

# EQUITY IN UTILIZATION OF ART AMONG ADULTS IN SOUTH AFRICA

Sizulu Moyo<sup>1</sup>, Eleanor Gouws<sup>2</sup>, Sean Jooste<sup>1</sup>, Thomas Rehle<sup>1</sup>

<sup>1</sup>Human Sciences Research Council, Cape Town, South Africa; <sup>2</sup>UNAIDS Regional Support Team for Eastern and Southern Africa, Johannesburg, South Africa



## HUMAN SCIENCES RESEARCH COUNCIL

### BACKGROUND

Background: In 2012, nearly 2 million adults  $\geq 15$  years old were receiving antiretroviral therapy (ART) in South Africa, representing approximately 31% of adults living with HIV in the country.

Low levels of ART use could be due to national treatment guidelines that limit eligibility based on CD4 count, but could also be related to inequity in use.

### OBJECTIVE

To investigate patterns of ART use by selected socio-demographic and behavioural characteristics in South Africa.

### METHODS

- Household and individual-level data from HIV infected adults  $\geq 15$  years from the 2008 and 2012 South African National HIV Prevalence, Incidence and Behaviour Surveys were analysed.
- ART use was determined by laboratory detection of ART drugs in dried blood spot specimens from all HIV positive individuals.
- Multivariate regression analysis was used to assess associations between ART use and the selected characteristics.

### RESULTS

Table 1: Exposure to ART among HIV positive adults  $\geq 15$  years, South Africa 2008 and 2012

Variable	2008	2012
Interviewed	15,845	27,070
Provided a blood sample	10,828 (68.3*)	20,958 (77.4)*
HIV positive	1,302(12)**	2,632 (13)**
Positive for ART	208(16)***	820(31.2)***

\* Denominator - all interviewed;  
 \*\* Denominator - those who provided a blood sample;  
 \*\*\* Denominator - those who tested positive

- The median age of those on ART was 36 years (IQR 29-43) in 2008 and 38 years (IQR 31-47) in 2012.
- Exposure to ART increased with increasing age in both survey years:- 39% of HIV infected individuals  $\geq 50$  years and 15% of those aged 20-24 years were on ART in 2012 ( Figure 1).
- There was no difference in exposure to ART between rural and urban areas.

Figure 1: Exposure to ART by age: Adults 15 years and older, South Africa, 2008 and 2012

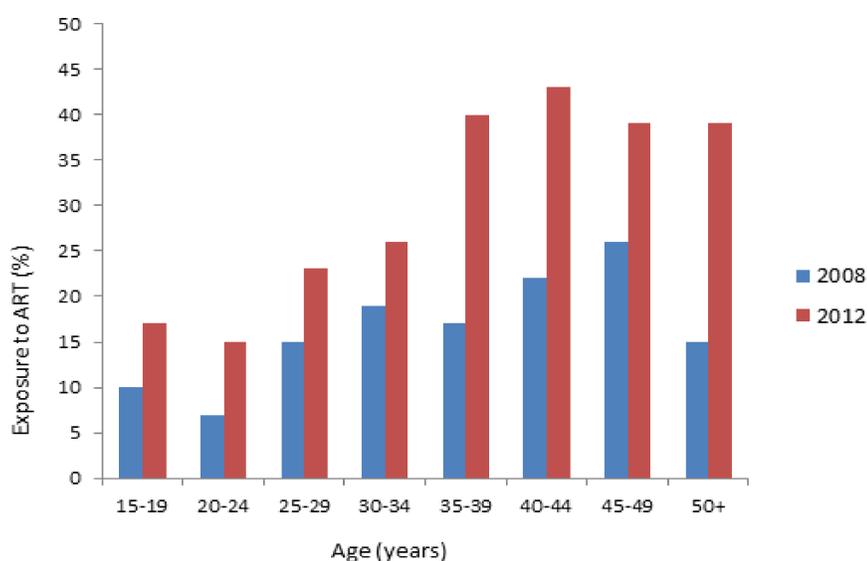


Table 2: Multivariate regression analysis showing associations between selected characteristics of HIV infected individuals with exposure to ART among individuals 15 years and older: South Africa 2008 and 2012

Variable	2008 (n=625)			2012 (n=2146)		
	OR	95% CI	p-value	OR	95% CI	p-value
<b>Locality Type</b>						
Informal Settlements(ref)						
Formal Settlements	0.68	0.42 - 1.14	0.15	0.87	0.70 - 1.08	0.21
<b>Age Categories</b>						
15 - 19 (ref)						
20 - 24	0.62	0.84 - 4.63	0.65	1.18	0.54 - 2.61	0.67
25 - 29	4.68	0.72 - 30.35	0.11	1.70	0.77 - 3.74	0.19
30 - 34	5.87	0.92 - 37.53	0.06	2.51	1.14 - 5.53	0.02*
35 - 39	5.47	0.83 - 35.97	0.08	4.42	2.00 - 9.79	0.0001*
40 - 44	9.04	1.34 - 60.88	0.02*	5.01	2.23 - 11.27	0.0001*
45 - 49	12.30	1.75 - 86.45	0.01*	3.87	1.70 - 8.81	0.001*
50+	8.52	1.21 - 60.02	0.03*	3.72	1.66 - 8.935	0.001*
<b>Sex</b>						
Male (ref)						
Female				1.21	0.96 - 1.52	0.11
<b>Marital Status</b>						
Single / Never married / No stable partnership (ref)						
Married / Stable partnership	1.41	0.84 - 2.39	0.20	0.72	0.56 - 0.91	0.01*
Divorced / Separated / Widowed	1.83	0.93 - 3.62	0.08	0.86	0.60 - 1.25	0.44
<b>Household wealth quintiles</b>						
Quintile I (ref)						
Quintile II	0.78	0.43 - 1.40	0.40	1.04	0.77 - 1.40	0.82
Quintile III	2.18	1.18 - 4.04	0.01*	0.95	0.65 - 1.26	0.80
Quintile IV	1.34	0.61 - 2.92	0.47	1.26	0.93 - 1.71	0.13
Quintile V	1.11	0.35 - 3.50	0.86	1.09	0.79 - 1.51	0.59
<b>Employment status</b>						
Unemployed (ref)						
Employed	0.33	0.19 - 0.56	0.01*	0.75	0.61 - 0.93	0.01*
Student	1.30	0.19 - 8.76	0.79	1.31	0.66 - 2.59	0.44
<b>Self-rated health</b>						
Good (ref)						
Poor	0.64	0.40 - 1.00	0.05	0.56	0.45 - 0.69	0.0001*
<b>Most recent HIV test, awareness of status</b>						
< 12 months (ref)						
1 - 2 years	1.37	0.81 - 2.34	0.24			
2 - 3 years	1.36	0.69 - 2.70	0.37			
3+ years	1.32	0.69 - 2.51	0.40			
<b>Excessive alcohol intake</b>						
Non-high risk drinker (ref)						
High risk drinker				0.65	0.46 - 0.94	0.02*
<b>Recreational drug use</b>						
Non user (ref)						
Drug user	0.33	0.07 - 1.55	0.16	0.42	0.24 - 0.76	0.004*

\* p-value < 0.05

### CONCLUSION

- The proportion of the total HIV-positive population on ART doubled between 2008 and 2012 in South Africa. The estimates are independent of the changing eligibility criteria and allow comparisons of directly measured proportions over time.
- ART use did not differ across household wealth status in 2012.
- Greater ART use among older people could reflect a combination of greater time since infection and hence greater ART need among adults, as well as limited access to ART among young people.
- ART use was lower among those who were employed and those with risky behaviours (excessive alcohol intake and recreational drug use).
- There is need to strengthen workplace ART programs and treatment programs targeting the youth and individuals with high risk behaviours.
- Although patterns of ART use were relatively equitable in 2008 and 2012, there is need to strengthen workplace ART programs and treatment programs targeting the youth and individuals with high risk behaviours.

### ACKNOWLEDGEMENTS

The 2008 and 2012 South African National HIV Prevalence, Incidence and Behaviour Surveys were supported by the President's Emergency Plan for AIDS Relief (PEPFAR) through the Centers for Disease Control and Prevention (CDC) under the terms of 5U2GGH000570.

This work is the sole responsibility of the authors and do not necessarily represent the official views of the CDC.

### REFERENCES

Shisana, O, Rehle, T, Simbayi LC, Zuma, K, Jooste, S, Zungu N, Labadarios, D, Onoyo, D et al (2014) *South African National HIV Prevalence, Incidence and Behaviour Survey 2012*. Cape Town, HSRC Press.