

SABSSM VI: an evolving epidemic with persistent challenges

*South Africa's HIV epidemic is evolving, with more people taking antiretroviral medication and living longer. However, there are still challenges, such as new infections among adolescents and young people, a decline in condom use and young women engaging in age-disparate relationships. This article provides an overview of national findings from the HSRC's Sixth South African HIV Prevalence, Incidence and Behaviour Survey. By **Antoinette Oosthuizen***

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Marking two decades of this flagship survey series, the HSRC presented the findings of the Sixth South African HIV Prevalence, Incidence and Behaviour Survey (SABSSM VI) at a satellite session of the 25th International AIDS Conference 2024 in Munich, Germany, in July.

In August and September, the HSRC also hosted dialogues in each of South Africa’s nine provinces on regional SABSSM VI findings. This article focuses on national findings, with individual provincial findings covered separately in the *HSRC December Review*.

Prevalence down, but shifting

Monitoring HIV prevalence helps policymakers understand the country’s HIV burden – the proportion of people living with HIV (PLHIV) who need care and services at a given time.

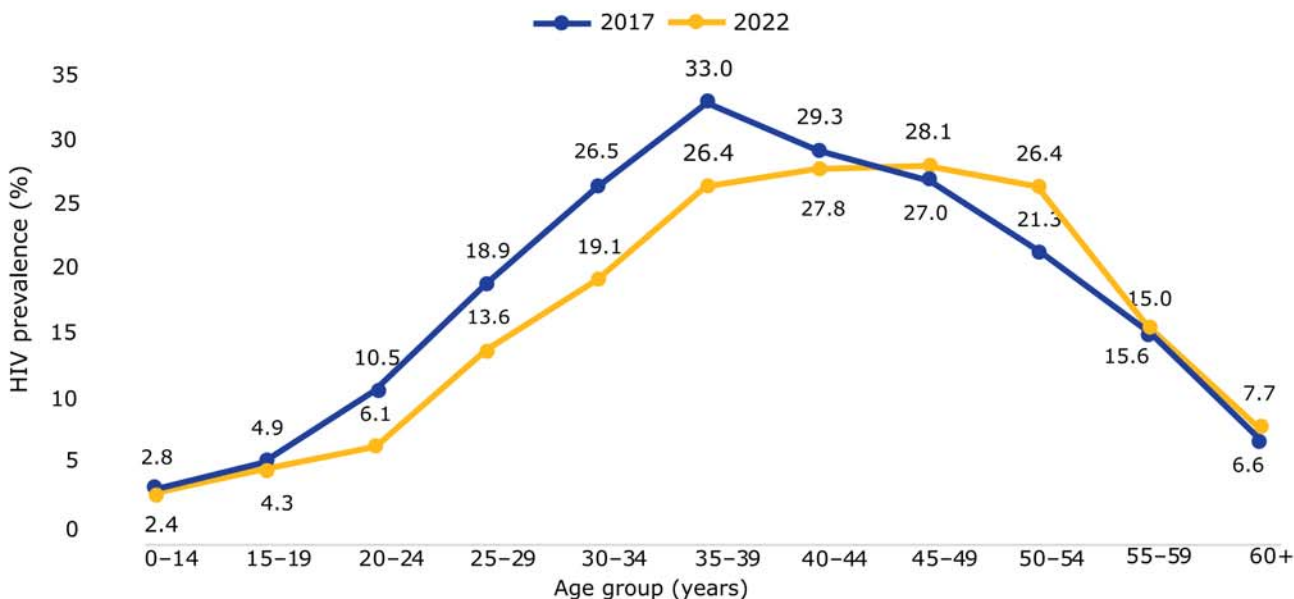
SABSSM VI found HIV prevalence for all ages decreased from 14% in 2017 to 12.7% in 2022. This translated to a decline from 7.9 million (2017) to 7.8 million (2022) people.

The epidemic curve has shifted to an older cohort, with increased prevalence among those in their early forties and above (Figure 1). According to the HSRC’s Professor Khangelani Zuma, overall principal investigator for SABSSM VI, this might indicate that more people with HIV are living longer, a testament to the benefits of antiretroviral treatment (ART).

“However, in some provinces, such as Gauteng, the Northern Cape and Mpumalanga, the 2022 peak in prevalence also increased in magnitude when compared to the 2017 peak, indicating possible new infections between the survey years,” said Zuma.

“The net effect of this is that PLHIV who die due to HIV or other causes are continuously being replaced by newly infected PLHIV. If this replacement occurs at a higher rate, the absolute number of PLHIV in South Africa will increase.”

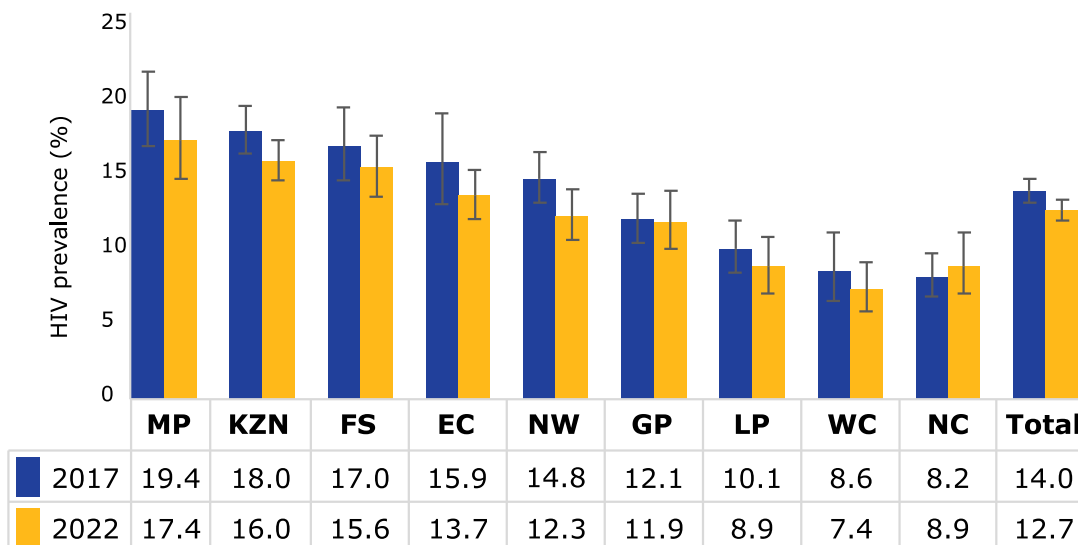
Figure 1. HIV prevalence by age group, South Africa, 2017 and 2022



Source: HSRC

Overall HIV prevalence decreased in all provinces except for the Northern Cape (Figure 2). Mpumalanga (17.4%) had the highest prevalence, and the Western Cape (7.4%) the lowest.

Figure 2. HIV prevalence by province, all ages, South Africa, 2017 and 2022



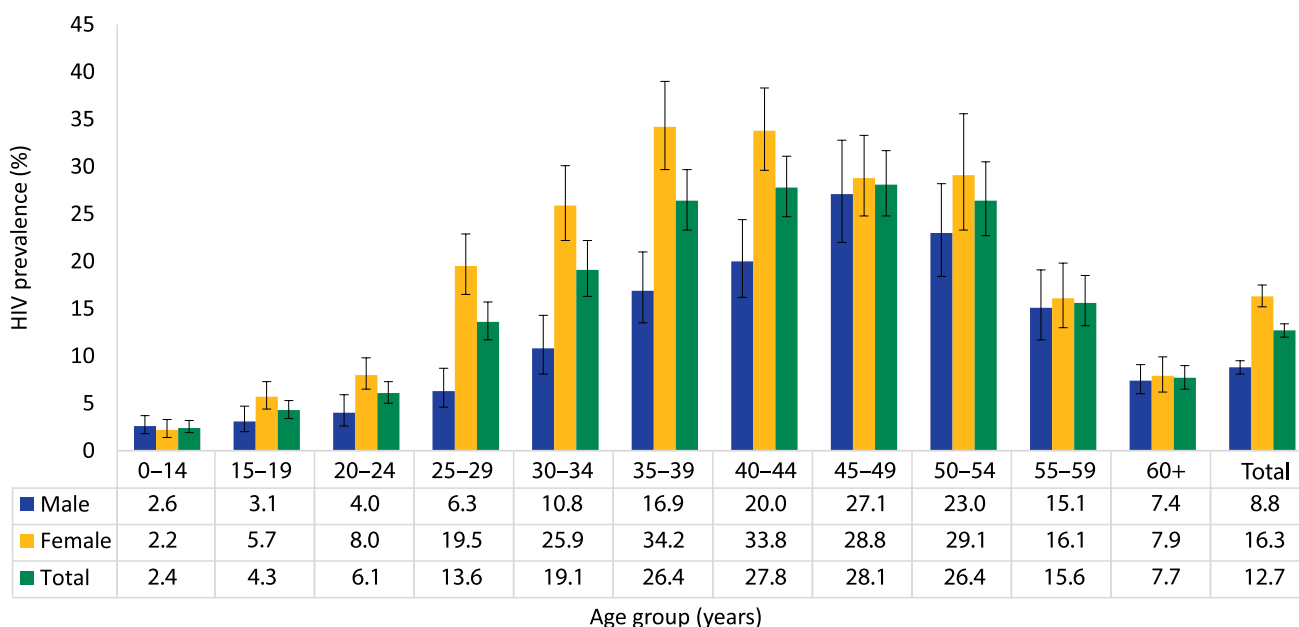
Source: HSRC

Females continue to be disproportionately affected by HIV, with a prevalence of 16.4% compared to males at 8.8% (Figure 3). However, despite the reduced prevalence, the total number of women living with HIV was estimated at 5.2 million, up from 4.9 million in 2017. Among men, the total estimated number of PLHIV declined substantially from 3 million (2017) to 2.6 million (2022).

Such a drop could be due to natural deaths, although researchers are concerned that lower survey response rates among males also contributed.

“Men, especially those living with HIV, have been less likely to participate in the survey, and this forms part of further work that we are investigating,” Zuma said.

Figure 3. Overall HIV prevalence by sex and age, South Africa, 2022



Source: HSRC



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Prevalence among children

In Mpumalanga, prevalence among children up to the age of 14 years dropped significantly from 7% in 2017 to 3% in 2022. However, the Western Cape saw an increase from 2.9% in 2017 to 4.3% in 2022.

The researchers also noted concerning trends among young adults and adolescents aged 15 to 24 years.

“It seems that children are getting infected through unprotected sex starting in early adolescence. These infections continue to act as a constant supply of preventable infections,” said Zuma.

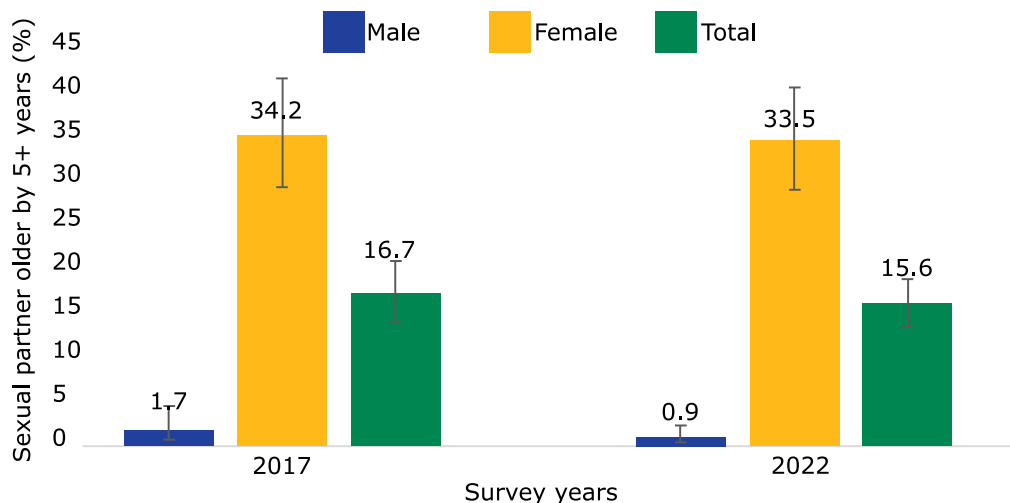
He also was concerned about age-disparate relationships putting women at risk. Among children from birth to 14, HIV prevalence among males and females was comparable. However, among those

aged 15–19, females had a higher prevalence than males of the same age, rates that were comparable with males that were five to 10 years older, he said.

“This trend continues to the later ages, and this is one of the issues we face constantly: inter-generational sex, where older males take advantage of younger girls, infecting them with HIV. We know the dynamics in these age-disparate relationships, [and] the prospect of condom use is much lower.”

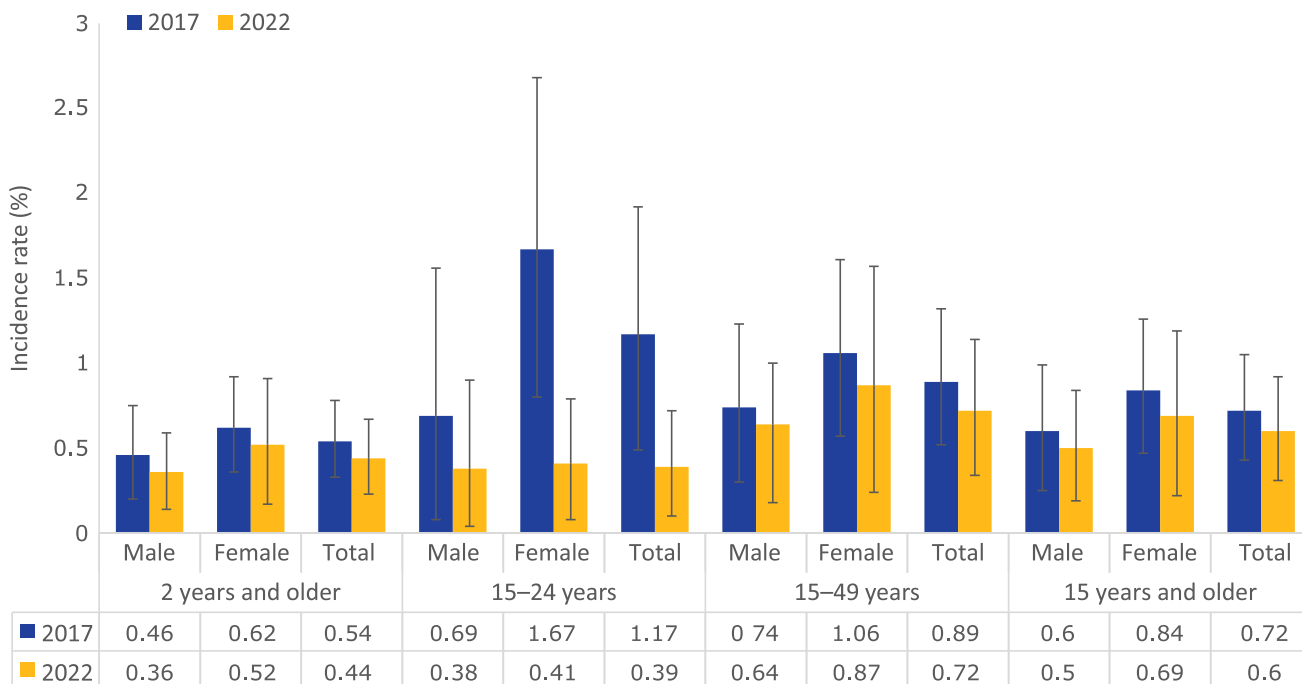
The survey also measured age-disparate sexual relationships, defined as the difference of at least five years between partners. In 2022, 15.6% of adolescents aged 15–19 years reported an age-disparate relationship (Figure 4), with a substantially higher proportion of adolescent females (33.5%) compared to adolescent males (0.9%).

Figure 4. Age-disparate sexual relationships among adolescents aged 15–19 years by sex, South Africa, 2017 and 2022



Source: HSRC

Figure 5. Estimated HIV incidence (%) by age and sex, South Africa, 2017 and 2022



Source: HSRC

Lower incidence

Keeping tabs on HIV incidence – the rate of new HIV infections every year – helps to see if HIV prevention interventions are working in South Africa.

To estimate whether PLHIV were newly infected in the previous year, the researchers used internationally accepted testing and modelling methods. This included the limiting-antigen (LAG) avidity assay for HIV antibodies, which produces low scores in the first 12 months of HIV infection.

Overall HIV incidence decreased from 0.54% (2017) to 0.44% (2022) for people aged two and older (Figure 5). This means that, in 2022, an estimated 232,000 people who were HIV-negative at the beginning of the previous year became positive, said Zuma.

“This translates to about 600 people infected daily but, in 2005, when SABSSM presented incidence rates for the first time, it was about 1,500 per day.”

The HIV incidence rate was consistently higher in females than males in all age categories.

“But we know the dynamics of HIV, that the risk is much higher for transmission from males to females than the other way around,” Zuma explained.

Survey samples were not large enough to allow for provincial breakdowns of incidence rates.

Antiretroviral treatment coverage





















ART coverage increased from 63.7% in 2017 to 80.9% in 2022. This meant about 5.7 million of the 7.8 million PLHIV in South Africa were on ART in 2022, an increase from 4.5 million in 2017 (Table 1).

While the survey response rate was high in the 15–24 age group, their ART coverage was the lowest of all age groups at 63.2%.

“This is a concern and we need to understand why this is happening,” said Zuma.

The data also showed that a greater proportion of females (83.2%) than males (76.2%) were on ART. Among provinces, ART coverage ranged from 73.4% in Gauteng to 87.3% in KwaZulu-Natal.

Table 1. Antiretroviral treatment among PLHIV by sex, age and province, South Africa, 2017 and 2022

	2017		2022	
	 PLHIV on ART % [95% CI]	 Estimated number of PLHIV on ART	 PLHIV on ART % [95% CI]	 Estimated number of PLHIV on ART
Sex (male and female)	 58.6 [54.5–62.6]	1 488 583	76.2 [71.5–80.3]	1 771 528
	 66.5 [64.0–68.9]	3 043 746	83.2 [80.2–85.9]	3 959 117
Age group (years)	0–14  54.5 [43.2–65.3]	165 552	79.0 [66.8–87.5]	278 316
	15–24  41.4 [35.0–48.1]	284 054	63.2 [56.1–69.7]	274 388
	25–49  64.5 [61.5–67.5]	3 307 865	82.1 [78.0–85.6]	3 948 868
	50+  77.5 [73.4–81.2]	774 859	82.8 [77.0–87.4]	1 229 074
	15–49  61.8 [59.2–64.3]	3 591 918	80.5 [76.7–83.8]	4 223 257
	Province	 Western Cape 54.4 [43.8–64.7]	279 755	76.8 [67.9–83.8]
 Eastern Cape 67.8 [61.6–73.3]		670 681	83.5 [78.8–87.3]	723 291
 Northern Cape 54.9 [42.5–66.7]		50 879	86.2 [75.0–92.8]	82 107
 Free State 64.7 [54.8–73.5]		301 024	81.3 [75.8–85.8]	341 262
 KwaZulu-Natal 71.2 [66.5–75.4]		1 281 055	87.3 [84.4–89.7]	1 609 492
 North West 60.7 [53.7–67.2]		298 333	78.9 [71.8–84.6]	324 145
 Gauteng 56.0 [50.1–61.7]		852 017	73.4 [64.5–80.8]	1 216 443
 Mpumalanga 65.4 [61.0–69.5]		500 967	81.8 [73.7–87.8]	634 130
 Limpopo 62.8 [54.3–70.6]		297 618	80.8 [70.8–88.0]	430 576

Source: HSRC

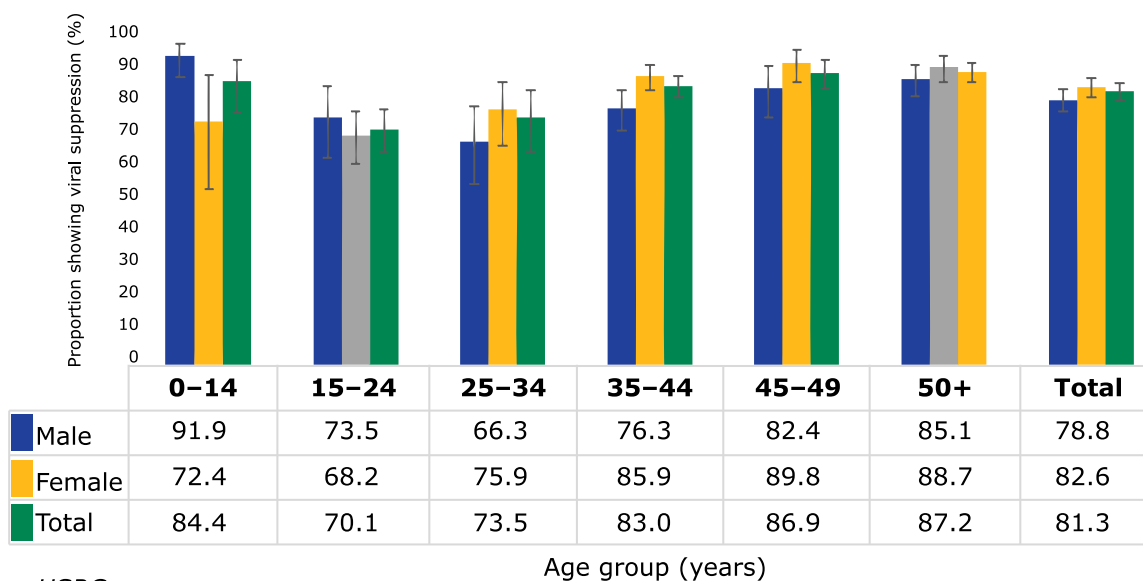
Viral load suppression

HIV viral load suppression (VLS) is an indicator of ART adherence. In this survey, VLS was defined as having <1,000 copies of HIV RNA per mL of blood.

Overall, 81.4% of all PLHIV were virally suppressed (Figure 6). VLS was highest among those aged 50+ (87.2%) and lowest among females aged 15–24 years (68.2%) and males aged 25–34 years (66.3%).

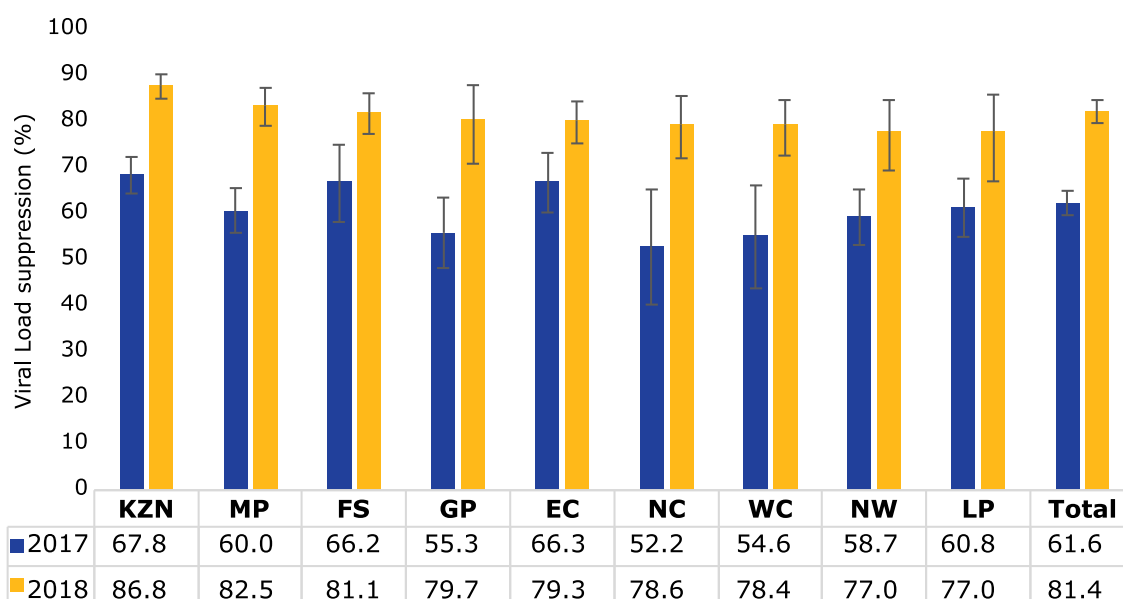
VLS was also the highest in KwaZulu-Natal (86.8%) and the lowest in Limpopo and North West (both 77%), as shown in Figure 7.

Figure 6. Overall viral load suppression by sex and age, South Africa, 2022



Source: HSRC

Figure 7. Viral load suppression by province, South Africa, 2017 and 2022



Source: HSRC

2030 UNAIDS 95–95–95 targets

South Africa has made progress on the UNAIDS 95–95–95 targets, namely, that by 2030, at least 95% of all PLHIV will know their HIV-positive status; 95% of those diagnosed HIV positive will be on ART; and 95% of all those on ART will have achieved VLS.

SABSSM VI found that 89.6% of all PLHIV knew their HIV-positive status in 2022 (Figure 8). Of PLHIV who knew their status, 90.7% were on ART, while 93.9% of those who knew their status and took ART had achieved VLS. This is up from 85%–71%–87% in 2017.

At the Munich launch, the HSRC’s Dr Edmore Marinda explained that the significantly increased ART coverage and VLS could be attributed to changed treatment guidelines introduced in South Africa in 2015/2016. The new guidelines made provision for everyone requiring HIV treatment to be given it immediately, regardless of their clinical status. Previously, PLHIV qualified for ART only if they had a CD4 count below 500 cells/mm³.

Among provinces, the first 95 was below 90% in the

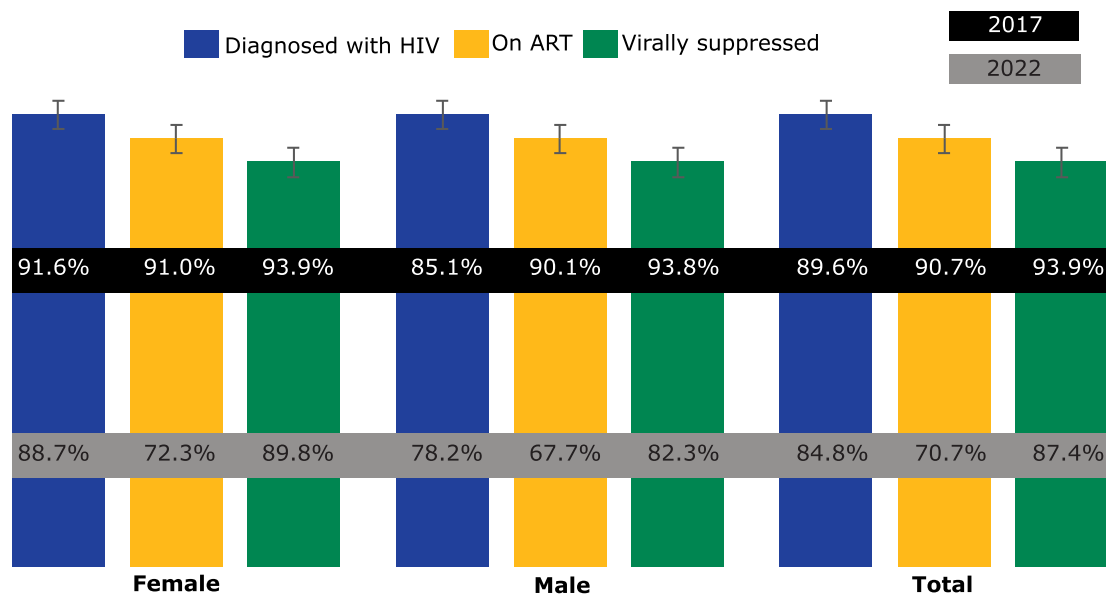
Western Cape, Gauteng, Free State, Mpumalanga and Limpopo, the second 95 was below 90% in the Eastern Cape, North West and Gauteng, and the third 95 was below 90% in the Western Cape, Eastern Cape, Free State, Mpumalanga, Limpopo and North West.

Marinda also emphasised that the 95–95–95 VLS data applied only to the subset of people who knew their HIV-positive status. Having good VLS at population level (Figure 6) was much more important to reduce the overall HIV transmission rate and the HIV-related disease burden in the country.

Zuma added that, in an ideal situation, all PLHIV would be on ART with VLS.

“When further infections are curbed, the number of PLHIV would remain constant over time. Eventually, as more children are born HIV-negative and older people die from natural or other causes, overall prevalence will decrease.”

Figure 8. 95–95–95 targets for people living with HIV aged 15 years and older, South Africa, 2017 and 2022



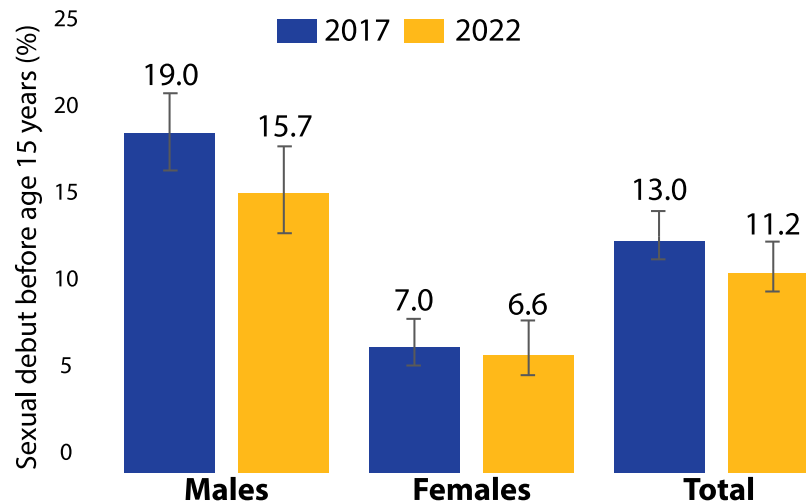
Source: HSRC

Key drivers

In 2022, 11.2% of youth aged 15–24 years reported having had their first sexual intercourse before the age of 15, down from 13% in 2017 (Figure 9). More males (15.7%) than females (6.6%) reported having had their first sexual intercourse before the age of 15.

As shown in Figure 10, the reported early sexual debut was the highest in the Western Cape (16.3%), the Eastern Cape (15.3%) and Gauteng (13.2%).

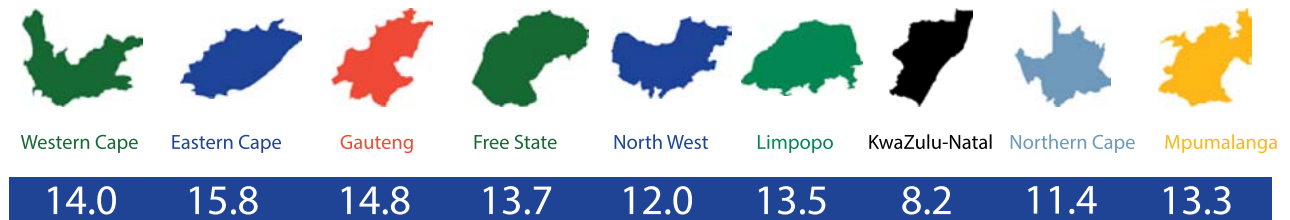
Figure 9. Sexual debut before the age of 15 reported by youth aged 15–24, South Africa, 2017 and 2022



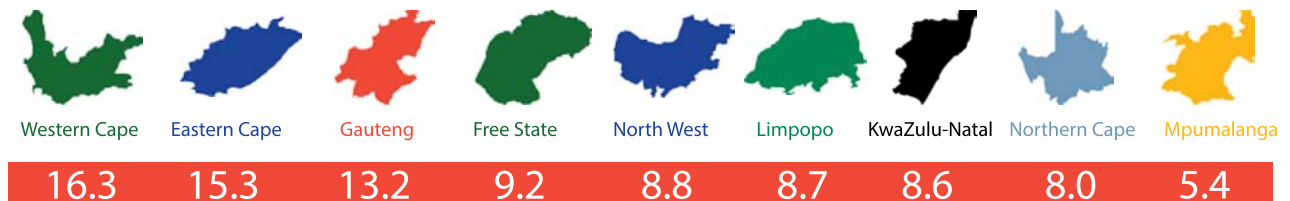
Source: HSRC

Figure 10. Sexual debut before the age of 15 reported by youth aged 15–24 by province, South Africa, 2017 and 2022

Early sexual debut (%) in 2017 Total: 13%



Early sexual debut (%) in 2022 Total: 11.2%

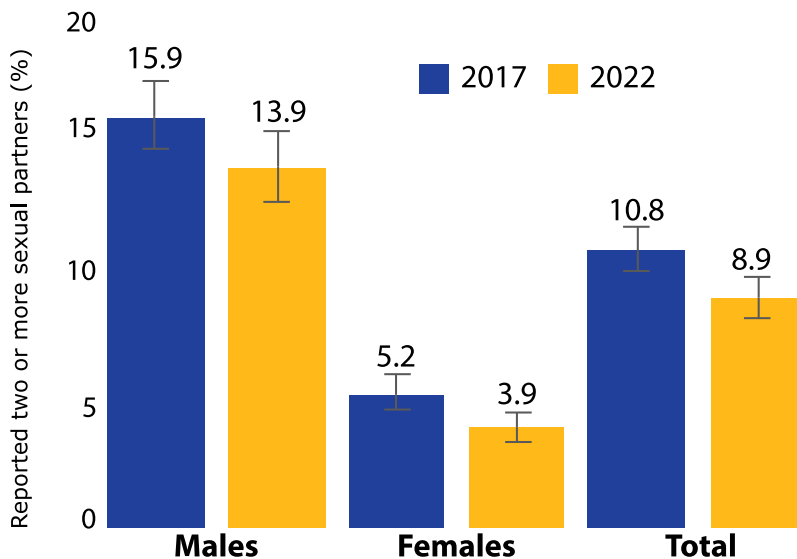


Source: HSRC

Also, 8.9% of sexually active respondents aged 15 years and older reported having two or more sexual partners in the past 12 months (Figure 11), with a greater proportion of males (13.9%) than females (3.9%).

The prevalence of this type of risk behaviour was the highest in the Eastern Cape (11.9%), followed by Limpopo (11.4%) and KwaZulu-Natal (11%).

Figure 11. Sexually active males and females aged 15+ who had two or more sex partners in the past 12 months, South Africa, 2017 and 2022

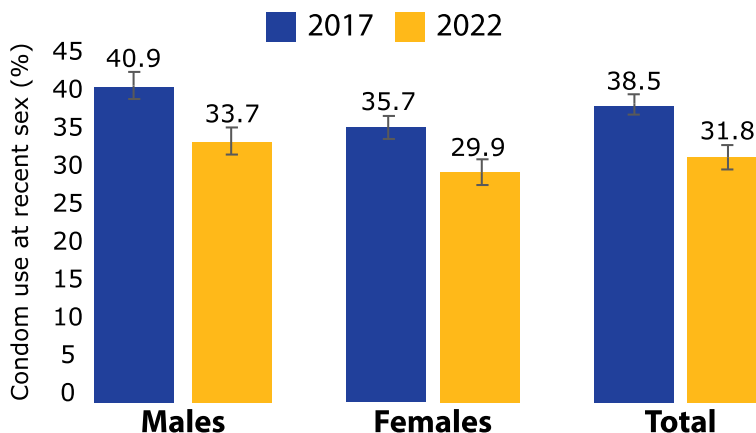


Source: HSRC

Almost one in three (31.8%) respondents aged 15+ reported that they had used a condom during their most recent sexual encounter, compared to 38.5% in 2017 (Figure 12).

In 2022, 33.7% of males reported having used a condom during their last sexual encounter compared to 29.9% of females. The highest rate of condom use was reported by Mpumalanga (46.1%) and the lowest in the Western Cape (22.1%).

Figure 12. Condom use during most recent sexual encounter among people aged 15+, South Africa, 2017 and 2022



Source: HSRC

The impact of circumcision

Medical male circumcision [reduces](#) a man's chances of acquiring HIV, which is why it forms part of South Africa's HIV prevention strategy.

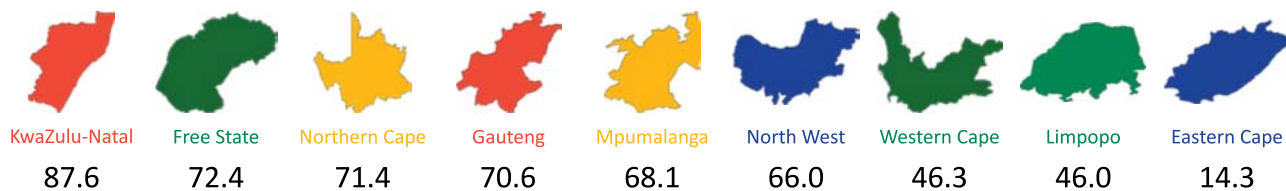
In 2022, self-reported circumcision among males aged 15 years and older was 63.7%. The proportion of circumcised males who reported medical circumcision increased from 51.7% in 2017 to 60% in 2022.

As shown in Figure 13, KwaZulu-Natal had the highest reported medical circumcision at 87.6% and the Eastern Cape had the lowest (14.3%).

Figure 13. Self-reported circumcision type among males aged 15+ by province, South Africa, 2017 and 2022

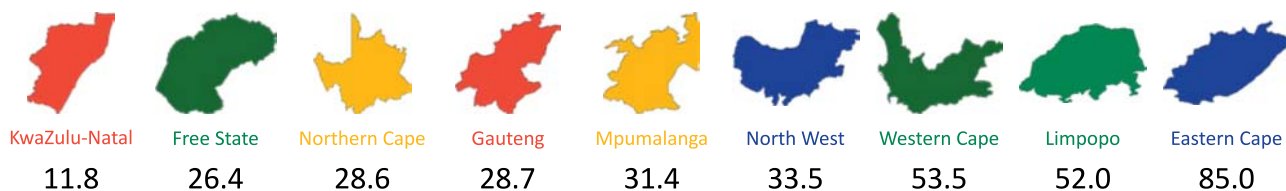
Medical circumcision (%)

2022 National: 60.0



Traditional circumcision (%)

2022 National: 39.2



Both (%)

2022 National: 0.8

Source: HSRC

HIV testing is a gateway to counselling on HIV prevention, care services and access to ART. A greater proportion of females (85.2%) than males (76.8%) reported that they had been tested for HIV.

In 2020, South Africa published guidelines for pre-exposure prophylaxis (PrEP), medication people can take to prevent getting HIV.

SABSSM VI showed that, in 2022, 34.2% of sexually active adults aged 15+ had heard of PrEP, of whom 14% had taken PrEP. Of those who had taken PrEP, 37% were taking PrEP at the time of the survey. About two-thirds (64.2%) of respondents who had heard of PrEP reported they would consider taking PrEP to prevent HIV infection.

During the provincial dialogues, many delegates highlighted that this willingness presented opportunities to enhance PrEP programmes.

Recommendations

The HSRC's SABSSM series has been tracking South Africa's HIV epidemic since 2002, and the findings have become a major source of information for measuring progress in the implementation of South Africa's national strategic plan to curb HIV, sexually transmitted infections and tuberculosis.

Recommendations from SABSSM VI include a refocused long-term strategy to care for individuals in an ageing HIV epidemic, including those with age-related comorbid conditions.

Those on ART need support to stay on treatment, and prevention efforts should support vulnerable groups such as adolescent girls and young women. There is also a need to intensify efforts to promote the uptake and sustained use of ART among men.

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[Link to SABSSM VI report](#)

Note: The HSRC conducted the SABSSM VI survey in partnership with the United States Centers for Disease Control and Prevention, the South African Medical Research Council, the University of Cape Town and the National Institute for Communicable Diseases.



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