Self-Reported and Biomarker HIV Treatment Cascades for Older South African Adults

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INTRODUCTION

Background

UNAIDS has set a target to reach 90-90-90 by 2020. HIV treatment cascades highlight gaps in reaching these targets, yet data sources for constructing cascades vary, and are often based from self-reported information or from clinical cohorts.

Objectives

- To construct a treatment cascade using both biological markers and detailed self-report from a population-based cohort
- To compare treatment cascades constructed from self-reported information and biomarkers
- To examine variations in the treatment cascade for different segments of the population

METHODS

***Study site*:** MRC/Wits Rural Public Health and Health Transitions Research Unit, Mpumalanga Province, South Africa

Data source: Health and Aging in Africa: Longitudinal Studies of an INDEPTH Community in South Africa (HAALSI) cohort baseline survey of adults age 40+, nested within the Agincourt Health and Demographic Surveillance System

Self-reported survey questions

- Ever tested for HIV
- Knows HIV status
- Ever tested positive for HIV
- Linked to care
- Ever received ART
- Currently receiving ART

Biomarker data

- Dried blood spot (DBS) HIV test
- DBS ART screen for FTC and 3TC
- DBS viral load (suppressed: <100 copies/mL)

Analysis:

- Starting with the HIV+ population identified through DBS testing we calculated proportions and 95% confidence intervals for each cascade stage conditional on completion of the previous stage. We used:
  (1) self-reported responses
  (2) biomarker data
  (3) combined self-report or biomarker evidence
- Stratified biomarker cascades by population characteristics, controlling for age group

RESULTS

Study sample

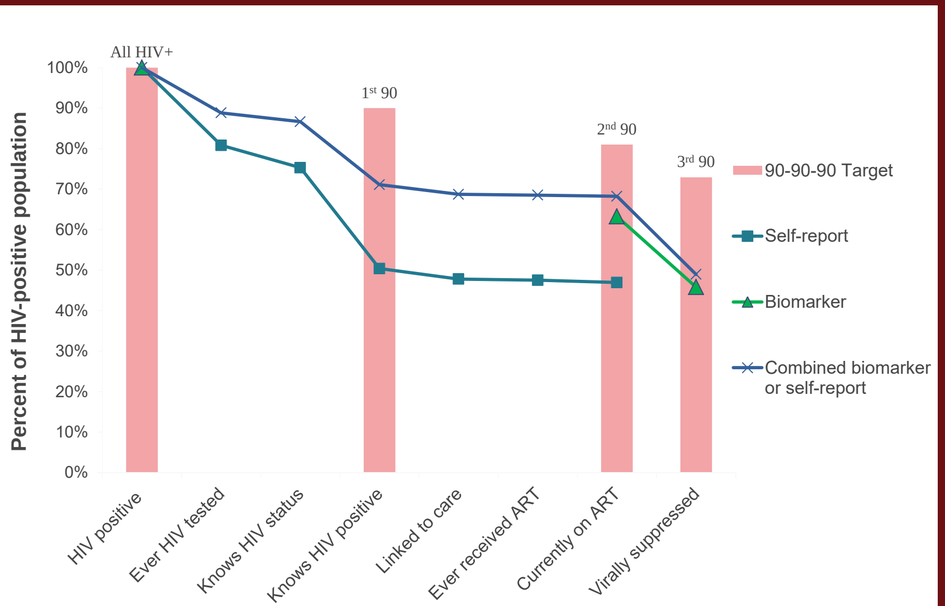
Baseline cohort
5059

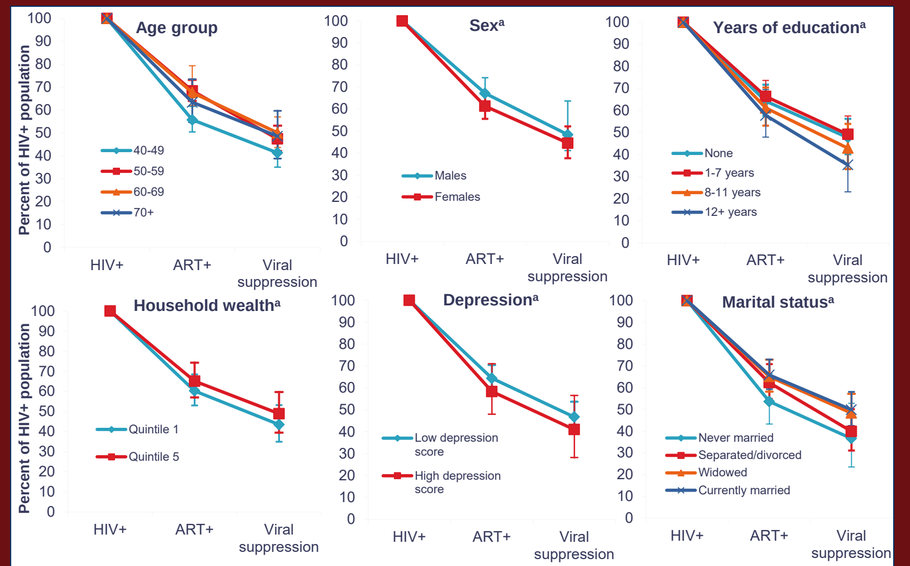
Consented to DBS
4700 (93%)

DBS test results available
4554 (97%)

	N (% of pop.)			N (% of pop.)
Total	4554		Education	
HIV+ from DBS	1,048 (23.0)		None	2089 (46.0)
Sex (female)	2460 (54.0)		1-7 years	1589 (35.0)
Age			8-11 years	507 (11.2)
40-49	814 (17.9)		12+ years	361 (7.9)
50-59	1262 (27.7)		Marital status	
60-69	1198 (26.3)		Never married	244 (5.4)
70+	1280 (28.1)		Separated/divorced	585 (12.9)
Depression			Widowed	1374 (30.2)
High CESD-8 score (≥4)	436 (9.8)		Currently married	2349 (51.6)

Stages of the HIV treatment cascade using: (1) self-reported information, (2) biomarker results, (3) combined biomarker evidence or self-report





Stratified biomarker cascades with 95% confidence intervals

[a]Adjusted for age group

Findings

- Biomarker cascades similar for males and females, but differed by age, education and marital status.
- Gaps in care for older South Africans at the HIV diagnosis and viral suppression stages.
- Advantages of combining self-report and biomarker information to gain an in-depth and accurate understanding of the treatment cascade.
- Self-report under-estimates diagnosis and treatment.

ACKNOWLEDGMENTS

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