Predictors of Participant Retention in an HIV Prevention Trial Population Cohort: Perspectives from the HPTN 071 (PopART) Study.

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Background/Rationale

37.7 million PLHIV globally (2020); 20,6 million (54,6%) in Eastern & Southern Africa.

Scope to innovate and strengthen HIV prevention interventions in high HIV burden settings.

Longitudinal studies incl. RCTs, CRTs & observational cohort studies provide key evidence for HIV interventions.

Study completion challenging, long follow up periods, recruitment & retention challenges.

Attrition has significant impact on study validity

Gap in literature on reporting retention outcomes, determinants & measurement exist

Project Objectives/Aims

Study Aim

To evaluate the association between sex & other baseline characteristics and retention in PopART population cohort (PC) in Zambia and South Africa.

Research Hypothesis

Sex is a (primary) predictor of retention of research participants in the PopART population cohort in Zambia and South Africa

We hypothesise that females are more likely to be retained in longitudinal research than males.

Research Question

What is the association between sex (**and** other **baseline characteristics**) and retention of research participants in the PopART population cohort in Zambia and South Africa?

2

Methods/Analysis Plan

- **Research Design:** Individual- level cohort study design.

- **Eligible study population:** PC participants who have consented into PopART PC, at PC0 in South Africa or Zambia and completed a baseline survey.

- **Cross sectional** snap shots of retention at 1, 2 and 3 yrs after enrollment.

Primary Outcome
Retention: PC Survey completion each PC round (12m,24m,36m)

Secondary Outcome
Reasons PC termination & Reasons. Missed visits 12m,24m,36m

Results

Level	Mean (SE)	Rate Ratio (CI)	P-value	Adjusted RR (CI)	P-value
Sex (Ref=Female)	1.82 (0.01)	1	<.001	1	<.001
Male	1.61 (0.01)	0.88 (0.87, 0.90)		0.90 (0.88, 0.91)	
Age (Ref=18-24)	1.64 (0.01)	1	<.001	1	<.001
25-34	1.74 (0.01)	1.06 (1.04, 1.08)		1.08 (1.06, 1.10)	
35+	2.00 (0.01)	1.22 (1.19, 1.24)		1.23 (1.20, 1.26)	
Marital Status (Ref=Married/living as married)	1.83 (0.01)	1	<.001	1	0.002
Divorced/separated/widowed	1.80 (0.02)	0.98 (0.96, 1.01)		0.99 (0.96, 1.03)	
Never married	1.70 (0.01)	0.93 (0.91, 0.94)		0.96 (0.94, 0.98)	
Country specific SES (Ref=Low)	1.63 (0.01)	1	<.001	1	<.001
Medium	1.80 (0.01)	1.10 (1.08, 1.13)		1.12 (1.09, 1.14)	
High	1.89 (0.01)	1.16 (1.14, 1.18)		1.16 (1.14, 1.19)	
Baseline HIV-status (lab confirmed) (Ref=Negative)	1.79 (0.01)	1	<.001	1	<.001

	Mean (SE)	Rate Ratio (CI)	P-value	Adjusted RR (CI)	P-value
Positive	1.69 (0.01)	0.95 (0.93, 0.97)		0.85 (0.83, 0.88)	
Self-report HIV status and care (Ref=Negative)	1.77 (0.01)	1	<.001	1	<.001
Don't Know	1.73 (0.01)	0.98 (0.96, 1.00)		0.97 (0.96, 0.99)	
Never Tested	1.68 (0.02)	0.95 (0.93, 0.97)		0.96 (0.93, 0.98)	
Positive, have registered for care	1.91 (0.02)	1.08 (1.05, 1.11)		1.16 (1.12, 1.21)	

Retention Predictors:
- **Sex:** Females higher retention
- **Age**: 35+ higher retention
- **Marital status**: Married/living married higher retention
- **SES**: High SES higher retention
- **HIV status (Lab):** HIV Neg higher retention
- **Self report HIV status**: Positive registered for care higher retention

Results

	PC12	PC24	PC36	Cumulative (all rounds)
Available for follow up	38474	33283	28701	100458
Retained	25289 (65.7%)	21678 (65.1%)	20422 (71.2%)	67389 (67.1%)
Not retained	13185 (34.3%)	11605 (34.9%)	8279 (28.8%)	33069 (32.9%)
Reasons for non-retention				
Missed visit[1]	7994 (60.6%)	7023 (60.5%)	1799 (21.7%)	16816 (50.9%)
Terminated	5191 (39.4%)	4582 (39.5%)	6480 (78.3%)	16253 (49.1%)
Reasons for termination				
Death	237 (4.6%)	181 (4%)	157 (2.4%)	575 (3.5%)
Incapacitated/In Hospital	255 (4.9%)	6 (0.1%)	17 (0.3%)	278 (1.7%)
Incarcerated	26 (0.5%)	27 (0.6%)	30 (0.5%)	83 (0.5%)
Investigator Decision	13 (0.3%)	1 (0.0%)	3 (0.0%)	17 (0.1%)
Other	212 (4.1%)	294 (6.4%)	394 (6.1%)	900 (5.5%)
Refused Further Participation	948 (18.3%)	1103 (24.1%)	1639 (25.3%)	3690 (22.7%)
Relocated	3500 (67.4%)	2970 (64.8%)	4240 (65.4%)	10710 (65.9%)

| *Retained visits*			*Longitudinal retention pattern[1]*			
Total	**Rate**	**N (%)**	**PC12**	**PC24**	**PC36**	**N (%)**
3	100%	16916 (44.0%)	Retained	Retained	Retained	16916 (44.0%)
2	67%	5609 (14.6%)	Retained	Retained	Not retained	2708 (7.0%)
			Not retained	Retained	Retained	1503 (3.9%)
			Retained	Not retained	Retained	1398 (3.6%)
1	33%	5423 (14.1%)	Retained	Not retained	Not retained	4267 (11.1%)
			Not retained	Not retained	Retained	605 (1.6%)
			Not retained	Retained	Not retained	551 (1.4%)
0	0%	10526 (27.4%)	Not retained	Not retained	Not retained	10526 (27.4%)

*Reasons for non-retention by annual round
= Missed visits/Terminated

*Reasons for termination
Highest= Relocation, no follow up

Discussion
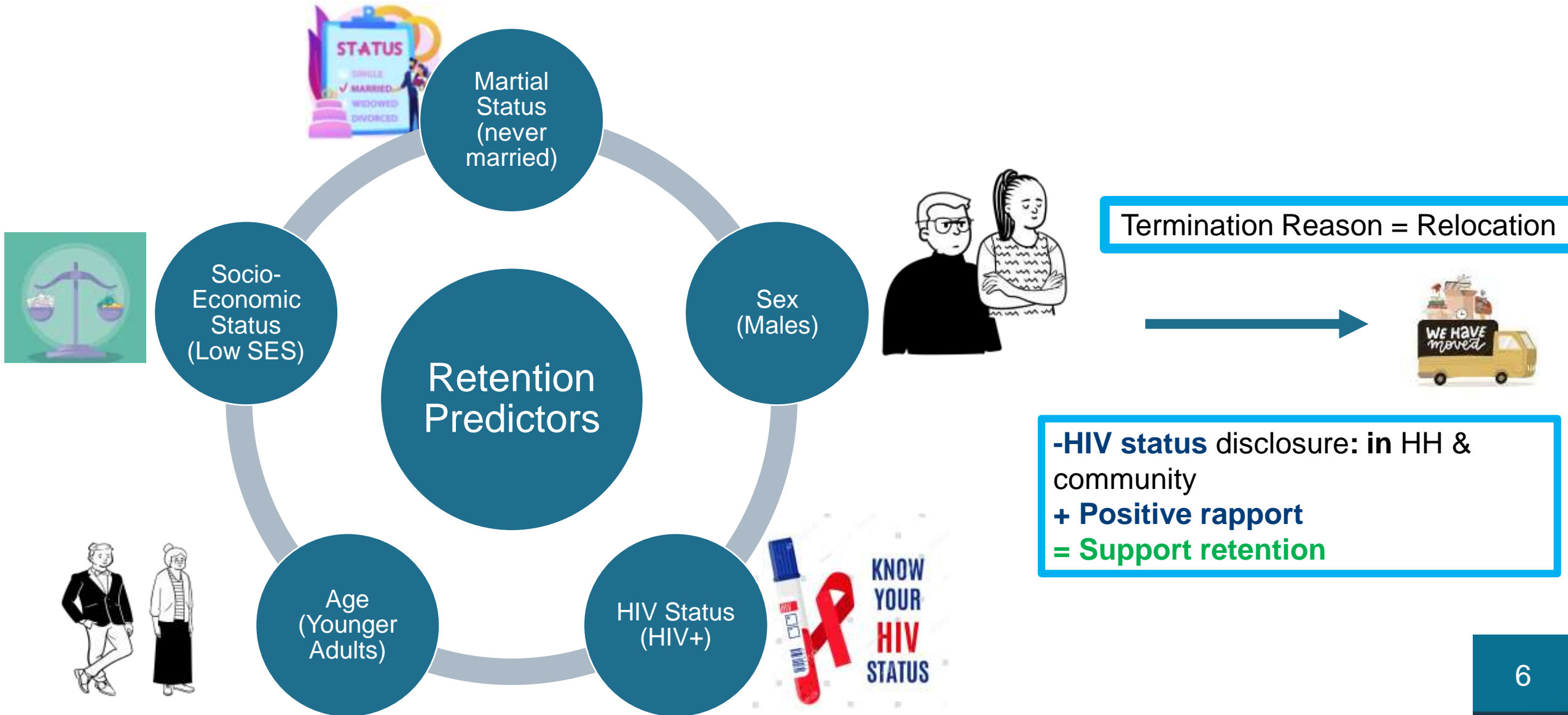
Implications/Future Considerations

Population specific RS: Retain men, younger adults, lower SES , PLWHIV, Never married in HIV prevention longitudinal studies.

Target population RS: recruitment & during study implementation.

Participant Mobility within and between study communities: consideration in study design.

Thank you

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