
2.7×

HR (95% CI 2.39-3.15)

Late interrupters vs no interruption

Moolla H et al. AIDS. 2024;38. PMID 38814712.

2) At a population level, HIV transmission is predominantly from those not meeting the second 95



Reid, Mike "Perspectives from PEPFAR" HIV Infectious Diseases and Global Health Implementation Research Institute (HIGH IRI) Conference. October 2024. St. Louis

Korenromp EL,et al. New HIV Infections Among Key Populations and Their Partners in 2010 and 2022, by World Region: A Multisources Estimation. J Acquir Immune Defic Syndr. 2024 Jan 1;95(1S):e34-e45. doi: 10.1097/QAI.0000000000003340. Epub 2024 Jan 4. PMID: 38180737

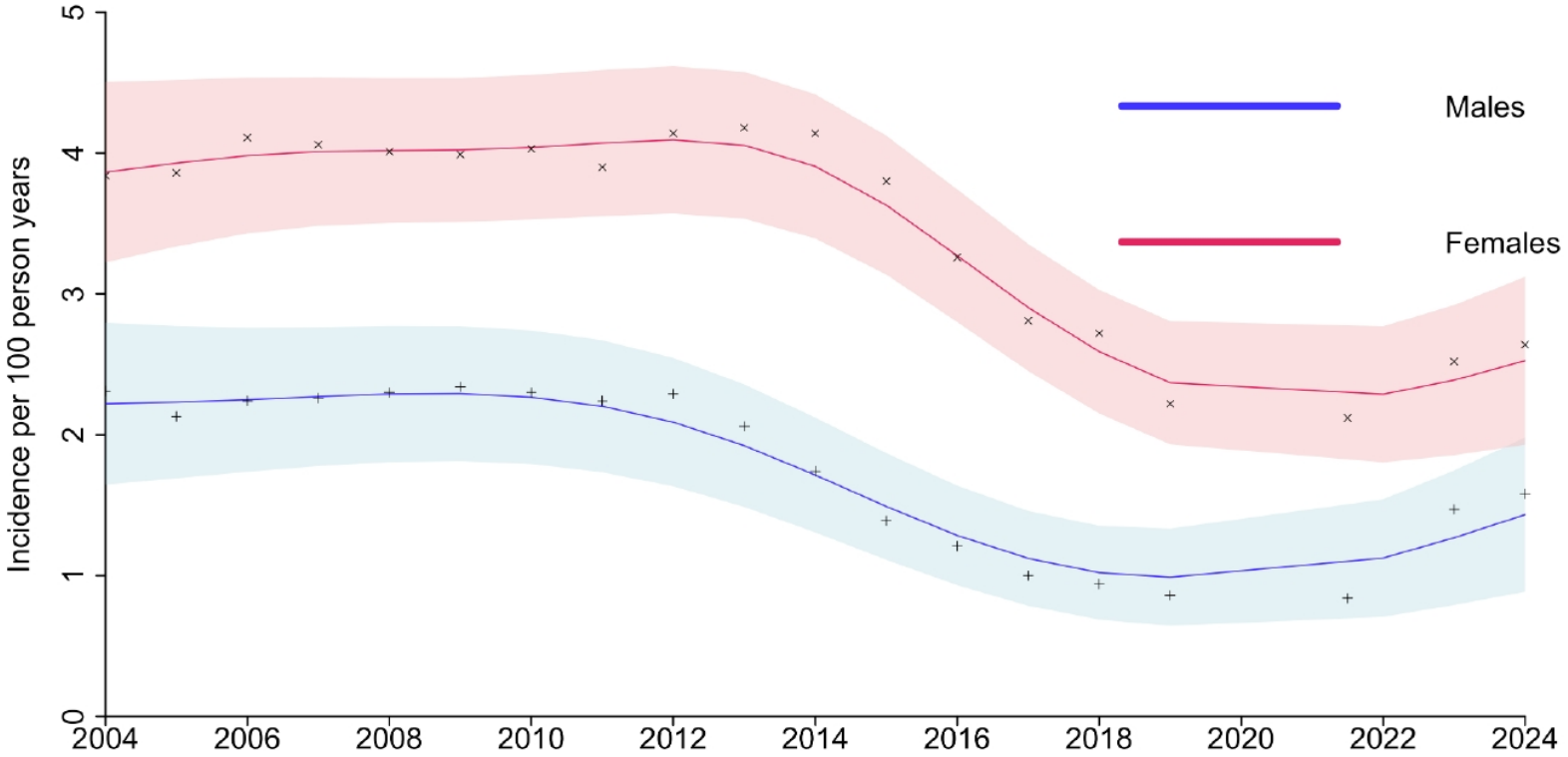
AHRI’s Health & Demographic Surveillance System

These data **do not** necessarily reflect people who attend clinics, which means we can see epidemic trends that may not be visible in routine facility data



In rural KwaZulu-Natal, HIV incidence is rising for the first time in decades

Based on 4,668 seroconversions and 166,871 person-years among repeat testers ages 15-54

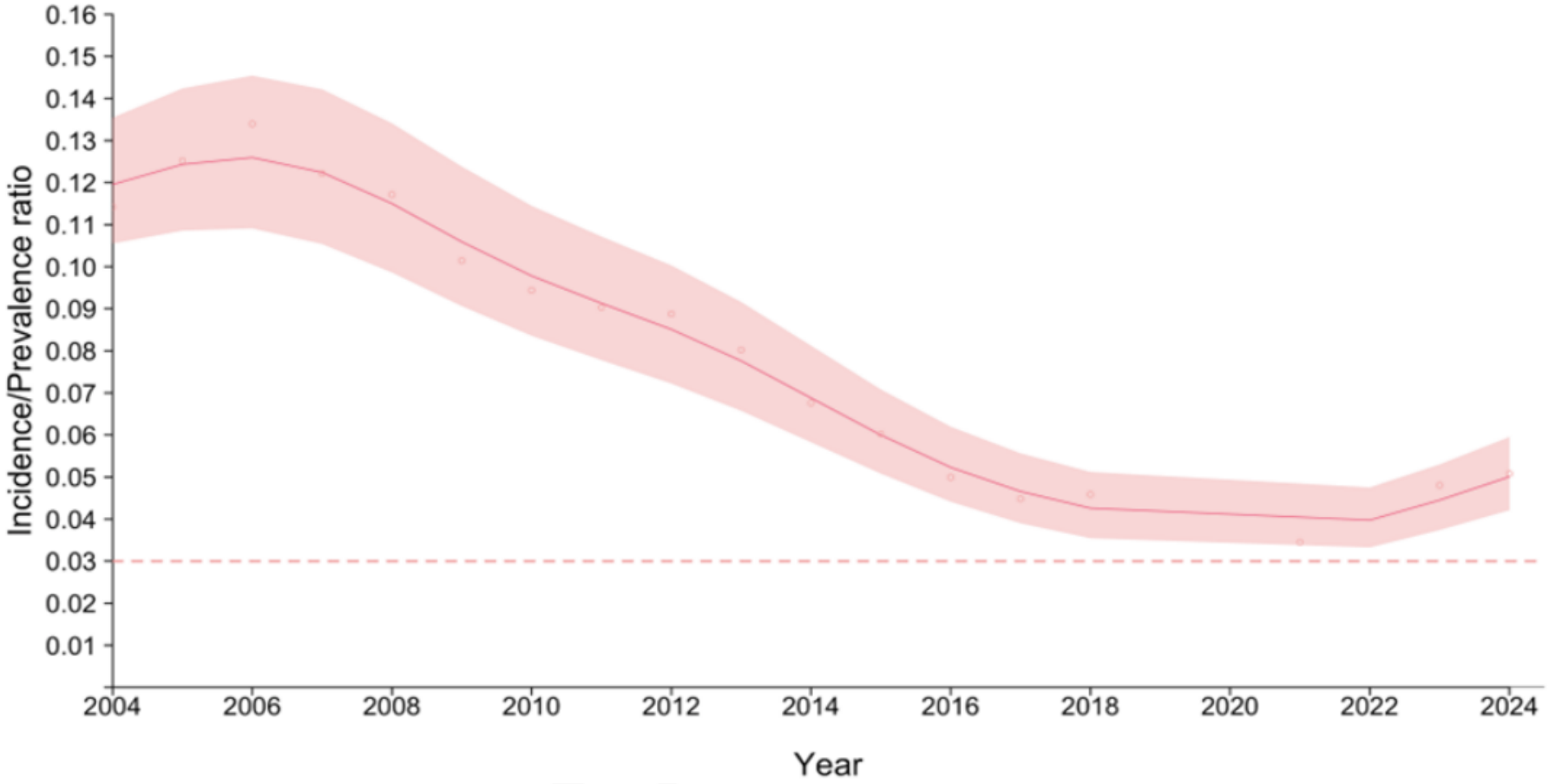


+0.72
per 100 PY, 2019-2024
Male incidence change

+0.42
per 100 PY, 2019-2024
Female incidence change

Okango E et al. The Lancet HIV 2026

The epidemic-control signal is moving in the wrong direction



0.051

Incidence to prevalence ratio in 2024

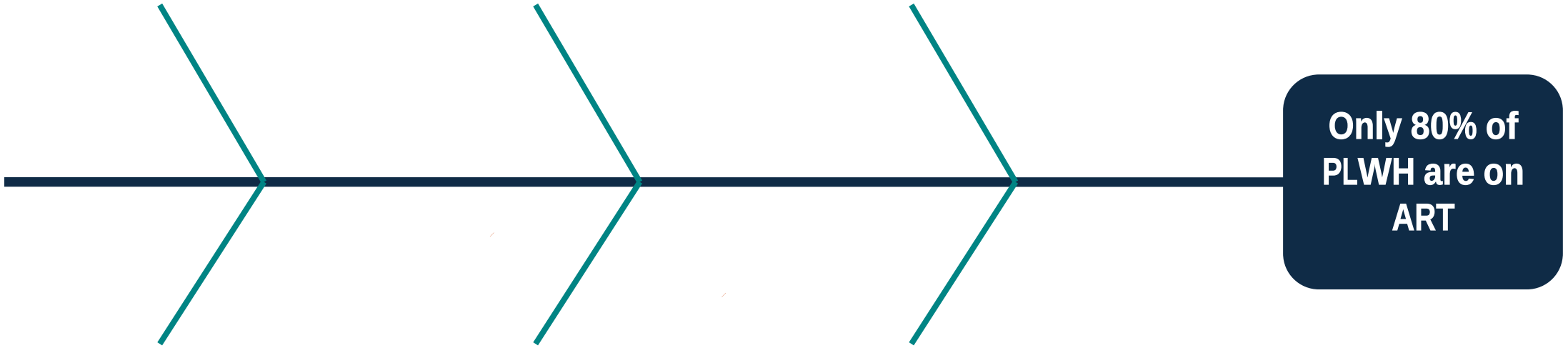
0.030

Benchmark

Okango E et al. The Lancet HIV 2026

Root cause analysis

Root Cause Analysis: structured, systematic problem-solving method



Contributing factors across individual, interpersonal, structural and health system levels

JIAS JOURNAL OF THE INTERNATIONAL AIDS SOCIETY Open Access

J Int AIDS Soc. 2024 Mar 17;27(3):e26230. doi: 10.1002/jia2.26230

Reasons for disengagement from antiretroviral care in the era of "Treat All" in low- or middle-income countries: a systematic review

Rachael M Burke [1,2], Hannah M Rickman [1,2], Clarice Pinto [3], Peter Ehrenkranz [4], Augustine Choko [2,5], Nathan Ford [3,6,✉]

HEALTH SYSTEMS TRUST

A rapid assessment of HIV and TB patients' reasons for missed clinical appointments in four districts in KwaZulu-Natal, South Africa



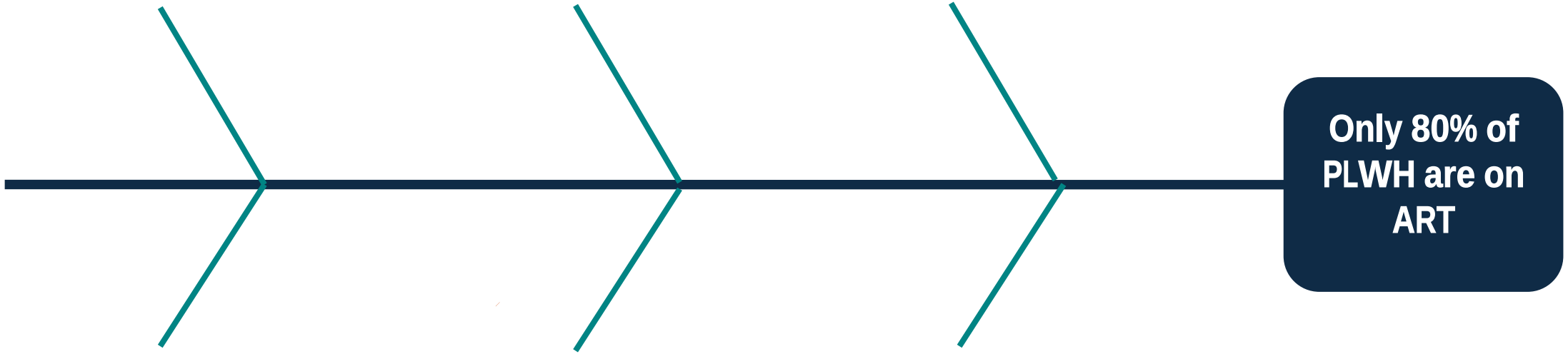
Root cause analysis

Health system factors

Queues, inflexible clinic hours, transfer letter barriers, lab results lost, negative staff interactions

"You sit there opening your eyes wide, waiting and waiting, and you are not told where you are in the process…I am disgusted by that line at the clinic."

"The fact that on weekends they only work for emergencies is a big problem, because if you work during the week and you hope to go to the clinic on the weekend, you can't get proper help."



"You *find that you go to the clinic* and… *the nurses are in a bad mood, and you do not get your pills and you leave. The whole month passes and you are now left empty* handed."

"*Tier.net does not accept a patient without information which is on a transfer* letter."

Castle et al, manuscript under review
Sithole et al., AIDS Behav 2025
Burke et al. J Int AIDS Soc. 2024

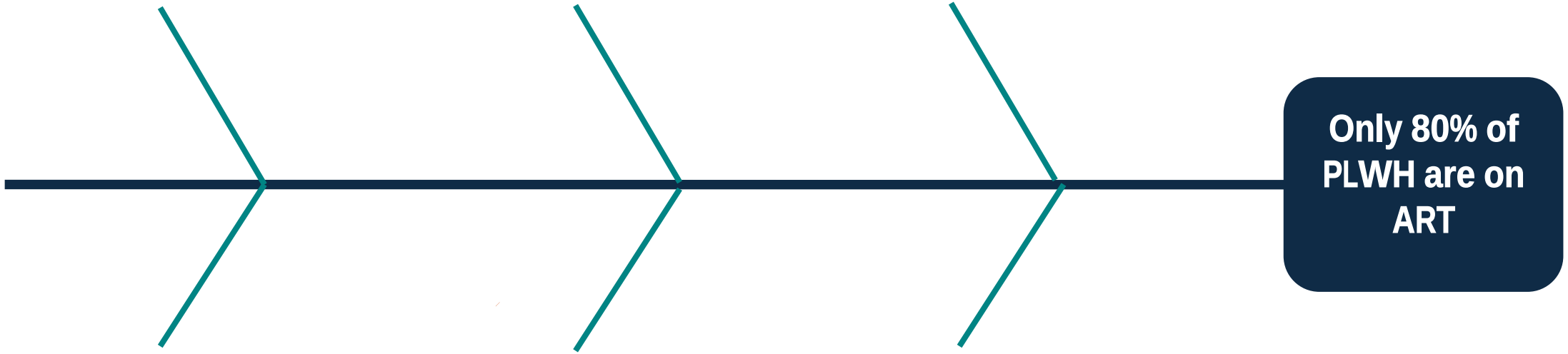
Root cause analysis

Health system factors

Queues, inflexible clinic hours, transfer letter barriers, lab results lost, negative staff interactions

"People *flirt with girls in the area... so now* I'm scared *that the person I am flirting with will see me going to a* clinic"

" 'Ah, *where are you* going?' I'm *going to the* clinic… 'Ey, you're *going to collect* treatment.' There's *nothing else. A man* can't *just say, no, I have stomach pain or a* headache…. You're *going to collect treatment, they say you have the* '3 line' *[HIV].*



Stigma

Disclosure, confidentiality, anticipated or enacted stigma

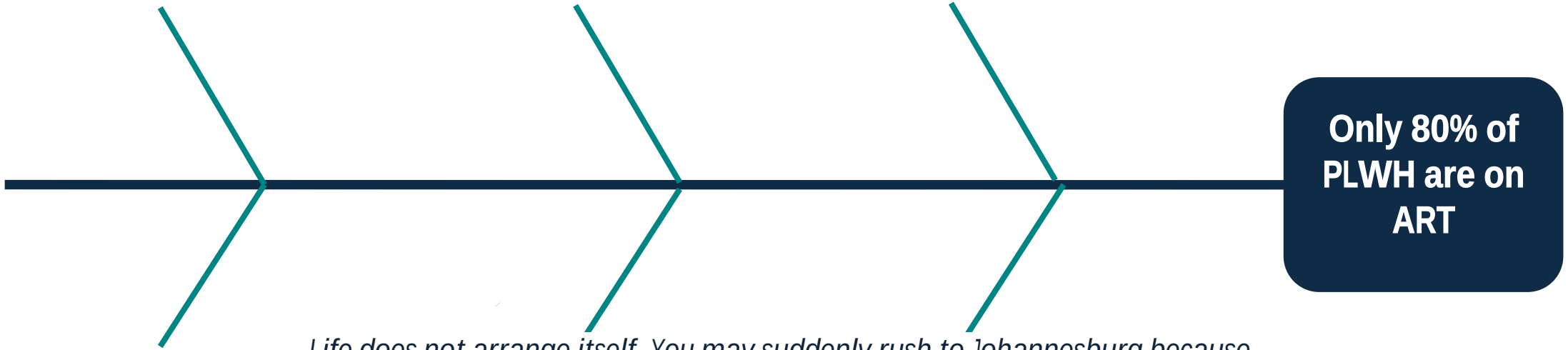
"It's not like people fear dying from HIV, they are scared of taking pills, if we speak the truth."

"The problem comes when you go inside among people, and you find someone who knows you…the *file you carry is one kind of* color…that *is what marks you."*

Castle et al, manuscript under review

Burke et al. J Int AIDS Soc. 2024;27:e26230. doi:10.1002/jia2.26230 .

Root cause analysis



Health system factors

Queues, inflexible clinic hours, transfer letter barriers, lab results lost, negative staff interactions

Life disruptions

Migration/relocation for work, family/care giving responsibilities, unexpected events

30% of 562 ART returners reported mobility as a reason for disengagement, 10% reported work reasons

Stigma

Disclosure, confidentiality, anticipated or enacted stigma

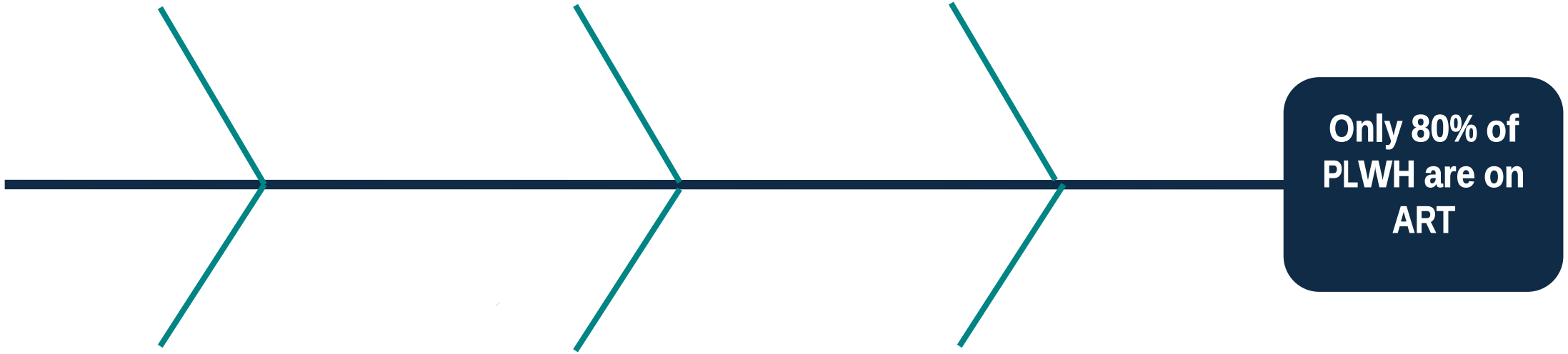
Life does not arrange itself. You may suddenly rush to Johannesburg because someone has been shot, or someone is stabbed, and as the elder you must fetch your child or your relative…Then they say you have missed your date, and that you do not care for your health. When you return, you are scolded for not coming at your time, and you are told you must wait because your date has passed…You see how painful that is?"

Bisnauth et al., PLOS ONE 2021

Castle et al, manuscript under review

Burke et al. J Int AIDS Soc. 2024;27:e26230. doi:10.1002/jia2.26230 .

Root cause analysis



Health system factors
Queues, inflexible clinic hours, transfer letter barriers, lab results lost, negative staff interactions

Life disruptions
Migration/relocation for work, family/care giving responsibilities, unexpected events

Clinical reasons
Medication side effects, pill burden, lack of perceived benefit ART

Only 80% of PLWH are on ART

Stigma
Disclosure, confidentiality, anticipated or enacted stigma

Economic pressures
Transport costs, lost wages, food insecurity

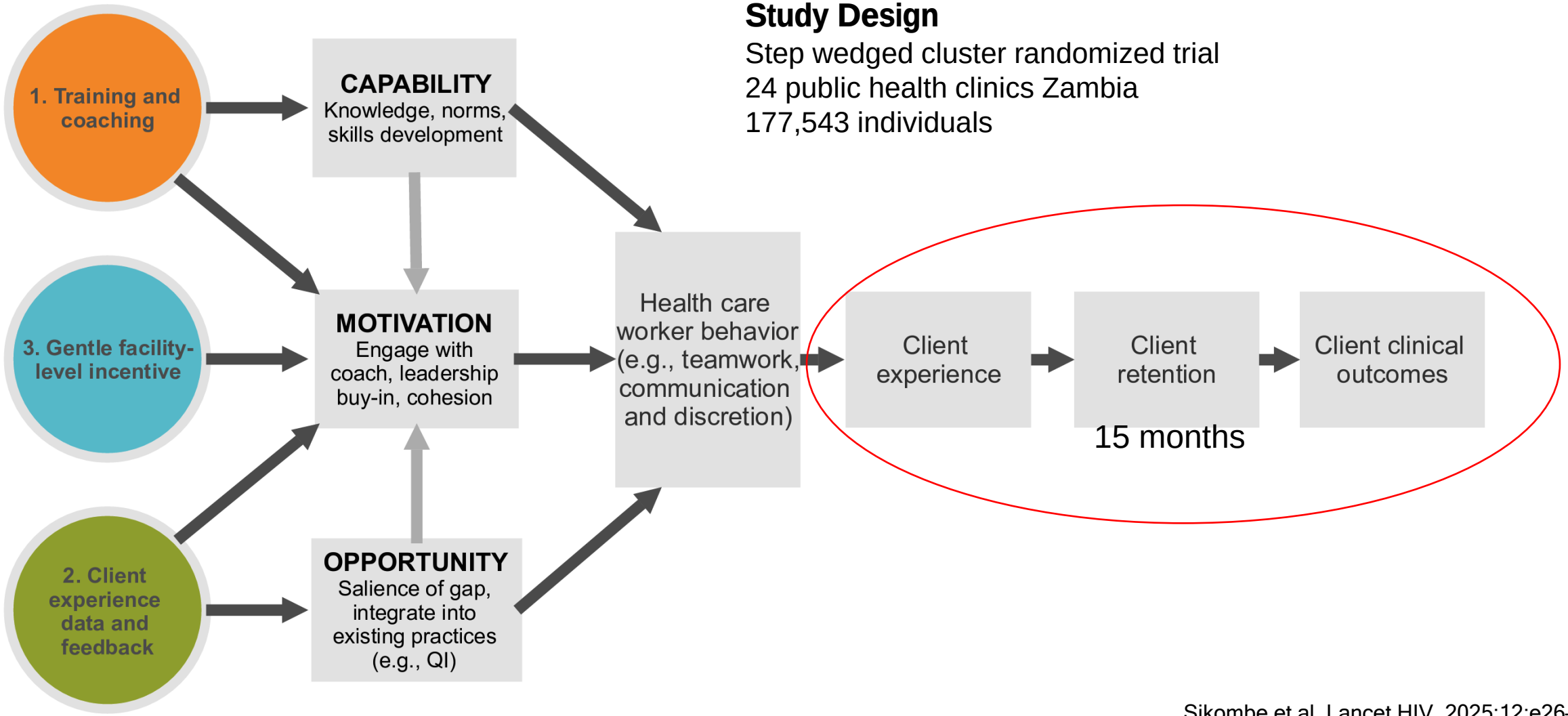
Psychosocial factors
Substance use, mental health, treatment fatigue, lack of family support

Burke et al. J Int AIDS Soc. 2024;27:e26230. doi:10.1002/jia2.26230 .

Evidence supported interventions

1. Person-centered care intervention targeting healthcare workers

Barrier: negative healthcare worker interactions



Study Design

Step wedged cluster randomized trial
24 public health clinics Zambia
177,543 individuals

Sikombe et al. Lancet HIV. 2025;12:e26-e39

Audit and feedback (Behavioral Change Method)

Patient Experience

Legend:
Best
Good
Medium
Low

Questions to Patients	Percent Patients		Current Period Rank Among Facilities
	Previous Period	Current Period	1 - 8 (target = 1)
Were you happy about the care that you received?*	81%	98%	3
Did your care provider listen to what you said?*	97%	97%	3

Questions to Patients	Percent Patients		Current Period Rank Among Facilities
	Previous Period	Current Period	1 - 8 (target = 1)
I witnessed care providers behaving rudely during my visit.*	20%	9%	1
Spent more than 4 hours at the clinic	19%	19%	2
Difficult to attend next appointment	12%	10%	1
Unable to pick-up medicine	0%	0%	1
Were lab results lost?	50%	26%	6

OVERALL = 90%

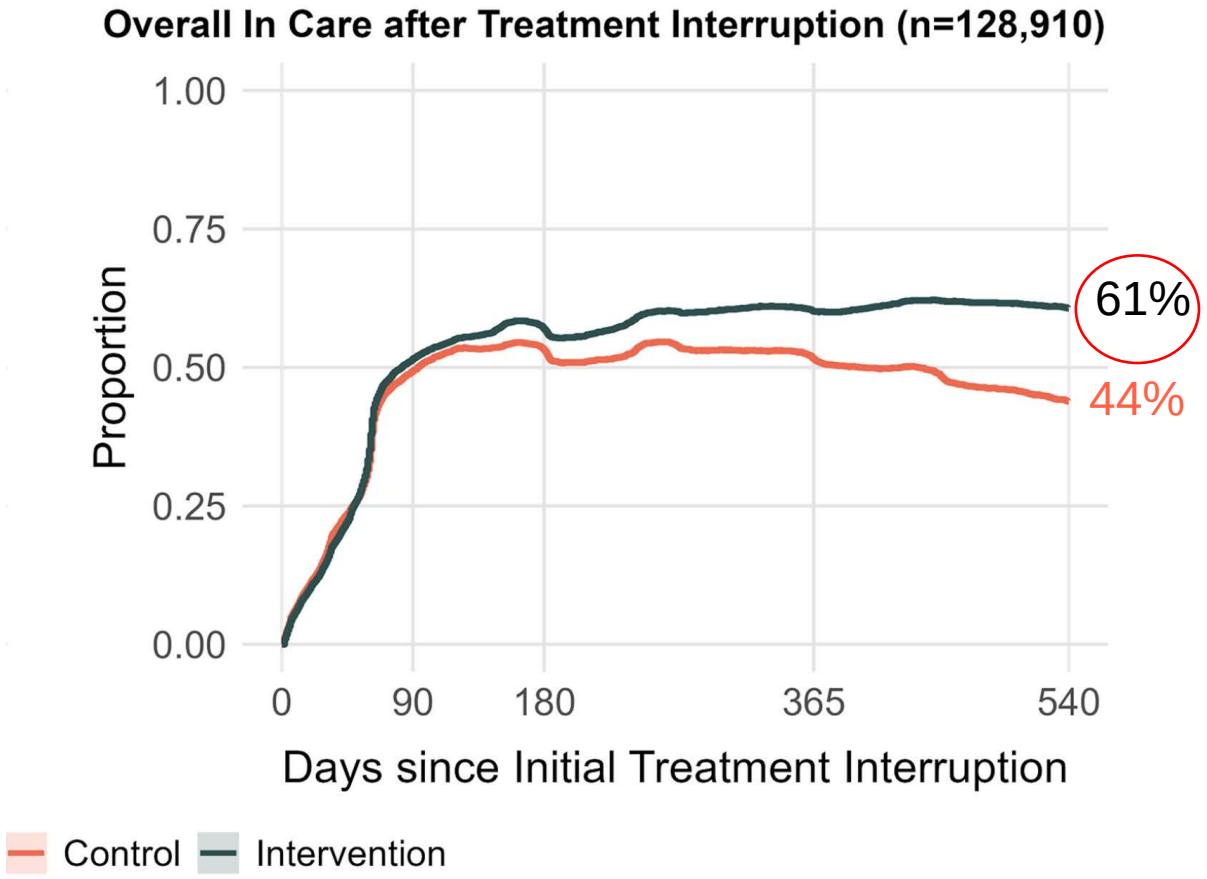
Sikombe et al. Lancet HIV. 2025;12:e26-e39

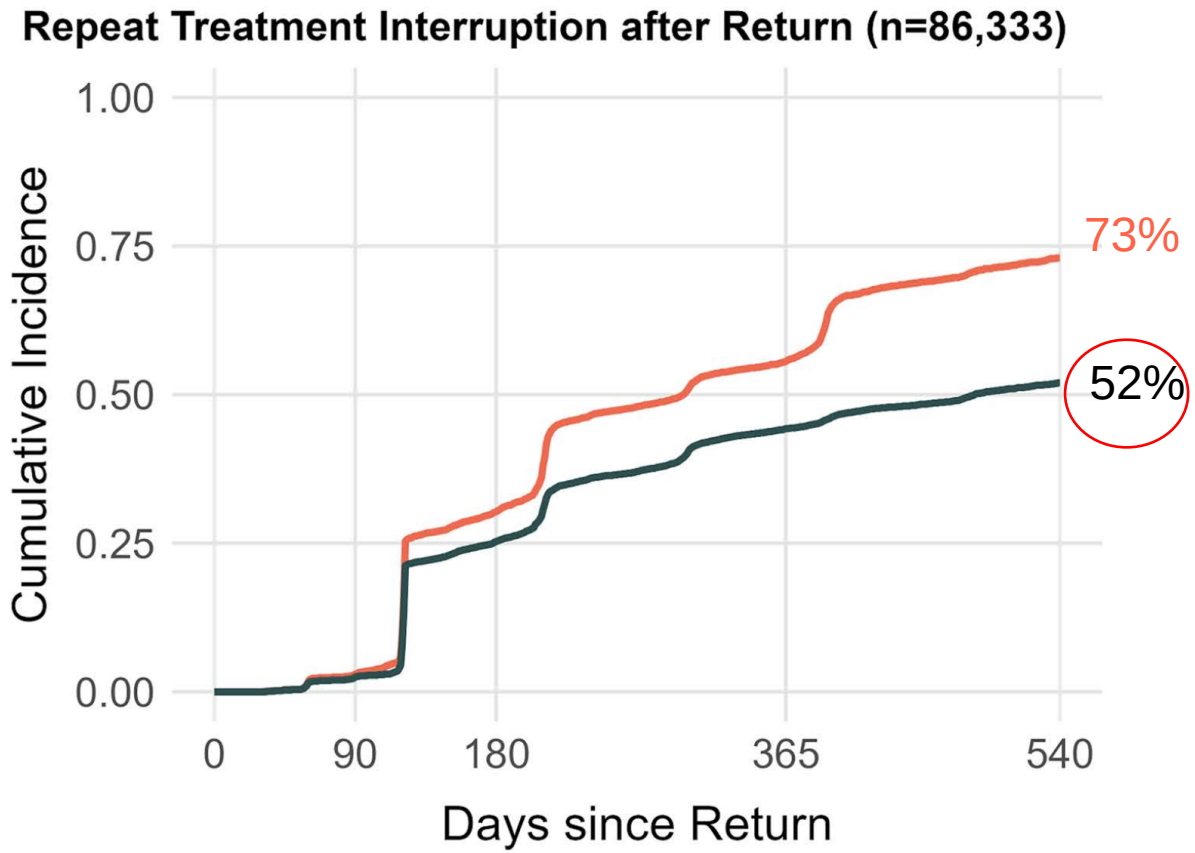
Person-centered care intervention improved both experience and retention

	Control	Intervention
Poor care experience	23.3%	3.5%
Missed appointments	25.3%	21.5%
Retained at 15 months	80.2%	83.6%

Sikombe et al. Lancet HIV. 2025;12:e26-e39

What about for patients who experience treatment interruptions?





Mody et al. PLOS Med. 2026;23:e1005052

When implemented well, person-centered care can improve retention following treatment interruption and reduce the risk of subsequent interruptions

Sikombe et al. Lancet HIV. 2025;12:e26-e39
Mody et al. PLOS Med. 2026;23:e1005052

2. Making HIV care portable for mobile persons

Barrier: mobility, unexpected life events

Study Design

Individual randomized clinical trial

Kenya and Uganda

201 mobile individuals with *uncontrolled* HIV

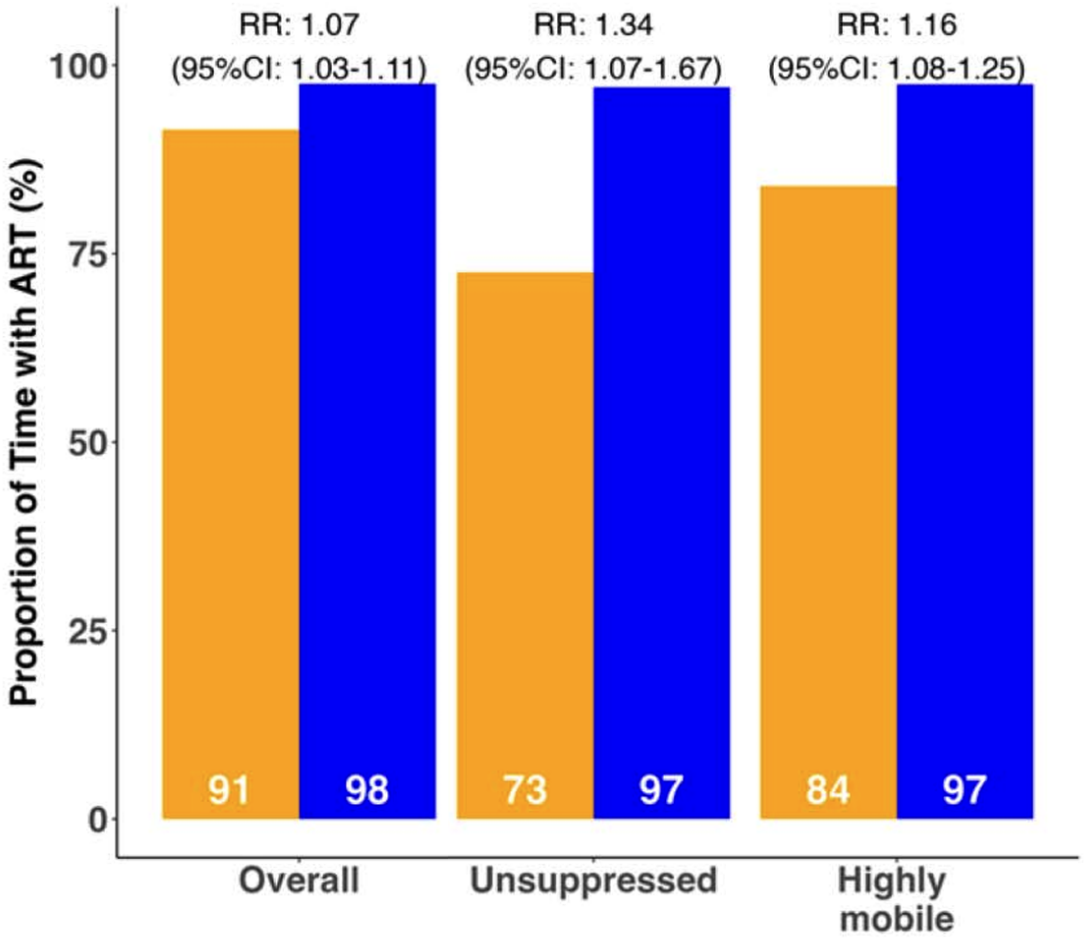
Intervention

1. **Emergency ART travel pack**
   14-days ART, unmarked handbag (women) wallet (men), discrete packaging
2. **Flexible ART refills**
   Up to 6-months of ART
3. **Facilitated clinic transfers with mobility coordinator**
   Help accessing clinics outside the home community

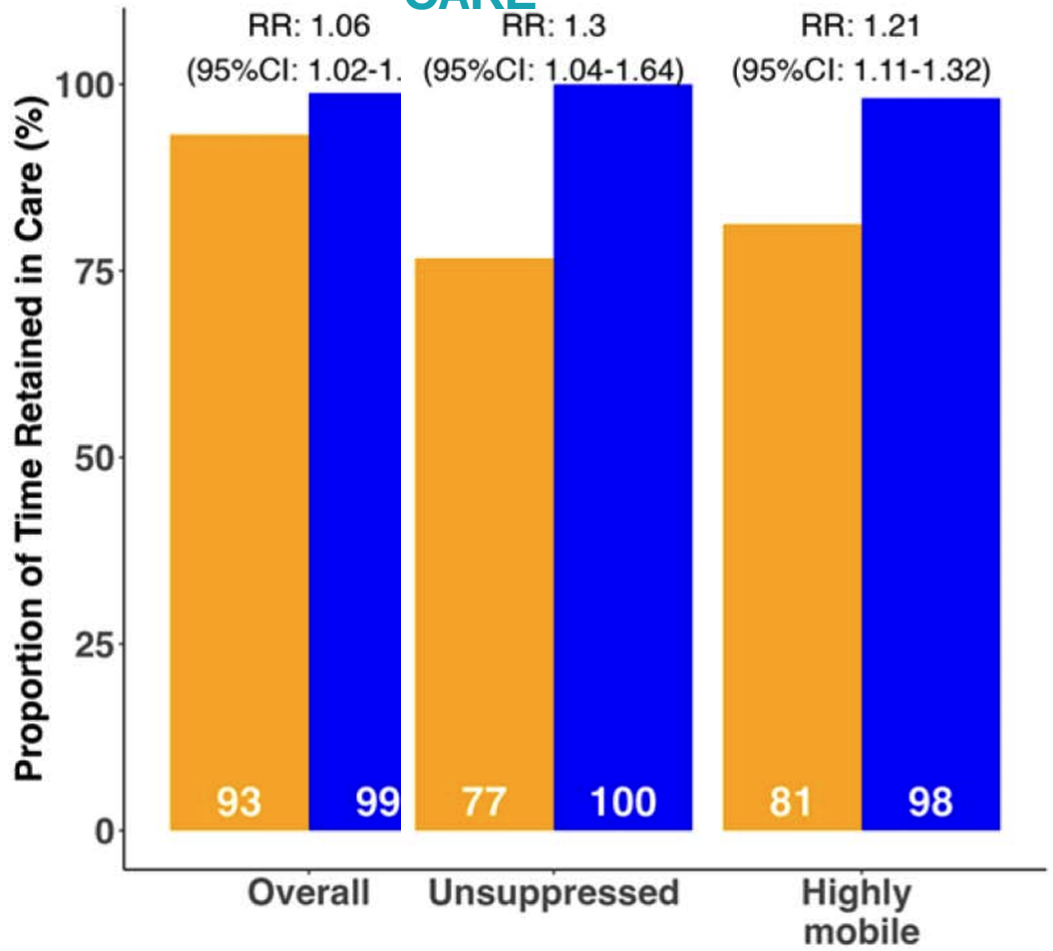
Ayieko J, et al. J Acquir Immune Defic Syndr. 2024;95(1):74-81.

Mobility-adapted care improves ART possession and retention, especially among highly mobile and unsuppressed patients

ART POSSESSION



RETENTION IN CARE



Ayieko J, et al. J Acquir Immune Defic Syndr. 2024;95(1):74-81.

What aspects of the multi-component intervention were most valuable?

Intervention

1. **Emergency ART travel pack**
   14-days ART, unmarked handbag (women) wallet (men), discrete packaging

2. **Flexible ART refills**
   Up to 6-months of ART

3. **Facilitated clinic transfers with mobility coordinator**
   Help accessing clinics outside the home community

Most preferred

Longer wait times between refills allowed participants to concentrate on adherence as opposed to managing clinic appts in the context of uncertain mobility

Johnson-Peretz et al. PLoS One 2026

Transfer letters are no longer required by National SA guidelines, so why do transfers still disrupt care?

WHAT THE 202 IDELINES SAY

FULL ART supply
presentation

No patient shou
a transfer letter.

NDoH 2026, p. 38

ING IN KZN INTERVIEWS

expectations about

ncealment of prior

t al. av 2025

Discuss transfers and expectations with patients early before they are in this situation

3. Community ART delivery with fewer visits maintains high retention

Barriers: Long queues, transport costs, unexpected life events, stigma and visibility of entering facility

Study Design
Randomized clinical trial three arms of follow up
30 Zimbabwe facilities
4,800 clinically stable adults



Fatti et al, JAIDS 2020

Addressing cost: a benefit for health systems and for patients

3-month facility

$187

Provider / year

Patient: $10.03

3-month community

$178

Provider / year

Patient: $5.12

6-month community

$167

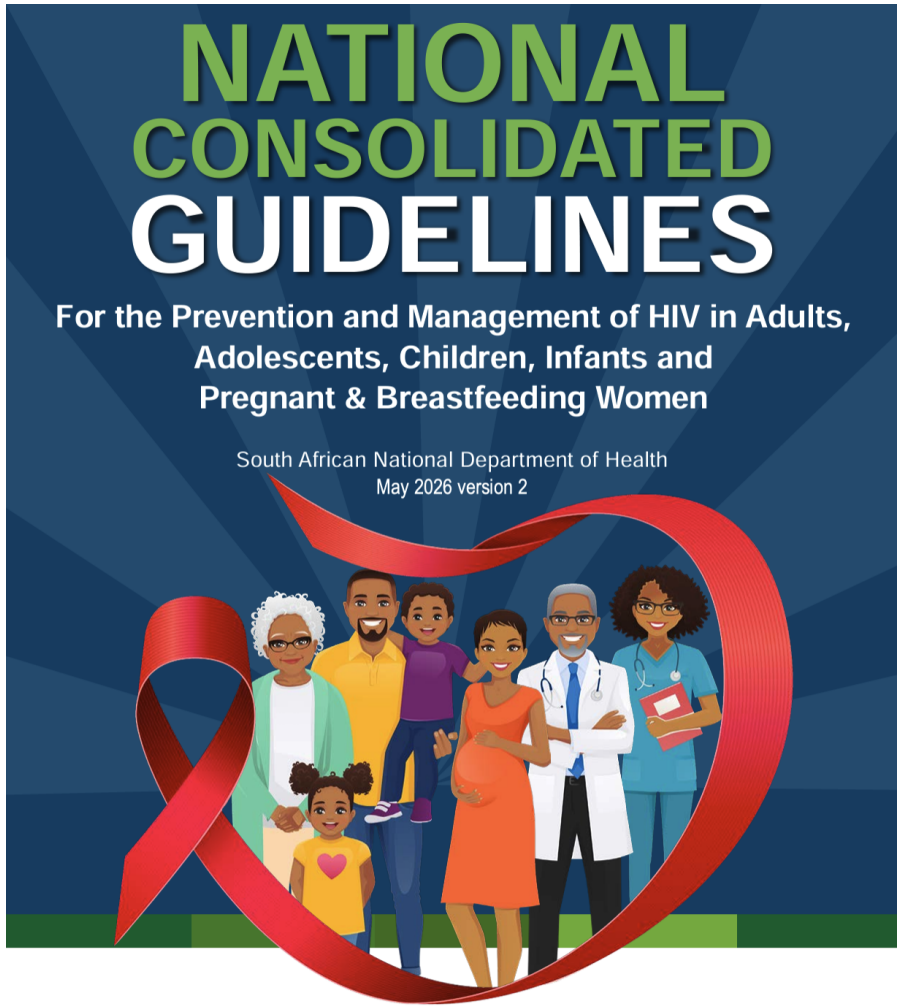
Provider / year

Patient: $4.40

***** Caveat: viral load monitoring was less for those in the 6-month community group**

Bango et al., PLOS Global Public Health, 2023.

6-month supply is now in the 2026 SA guidelines, but it can only be dispensed at the facility and for very stable patients



health
Department:
Health
REPUBLIC OF SOUTH AFRICA

2030 NDP

Who qualifies

- Undetectable VL on TLD for at least 12 mon.

Why it has to be the facility

- Scripts must be renewed by a clinician every 6 months

Should we be reconsidering this guideline for mobile patients?

South African National Department of Health. National Consolidated HIV Guidelines. Version 2, 2026.

4. How can we better engage young people?

Barriers: disclosure, psychosocial factors

Study Design

Cluster-randomized trial in Kenya and Uganda

28 rural HIV clinics

1,988 Young people (15-24 years) living with HIV

INTERVENTION

Component	Content	Frequency
Life Stage Assessment Tool	Checklist-driven structured evaluation of life issues to guide the discussion that starts each visit, including employment or educational status, major life events, social support systems, behaviours (e.g alcohol use), and HIV-disclosure status.	At every routine visit, at least twice annually
Alternative Clinic Access	Before or after hours, off site, or by telephone.	As needed at the end of each visit to address barriers
Rapid Viral Load Feedback	Provided to participant as soon as possible, with target <72 hours	At least twice annually, and more frequent if need for follow up

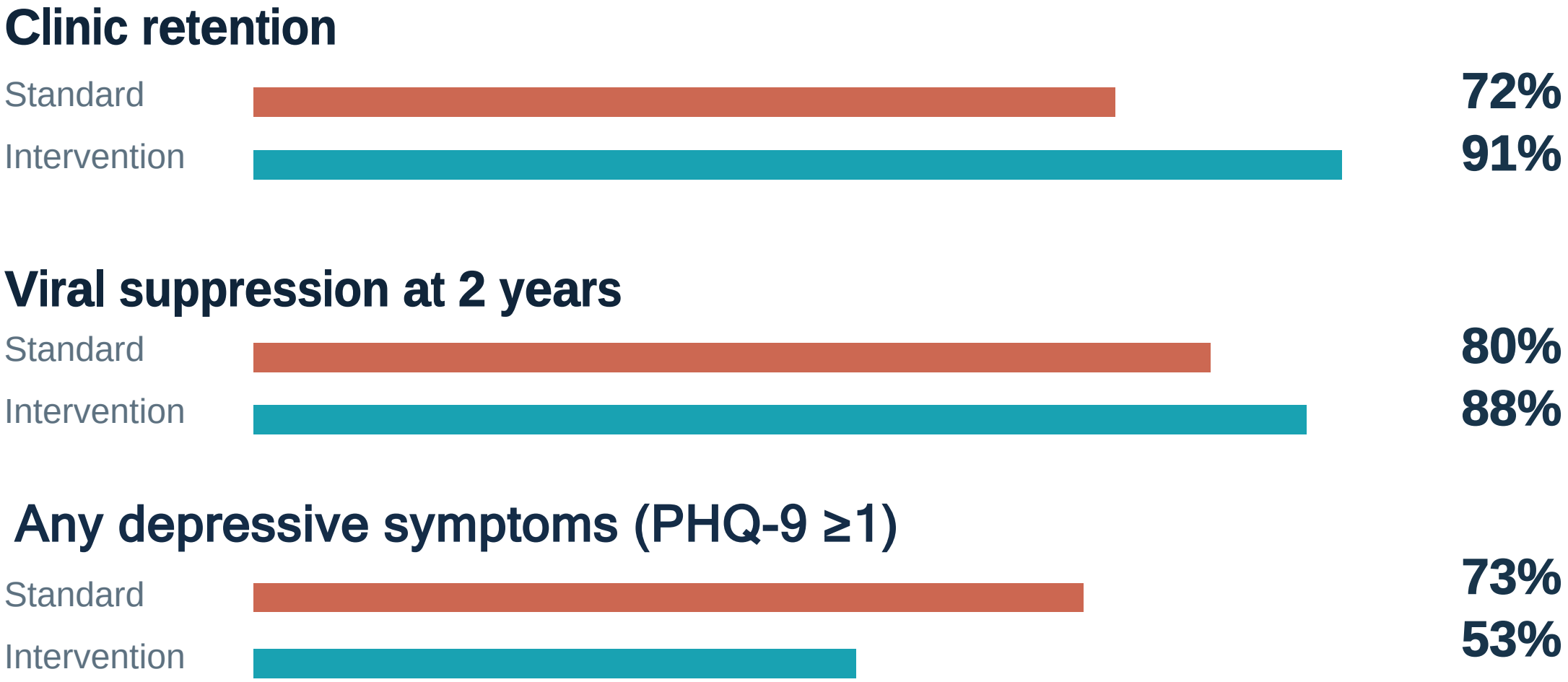
Ruel TD, et al. Lancet HIV. 2023;10:e518-e527.

Location of Visit	□ Clinic □ Offsite □ Phone If clinic, peer navigator is in clinic today: □ Yes □ No

	Assessment		*Action*
Life Stage	**School or work**	Support and Disclosures	**Do you feel supported by people around you?** □ Yes □ No Who are supportive persons? □ Parent/Guardian □ Partner □ Friend □ Other: _____ *Feeling lonely or isolated? Describe key details below.* _____ _____ _____ _____	□ Discussed sources of support □ Referred for peer support linkage □ Other _____
	Relationships:			
	Additional deta _____ _____ _____ _____			
Life Events	**Any major life** □ Start or stop s □ Divorce, sepa □ Family death □ Birth or pregn *Describe key de* _____ _____ _____ _____		**Does anyone ever hurt or threaten you?** □ Yes □ No If yes, who? □ Parent/Guardian □ Partner □ Other: _____ **Do you feel pressured to have sexual activity?** □ Yes □ No If so, who pressures you? _____ *Describe key details below.* _____ _____ _____	□ Actions _____
			Completed and desired HIV disclosures: **Family?** □ 1 or more members □ No family members **Partner?** □ 1 or more partners □ No partners **Friends?** □ 1 or more friends □ No friends **Other disclosures?** *Describe*: _____ _____ _____ _____	□ Discussed disclosure challenges and benefits □ Scheduled facilitated disclosure appointment □ Other _____

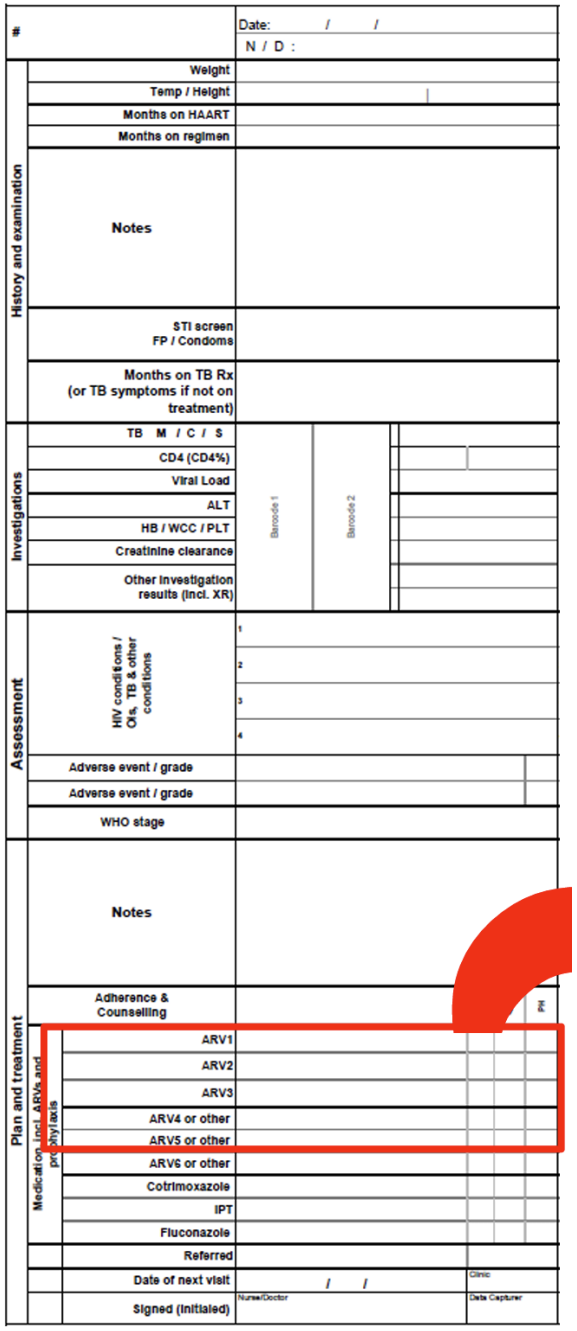
Ruel TD, et al. Lancet HIV. 2023;10:e518-e527.

Life stage assessment with response and referral at every visit for youth



Ruel TD, et al. Lancet HIV. 2023;10:e518-e527.
Mwangwa F, et al. Trop Med Infect Dis. 2025;10:55

Structured forms focused on clinical outcomes already exist



#		Date: / / N / D :
History and examination	Weight	
	Temp / Height	
	Months on HAART	
	Months on regimen	
	Notes	
	STI screen FP / Condoms	
	Months on TB Rx (or TB symptoms if not on treatment)	
Investigations	TB M / C / S	Barcode 1 / Barcode 2
	CD4 (CD4%)	
	Viral Load	
	ALT	
	HB / WCC / PLT	
	Creatinine clearance	
	Other investigation results (incl. XR)	
Assessment	HIV conditions / OIs, TB & other conditions	1 2 3 4
	Adverse event / grade	
	Adverse event / grade	
	WHO stage	
Plan and treatment	Notes	
	Adherence & Counselling	
Medication incl. ARVs and prophylaxis	ARV1	
	ARV2	
	ARV3	
	ARV4 or other	
	ARV5 or other	
	ARV6 or other	
	Cotrimoxazole	
	IPT	
	Fluconazole	
	Referred	
	Date of next visit	/ / Clinic
	Signed (initialed)	Nurse/Doctor / Data Capturer

Young people are a priority.

Why not integrate structured life-stage assessments for all youth at every visit?

Ruel TD, et al. Lancet HIV. 2023;10:e518-e527.
Mwangwa F, et al. Trop Med Infect Dis. 2025;10:55

5. How do we reduce stigma?

(not just *reduce exposure* by making care discrete)

Social norms theory

People often overestimate how much others disapprove or stigmatize HIV (pluralistic ignorance)

Williams et al, AIDSBehav 2024

Diffusion of Innovations (Opinion Leaders)

People take cues from trusted leaders and peers

Feyissa et al, PLoS One 2019

Behavioral science

Contact Hypothesis

Positive interaction with people living with HIV can reduce fear and stereotypes

Feyissa et al, PLoS One 2019

Social support theory

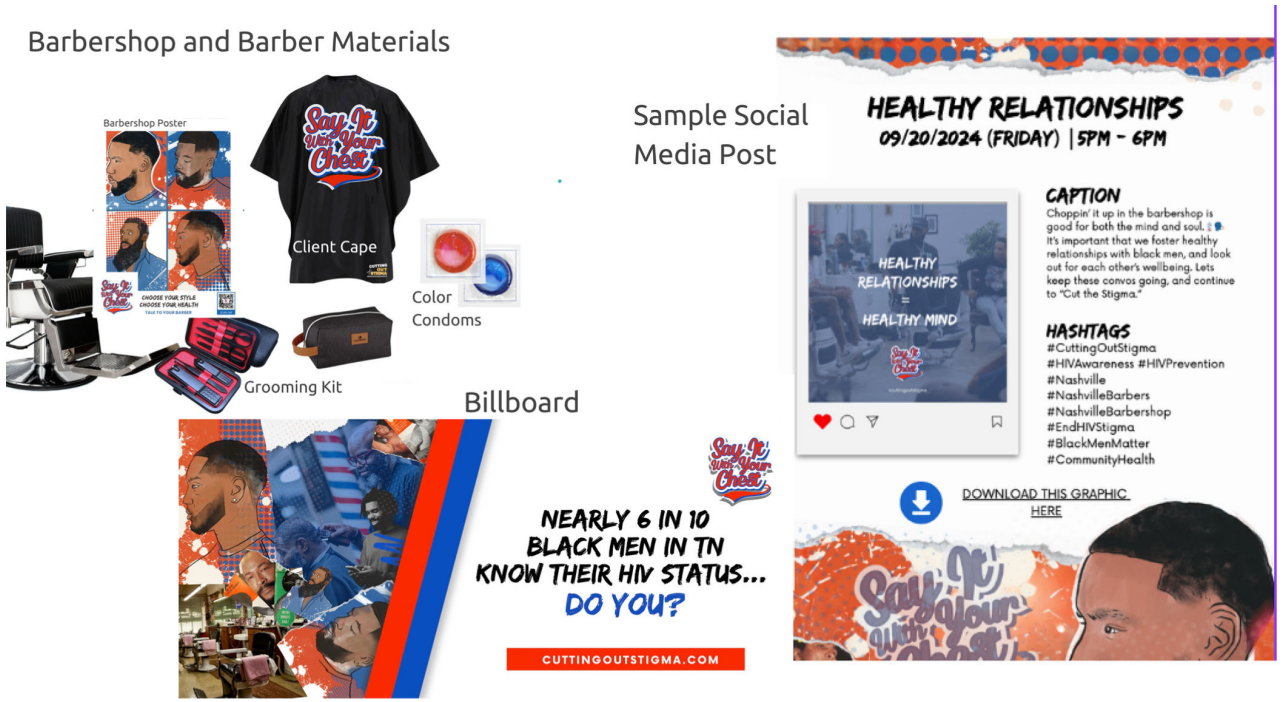
Peer relationships can buffer the psychological impact of stigma, reduce isolation and strengthen resilience

Nardell et al, PLoS One 2023

Opinion leaders

Cutting Out Stigma: Findings From a Pilot Implementation Trial of a Barbershop-Based HIV Stigma Reduction and Health Promotion Intervention in the Southern United States

Jessica M. Perkins[1] | Ruitian Xeno Hu[2] | Madison Humphrey[2] | Shawnika J. Hull[3] | Konor von Kraut[1] | Nathaniel King[4] | Steven Nelson[5] | Carolyn M. Audet[6] | Zhihong Xeno Yu[6] | Bryan E. Shepherd[6] | Sharon Hurt[7] | Aima A. Ahonkhai[2,8,9]



Perkins et al. J Int AIDS Soc. 2026;29(Suppl 5):e70195.

Social Support

Uptake and Short-Term Retention in HIV Treatment Among Men in South Africa: The Coach Mpilo Pilot Project

Mbuzeleni Hlongwa,[a,b,c] Morna Cornell,[d] Shawn Malone,[a] Paris Pitsillides,[e] Kristen Little,[f] Nina Hasen[f]

Men living with HIV and stable on ART were **trained as peer coaches** – paired with men newly diagnosed or struggling with ART

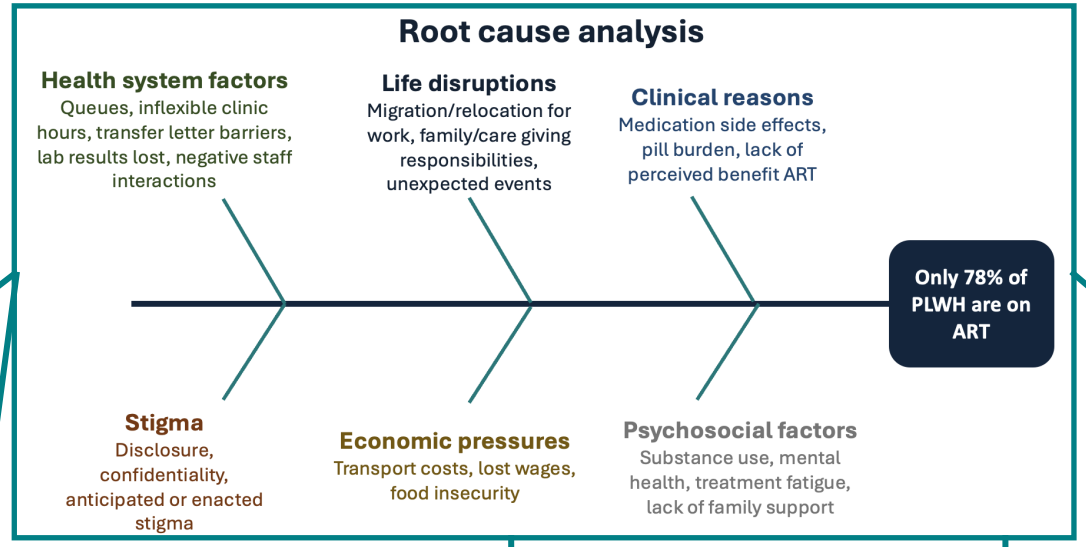
92% of men participated (3,848)

83% short term (7 month) retention

95% on ART by end of pilot

Bruns C. Glob Health Sci Pract. 2021;9(4):806-817.

Closing the second 95



Implement person centered care

Tailored portal care for mobile clients

Fewer visits and longer ART refills

Youth life stage check-ins

Evaluate stigma reducing strategies

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HIGH • IRI

Massachusetts General Hospital
Founding Member, Mass General Brigham

Medical Practice Evaluation Center

Questions?

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NIH

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