



The Sixth South African National HIV, Behavioural and Health Survey

20 YEARS OF STRATEGIC HIV AND PUBLIC HEALTH DATA

EXECUTIVE SUMMARY



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1. See 45 C.F.R. part 46; 21 C.F.R. part 56.

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COLLABORATORS



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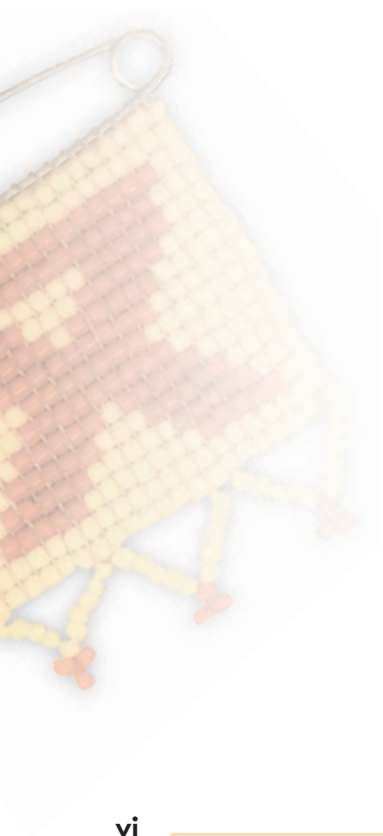
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² CDC staff were engaged in the following activities but did not have access to personal identifiable information:

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List of Acronyms and Abbreviations

AIDS	Acquired immune deficiency syndrome
ART	Antiretroviral therapy
ARV	Antiretroviral
CDC	United States Centers for Disease Control and Prevention
CI	Confidence interval
DBS	Dried blood spot
DRM	Drug resistance mutation
DTG	Dolutegravir
EAs	(Census) Enumeration areas
EIA	Enzyme immunoassay
GIS	Geographic information systems
HIV	Human immunodeficiency virus
HTS	HIV testing services
IPV	Intimate partner violence
LA_g	Limiting-antigen
MMC	Medical male circumcision
MOS	Measure of size
NAT	Nucleic acid test
NDoH	National Department of Health
NICD	National Institute for Communicable Diseases
NNRTI	Non-nucleoside reverse transcriptase inhibitor
NRTI	Nucleoside reverse transcriptase inhibitor
INSTI	Integrase strand transfer inhibitor
PEPFAR	United States President's Emergency Plan for AIDS Relief
PI	Protease inhibitor
PLHIV	People living with HIV
PrEP	Pre-exposure prophylaxis
QA	Quality assurance
RITA	Recent infection testing algorithm
SABSSM³	South African HIV Behavioural Sero-Status and Media Impact Survey
SALs	Small area layers
SAMRC	South African Medical Research Council
SANAC	South African National AIDS Council
STIs	Sexually transmitted infections
TB	Tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
VL/VLS	Viral load/viral load suppression
VP	Visiting point
VMMC	Voluntary medical male circumcision

³ The SABSSM acronym is used broadly to refer to the entire survey series.



EXECUTIVE SUMMARY



Introduction

The completion of the 6th South African National HIV Prevalence, Incidence and Behaviour Survey (SABSSM) report, coincides with the celebration of 30 years of democracy in South Africa; and marks 20 years of conducting nationally representative household-based surveys by the Human Sciences Research Council (HSRC), its collaborators and donors.

Since its inception in 2002, the SABSSM series has emerged as one of the HSRC's leading scientific contributions to the country's HIV and AIDS response (1), providing essential data to monitor the HIV epidemic, the impact of the HIV program in South Africa, and to inform strategies for epidemic control in the National Strategic Plan for HIV, TB and STIs (NSP), now in its fifth edition. Using scientific evidence from SABSSM and other key sources, the NSP guides the country's response, under the leadership of the South African AIDS Council (SANAC) and the National Department of Health (NDoH), with focus on equitable access to biomedical interventions, addressing the structural and social-behavioural drivers of the epidemic, and targeting populations disproportionately affected by HIV; such as, black Africans, key populations and adolescent girls and young women (AGYW) aged 15–24 years (2).

Key data collected by the 2022 SABSSM survey include bio-marker-derived indicators such as HIV prevalence, HIV incidence, ART use, viral load suppression, and HIV drug resistance; some of which are used to track progress towards the UNAIDS 95-95-95 targets. Behavioural data collected include HIV testing history, self-reported adherence to ART, condom use, sexual debut, multiple sexual partners, transactional sex and intergenerational sex. The survey also collects information on HIV testing and awareness of HIV status, male circumcision, PrEP awareness and use, knowledge of HIV and TB, and HIV and TB-related stigma. Other health-related data collected included self-reported diagnosis with tuberculosis (TB), and selected non-communicable diseases, in alignment with global guidance.

The current survey provided an opportunity to reflect on the impact of 20 years of HIV programming, assess gaps, and identify areas for accelerating efforts to achieve the goal of ending HIV as a public health threat by 2030 (2). South African continues to have the largest number of people living with HIV in the world (3). HIV incidence remains high, (even though the country has observed declines in incidence among adolescent girls and young women), and treatment uptake and viral suppression levels remain sub-optimal (4). The country is yet to achieve the UNAIDS 95-95-95 targets; moreover, evidence continues to show that men were lagging behind women on most targets, and huge gaps exist across the cascade for adolescents (3, 4). There is also a need for continued efforts to improve HIV testing and linkage to and retention in HIV care. Addressing key social and structural drivers of risk for HIV infection still needs a concerted effort and focus. This includes age-disparate sexual relationships, early sexual debut, sexual multiple partners, harmful alcohol use, gender-based violence especially intimate partner violence (IPV) and HIV-related stigma (5).

Since the last survey (SABSSM V) was conducted in 2017, the country has aggressively scaled universal ART (i.e., test-and-treat), and adopted the ambitious UNAIDS 95-95-95 targets (2). The rollout of HIV pre-exposure prophylaxis (PrEP) has also accelerated with national guidelines for PrEP published in 2020 (6). In addition to these developments, the HIV programme has continued to focus on key evidence-based strategies within the comprehensive package for HIV prevention services, including, HIV testing and counselling, distribution and promotion of condoms, voluntary medical male circumcision among males aged 15 years and older with focus on those aged 15–34 years, and post-exposure prophylaxis (PEP), among others.

In this executive summary report, we present only the key findings from the latest survey; full results will be contained in the main survey report. The report aims to provide government, policymakers, researchers and programme implementers, people living with HIV and civil society organisations and other stakeholders with strategic information needed to track progress in the HIV epidemic, improve the delivery of HIV prevention and care and treatment services, and ultimately, target current and future strategies to end HIV as a public health threat by 2030.

Aims of the survey

- To maintain surveillance of HIV infection and behaviours in South Africa, and to obtain a better understanding of factors driving the HIV epidemic.
- To collect data to evaluate the South African National HIV and AIDS, STI and TB Strategic Plan for 2017-2022.
- To collect data for monitoring the HIV indicators required for the preparation of the country reports to various national and international bodies.

Objectives of survey

At national, provincial and selected United States President's Emergency Plan for AIDS Relief (PEPFAR) and National Department of Health (NDoH) priority district levels, the main objectives of the survey were as follows:

- To estimate HIV prevalence among adults and children.
- To estimate the number of people living with HIV (PLHIV) who are on a previous regimen of first-line antiretroviral therapy; namely, tenofovir (TDF), emtricitabine (FTC) and efavirenz (EFV); and those on the TLD regimen, namely, tenofovir (TDF), lamivudine (3TC) and dolutegravir (DTG), in order to understand timeliness of uptake of the TLD regimen.
- To estimate the extent of viral load suppression (VLS) in HIV-positive individuals on treatment).
- To estimate the exposure to, uptake of, and barriers to access to HIV-related services.
- To estimate the proportion of males circumcised including through both medical male circumcision (MMC) and traditional male circumcision (TMC).

At a national level, the objective was to estimate the HIV incidence (i.e., the annualised rate of new HIV infections).

Secondary objectives included the following:

- To assess progress towards achievement of 2030 95-95-95 UNAIDS targets.
- To assess the level of HIV drug resistance (HIVDR).
- To describe trends in HIV prevalence, HIV incidence, and risk behaviour from 2002 to 2022 at both national and provincial levels as well as in selected districts.
- To assess the relationship between social and behavioural factors, intimate partner violence (IPV) and HIV infection.
- To assess the uptake of fixed-dose combination (FDC) of tenofovir/lamivudine/dolutegravir (TLD) HIV medication in relation to first-line antiretroviral (ARV) regimens prescribed before April 2020.
- To estimate the prevalence of COVID-19 antibody positivity at national and provincial levels.¹⁴

¹⁴ This will be reported on at a later stage in a separate publication.



METHODOLOGY



This section presents the survey design, sampling methods and data collection tools used in the survey.

Survey design and sampling

A cross-sectional, population-based household survey was conducted using a two-stage stratified cluster random sampling design. The 2020 national population sampling frame of 84 907 SALs developed by Statistics South Africa (7) was used to sample the 1 000 SALs plus an additional 1 114 SALs were drawn to include an oversampled subset of districts. The SALs were sampled with a probability proportional to size with the number of visiting points (VPs) in each SAL as a measure of size (MOS). As was done in the previous 2012 and 2017 SABSSM surveys (5, 8), all individuals from pre-selected households meeting the survey inclusion criteria were eligible to participate. The survey used small area layers (SALs) as the primary sampling unit (PSU).

The following lists the steps in the sampling procedure:

1. **Define the target population:** People of all ages living in households in South Africa.
2. **Define the sampling frame:** We used the 2020 national population sampling frame of 84 907 SALs developed by Statistics South Africa (12). From this sampling frame, we drew 1 000 SALs. An additional 1 114 SALs were drawn to include an oversampled subset of districts.
3. **Define primary sampling units:** In total 2 144 SALs were sampled from the 2020 database of SALs.
4. **Define measure of size (MOS):** The 2020 estimate of VPs was used as a MOS in sampling the 1 000 SALs.
5. **Allocate the sample:** SALs were selected with probabilities proportional to size according to province, race group and geographic type (locality type).
6. **Define strata:** Nine provinces^a ($n=9$) and three locality types^b ($n=3$).
7. **Define reporting domains:** Provinces ($n=9$); Locality type ($n=3$); age groups^c ($n=4$); sex^d $n=2$; and race group^e $n=4$.
8. **Define secondary sampling units:** 15 VPs were systematically sampled from each of the selected 1 000 SALs to form a cluster.
9. **Define the ultimate sampling unit:** All individuals living in a household were asked to participate in the survey.

a Provinces: Western Cape, Northern Cape, Eastern Cape, KwaZulu-Natal, Free State, Mpumalanga, Gauteng, Limpopo and North West Province

b Locality type: Urban areas, rural informal areas (tribal) and rural formal areas (farms)

c Age groups: Under 2 years, 2–14 years, 15–24 years, and 25 years and older.

d Sex: Male and female

e Race groups: African, Coloured, White, Indian/Asian

Additional sampling in selected districts

In addition to the sampling of 1 000 SALs, 1114 were added from a subset of districts in the country for precise HIV prevalence estimates in each sampled district. This increased the overall sampling frame to 2 144 SALs translating to an estimated target sample size of over 100 000 individuals.

Measures used in the survey

The survey adapted four questionnaires from the previous surveys. Some of the domains focusing on male circumcision and HIV disclosure were modified for this series. Domains which focused on HIV pre-exposure prophylaxis (PrEP) were added for the first time in this series.

Four types of questionnaires were administered in the survey, namely:

- household questionnaires;
- questionnaires for parents/guardians of children aged 0–11 years;
- questionnaires for children aged 12–14 years; and
- questionnaires for persons aged 15 years and older.

Survey fieldwork implementation

The next two sections outline fieldwork procedures and the survey communications strategy that were adopted at different levels.

Fieldwork staff composition

Fieldwork teams included the provincial coordinators, assistant provincial coordinators, HIV testing services (HTS) provincial coordinators, HTS counsellors, professional and enrolled nurses, phlebotomists, team supervisors, community liaison officers, quality control officers, return of results officers and data collectors who were neither HTS counsellors nor nurses. The recruitment of staff across the country considered the needs of the sampled areas, such as matching the language and where possible recruiting from the districts where most of the data collection was planned.

Study publicity and awareness

A survey communications strategy was implemented to raise public awareness and encourage participation in the sampled SALs. A communications company, Grounded Media, was appointed to support the implementation of the strategy at national, provincial, community and individual levels. Different forms and methods of communication used included radio, television, online/social and print media. Other forms of communication included organizing meetings and events.

These included study launches with provincial and district officials, stakeholders, and members of civil society. The same approach was followed at the community level, and supplemented with posters, flyers and a WhatsApp chatbot to provide information to potential participants. To facilitate access to selected households, community mobilisers were used in some SALs. The mobilisers were hired from the community and were familiar to and trusted by the communities.

Data collection

Data collection was completed over a period of 16 months, from January 2022 to April 2023. Although the duration of field activities in the SALs varied across the localities, these averaged four days. Fieldwork teams navigated SALs and VPs using maps and global positioning system (GPS) coordinates. The teams maximised opportunities for the inclusion of selected households by visiting eligible households up to five times on different days and times. They also consulted with neighbours to confirm whether selected households, where people could not be found during the first visit, were occupied.

Interviews in the households

During household visits, the community mobiliser with either the supervisor or one of the data collectors approached the head of the household to introduce themselves and their team. The purpose of the survey and necessary survey information were explained to the head of household and household members. After obtaining consent from eligible participants, data collectors administered the household questionnaire. Parents or guardians of children under the age of 18 years gave informed consent and verbal assent was obtained from children aged 7 to 11 years. Those aged 12 to 17 years provided assent for both interview and HIV testing. Thereafter, all other eligible individuals were approached to complete consent and an age-appropriate questionnaire and HIV testing.

Specimen collection in the households

HIV testing services

After the completion of individual interviews, rapid HIV testing was provided in households in line with the South African guidelines on HTS as documented in the *National HIV Testing Services: Policy, 2016* (9). Respondents who self-reported their HIV-positive status during the interview were not offered rapid HIV testing. Where needed, linkage to care was offered per the guidelines for HTS and the HIV rapid testing algorithm.

Blood sample collection and dried blood spot specimen preparation

Capillary blood was collected by finger-prick from respondents aged two years and older. The samples were collected into a microtainer and approximately 80–100 µL were used for dried blood spot (DBS) sample preparation on barcoded Whatman Grade 903 cards in the household. The remaining blood was used for rapid HIV testing.

Dried blood spot specimens were prepared for laboratory testing for HIV, viral load, exposure to ARVs, and HIV drug resistance. Ten circles on two barcoded Whatman Grade 903 cards were filled for respondents aged two years and older. Professional nurses collected approximately 450 µL of blood by heel prick from infants younger than two years of age. These were spotted onto five circles of one barcoded Whatman Grade 903 card. The DBS cards were placed on drying racks while still in the household. These racks were placed in a plastic container and allowed to dry overnight or for at least four hours with the supervisor before packaging for the courier to the laboratory. Dry individual DBS cards were placed in gas-impermeable resealable bags containing desiccant and humidity indicator cards. Respondents were given barcoded laboratory results collection slips with an estimated timeline for collecting results at their health facilities. DBS samples were couriered to the laboratory accompanied by completed and verified specimen tracking sheets.

Laboratory methods

Batches of barcoded DBS specimens were sent to the National Institute for Communicable Diseases (NICD) in Johannesburg and tracked through specimen-tracking sheets and waybill numbers.

HIV-antibody testing

Two fourth-generation HIV-1 enzyme immunoassays (EIAs), (A1 + A2) were used for HIV serology testing. All samples were tested with the first screening EIA Roche Elecsys HIV Ag/Ab assay (EIA 1) (Roche Diagnostics, Mannheim, Germany), and reactive samples were then tested with the second confirmatory EIA Genescreen Ultra HIV Ag/Ab assay (EIA 2) (Bio-Rad Laboratories, California, USA). Ten percent of the samples that tested HIV negative using the screening EIA were retested on the confirmatory EIA for quality assurance (QA) purposes. Specimens with discrepant results were retested. If the result remained unchanged, Western blot or the Geenius HIV 1/2 Confirmatory Assay (Bio-Rad Laboratories, California, USA) was performed to confirm HIV status. The survey protocol was amended to include the Geenius assay due to global shortage of Western blot kits in early to mid-2022.

The Geenius HIV 1/2 Confirmatory Assay uses recombinant and specific synthetic peptides similar to the Western blot design. It is also a WHO-approved product for supplemental confirmation of HIV infection and hence it had no impact on the survey results.

Given that the HIV antibody test does not distinguish between HIV infection and the presence of passively acquired maternal HIV antibodies in infants, samples from children younger than 24 months were tested using a Nucleic Acid Amplification Test (NAAT) (COBAS AmpliPrep/Cobas Taqman HIV-1 Qualitative Test, v2.0, Roche Molecular Systems, New Jersey, USA) to confirm HIV-1 infection.

Testing for viral load

HIV viral load (VL) testing was performed on confirmed HIV-positive samples from people of all ages using the Abbott platform for HIV-1 RNA testing in DBS samples (Abbott m2000 HIV Real-Time System, Abbott Molecular Inc., Des Plaines, IL, USA).

Testing for antiretroviral drugs

High-performance liquid chromatography (HPLC) coupled with tandem mass spectrophotometry was used to qualitatively detect the presence of ARVs in HIV-positive DBS samples at the University of Cape Town. Five drugs – nevirapine (NVP), efavirenz (EFV), lopinavir (LPV), atazanavir (ATV), and dolutegravir (DTG) – were included in the testing panel. As in previous surveys, the drugs in the testing panel were selected to cover key and backbone drugs used for HIV in the public sector at the time of the survey.

HIV-incidence testing

Confirmed HIV-positive samples from survey respondents aged two years and older were tested for recency of infection. The HIV incidence algorithm used the limiting-antigen (LAG) avidity assay combined with information on laboratory-determined and self-reported ART use, HIV VL, and prior HIV testing history. Advances in this field as well as expert consensus for HIV incidence estimation using samples from cross-sectional surveys were applied for testing and analysis.

Estimates are based on the recent infection testing algorithm (RITA) using the LAG assay VL ARV use (determined by laboratory detection of ARVs or self-report) and HIV testing history. We present the estimates in both relative terms (% per year) and absolute terms (number of new infections per year).

HIV drug resistance testing

HIV drug resistance (HIVDR) testing was conducted on samples that were virally unsuppressed with viral load (VL) $\geq 1\,000$ copies/ml. Total nucleic acid (TNA) was extracted using the NucliSENS EasyMAG® automated system according to the manufacturer's instructions. An in-house assay was utilized for next-generation sequencing, and MiSeq v2 (Illumina Inc., San Diego, USA) was used to sequence amplicons. Drug resistance mutations (DRMs) were identified using the Stanford HIV database algorithm v7.0.

Return of laboratory results

Survey respondents were notified to collect laboratory results by text messages (SMS). The text message provided information on the date and the health facility where the results could be collected. Table I outlines the process for the return of the survey results to respondents. The results were retrieved from the selected health facility using a barcode slip given at the time of sample collection in the household. Collection by respondents was tracked biweekly. Respondents who had not collected their results after two weeks of the initial SMS received three additional SMS notifications. Where the results were not collected two months after they were delivered to the health facility, participants were followed up via phone calls.

Table I: *Biomarker results returned to respondents*

Test results	Returned to respondents and/ or health facility
HIV rapid testing	Yes, returned to the respondent immediately in the household
HIV results (for those who declined HIV rapid testing in the household and provided a blood specimen)	Yes, returned to the health facility, within 8–12 weeks
Viral load	Yes, returned to the health facility, within 8–12 weeks
Discrepant HIV serology results	Yes, returned to the respondent at the household, within 12 weeks
HIV testing for children under two years old	Yes, returned to the respondent at household within 8–12 weeks

Data management

Questionnaire data were captured using the REDCap (version 10.6.3) mobile application on electronic tablets. The data were captured in an electronic data capturing template and records were uploaded to a database. Asynchronous transfer occurred via the General Packet Radio Service (GPRS), Wi-Fi, 3G or USB cable to any XForms-compatible server. The dataset was retrieved from REDCap and backed up in a MySQL server daily using php cron. The data management team ran and merged all submitted forms in the MySQL server.

Data cleaning was minimal as questionnaires were programmed with navigation logic as well as entry constraints. Daily uploading of the data allowed for real-time validation and monitoring of fieldwork progress. The queries report was developed on REDCap, and the data monitors auto generated the list of queries and shared it with the field team to provide the correct information. This process also allowed for the daily updating of statistics on Power BI dashboards.

Laboratory data were transferred and merged with the questionnaire data weekly or when data became available. Access to the overall data and database on the server was restricted to the data manager and database developers, who were able to securely access (password protected), extract, transfer and load the data in a MySQL server.

Sample weighting

Similar to previous SABSSM surveys, weighting procedures were devised post-hoc before data analysis and applied to enrolled individuals. The data file of drawn SALs contained the selection probabilities, of which the inverses are the respective base sampling weights of the SALs. In each sampled SAL, a systematic random sample of 15 VPs was selected, with VPs in each SAL having the same base weight. Also as done in previous SABSSM surveys, final weighting procedures with the relevant adjustments were performed before any analysis of the data. The procedures were performed as follows: a) the SAL base weight was adjusted to correct for the valid and realised SALs; b) the VP base weight was proportionally adjusted for the number of invalid and unrealised VPs in each SAL; and c) the final VP sampling weight was computed as the product of the SAL sampling weight and the VP sampling weight.

Demographic and HIV-testing information for all household members within the responding SALs was gathered to calculate individual sample weights. These individual weights were further adjusted for questionnaire and HIV-testing non-response. In the final step, information at the individual level was integrated to calculate the final sampling weight for each data record. This weight was equal to the final SAL weight multiplied by the final VP sampling weight, adjusted for individual non-response. The final individual weights were benchmarked against

2022 census estimates by age, race, sex and province (8). This benchmarking ensured that the sample estimates were generalisable to the respective populations of South Africa as per the census 2022 population estimates.

Benchmarking was performed in two steps. The first step entailed benchmarking the 2 144 sampled SALs (1 000 sampled SALS and 1 144 additional SALs) for the traditional HIV-prevalence survey against the census estimates for 2022. This process produced a final sample that was representative of the population in South Africa regarding sex, age, race, and province. The next step comprised of benchmarking weights from 33 additional districts against the district-level data also based on the populations by district per the 2022 mid-year population estimates. In addition, benchmarking was performed for respondents selected for the IPV module. The final weights were computed and incorporated the sampling weights for the SAL, household and individual levels, and HIV testing response. This procedure ensured that the estimates of HIV incidence, prevalence and other outcomes of interest were representative of South Africa overall and among sub-populations.

Data analysis

Data analysis comprised a cross-sectional analysis of the 2022 survey findings and a comparison to the 2017 survey and trend analyses of key indicators collected from the 2002 through to 2022 surveys. Basic descriptive analyses and graphical displays were performed for data at both national and provincial levels as well as in selected districts. Data were analysed using STATA 18.0 and the figures were prepared in Microsoft Excel. Each set of results was independently run and validated by a pair of statisticians/analysts. HIV incidence estimation data analysis was undertaken in STATA and R.

A chi-squared test for two proportions was used to test for association and comparison of estimated proportions in categorical variables. A p -value $\leq 5\%$ was set for statistical significance. Other reliability measures were also computed, including the coefficient of variation, design effects (DEFF) and the square root of the design effect (DEFT), which considered the complex design and individual sample weights, adjusting for HIV non-response. Taylor-linearized variance estimation was applied.

Results depict weighted percentages and unweighted counts (unless otherwise specified). The sum of the individual unweighted counts might not add to the overall total due to missing data for certain demographic variables.

RESULTS



This section presents a comprehensive overview of response rates, HIV prevalence, ART usage, HIV incidence, VL suppression, progress towards the 95-95-95 targets, and behavioural determinants of HIV.

Response rates

To determine the household response rate, the number of valid VPs that completed interviews was divided by the number of occupied valid VPs. The survey targeted 2 144 SALs comprising of 1 000 core SALs and an additional 1 144 SALs from selected districts. Within each SAL, the survey targeted 15 VPs resulting in a total of 32 160 VPs for the study. However, 29 447 (91.6%) VPs were accessible, wherein 27 005 (91.7%) were valid. Out of the 27 005 valid VPs, a total of 21 615 agreed to participate resulting in a household response rate of 80%.

The proportions of non-responses at the VP or household level were as follows:

- A total of 3 010 (11.2%) of the 27 005 valid households refused to take part in the survey.
- A total of 2 380 of 27 005 (8.8%) were valid VPs, however the households were found to be empty after either up to five repeat visits had been attempted to interview the head of the household or the household could not be considered for other reasons (incapacitated and there was no one to provide permission to conduct the survey).

Individual interview response rate

Among the 21 615 VPs whose household heads agreed to participate in the survey, 76 134 individuals were subsequently deemed eligible to be interviewed and provide a blood specimen. Among these eligible individuals, 71 620 (94.1%) agreed to be interviewed. In addition, 2 170 were not interviewed due to refusal by the head of the household or by the respondents themselves (a total of 26 024 or 34.2%). A total of 1 662 eligible individuals (2.2%) were absent from the household.

HIV-testing response rate

Among the 76 134 eligible individuals, 47 766 (62.7%) provided a blood specimen for HIV testing; testing response rates were 65.5% among adults aged 15 years and older and 56.6% among children aged 14 years and younger. The specimens were linked to the completed questionnaires. Of those individuals eligible to participate, 23 854 were interviewed but refused to provide blood specimens. Lastly, 682 individuals (0.9% of all eligible individuals) had no recorded information about testing status and were classified as missing data.

National HIV prevalence

South Africa bears the greatest number of people living with HIV in the world; and monitoring the epidemic, its determinants, the level of access to treatment and its impact is vital for accurate tracking of the epidemic. This section presents HIV prevalence estimates for 2022 including estimates stratified by key socio-demographic characteristics.

The overall national estimate of HIV prevalence in South Africa for all ages in 2022 was 12.7% [95% CI: 12.0–13.4] as compared to 14.0% [95% CI: 13.2–14.8] in 2017. Between the two surveys HIV prevalence decreased substantially in the age categories 15–24 years and 25–49 years. The data also show that females continue to be disproportionately affected by HIV with a prevalence of 16.4% [95% CI: 15.3–17.5] as compared to males at 8.8% [95% CI: 8.1–9.5] (Table II). Prevalence peaks at 34.2% for females aged 35–39 years, whereas, prevalence peaks at 27.1% for males aged 45–49 years (Figure I).

Table II: HIV prevalence by sex, age, race and locality, South Africa, 2017 and 2022

Variables	2017			2022		
	<i>n</i>	%	95% CI	<i>n</i>	%	95% CI
Total	40 602	14.0	13.2–14.8	47 550	12.7	12.0–13.4
Sex						
Male	16 852	10.8	10.0–11.7	19 965	8.8	8.1–9.5
Female	23 750	17.1	16.0–18.3	27 567	16.4	15.3–17.5
Age (years)						
0–14	12 237	2.8	2.4–3.4	12 651	2.4	1.9–3.2
15–24	8 070	7.8	6.9–8.8	8 930	5.2	4.5–6.0
25–49	12 720	26.3	24.8–27.9	16 133	22.1	20.7–23.5

Variables	2017			2022		
	<i>n</i>	%	95% CI	<i>n</i>	%	95% CI
50 and older	7 575	12.4	10.8–14.2	9 836	14.0	12.5–15.6
15–49	20 790	20.6	19.4–21.8	25 063	17.0	16.0–18.0
Race						
Black African	33 397	16.7	15.8–17.6	43 545	14.7	14.0–15.5
White	1 212	1.0	0.4–2.6	888	1.8	0.7–4.1
Coloured	4 474	5.1	3.9–6.7	2 760	4.8	3.5–6.6
Indian/Asian	1 519	0.8	0.4–1.9	315	1.1	0.3–3.3
Locality type						
Urban	20 182	13.0	12.0–14.1	27 207	12.3	11.4–13.2
Rural informal (tribal areas)	16 276	15.3	14.0–16.7	14 396	13.0	11.8–14.3
Rural formal (farms)	4 144	17.8	15.4–20.5	5947	14.8	12.7–17.1

Findings from the 2022 survey suggest the prevalence of the HIV epidemic has reached a plateau (Figure I). A notable shift of the epidemic curve to the right, with the peak of HIV prevalence occurring in successively older age groups signals an ageing epidemic.

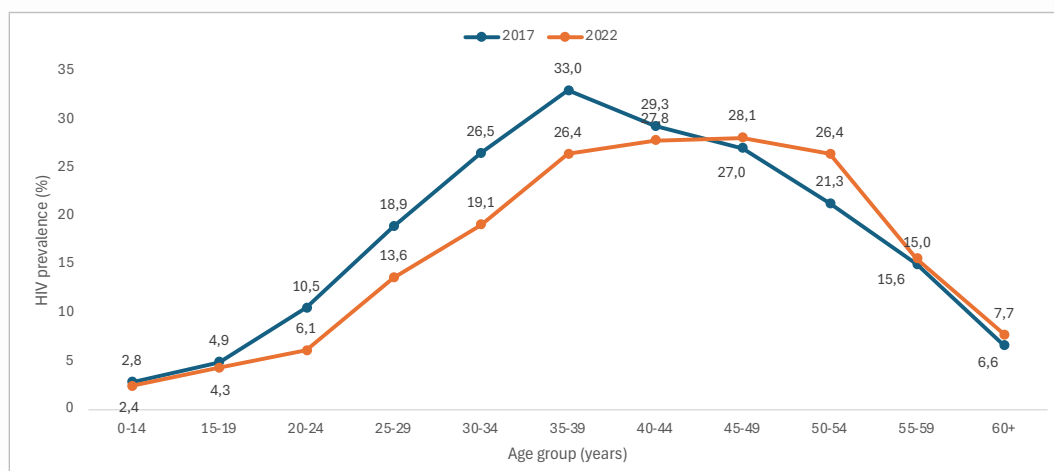
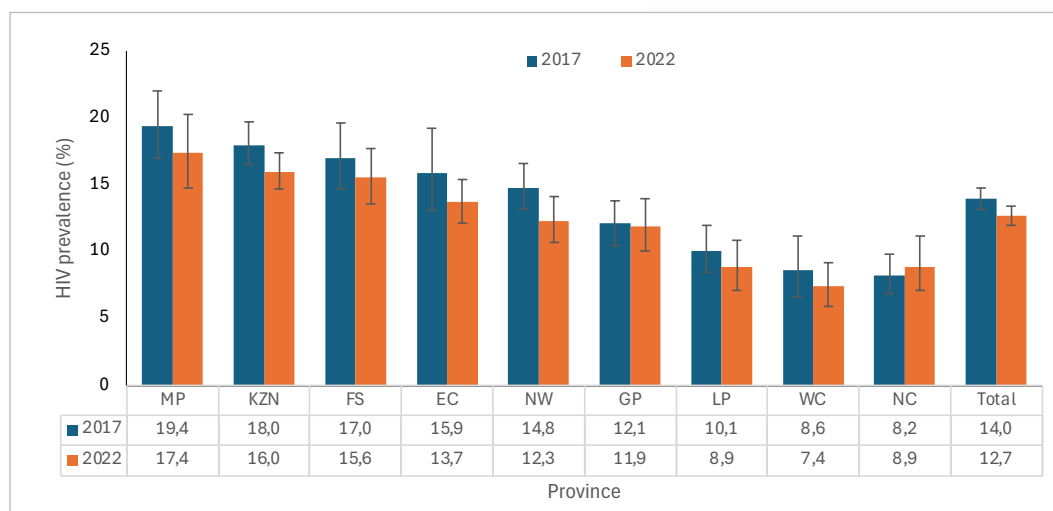


Figure I HIV prevalence by age, South Africa, 2017 and 2022

Provincial HIV prevalence

As indicated in Figure II, there was a decreasing trend in HIV prevalence among individuals of all ages in all provinces in 2022 as compared to 2017 except in Northern Cape. In 2022, Mpumalanga, KwaZulu-Natal and Free State retained their positions as the provinces with the highest HIV prevalence (17.4%, 16.0% and 15.6% respectively).



Key: MP – Mpumalanga; KZN – KwaZulu-Natal; FS – Free State; EC – Eastern Cape; NW – North West; GP – Gauteng; LP – Limpopo; WC – Western Cape; NC – Northern Cape

Figure II HIV prevalence by province among people of all ages, South Africa, 2017, 2022

Use of antiretrovirals

Universal access to ARVs is foundational to HIV epidemic control. Current use of ART was defined as testing positive for one or more of the ARV drugs included in the survey testing panel for HIV-positive DBS samples or self-reported ART use. Self-report of ART was used in the 12.7% of cases in which blood was provided but there was insufficient sample for ARV testing or where the sample could not be tested for ARVs. The 2017 ART results in table III were recalculated using this definition.

The survey found that, overall, 80.9% [95% CI: 78.1–83.5] of PLHIV were receiving ART in 2022. This translates to an estimated 5 730 647 PLHIV receiving ART – an increase from 4 532 330 [63.7%; 95% CI: 61.3–66.0] in 2017. A greater proportion of females, 83.2% [95% CI: 80.2–85.9] than males, 76.2% [95% CI: 71.5–80.3] were on treatment. Use of ART was lowest among those aged 15–24 years (63.2%) and in those living in urban areas (77.4%). As shown in Table III, among provinces, ART coverage ranged from 87.3% in KwaZulu-Natal to 73.4% in Gauteng.

Table III *Antiretroviral treatment among people living with HIV (PLHIV) by sex age, race and province, South Africa, 2017 and 2022*

Variables	2017		2022	
	PLHIV on ART % [95% CI]	Estimated number of PLHIV on ART	PLHIV on ART ¹ % [95% CI]	Estimated number of PLHIV on ART
Total	63.7 [61.3–66.0]	4 532 330	80.9 [78.1–83.5]	5 730 647
Sex				
Male	58.6 [54.5–62.6]	1 488 583	76.2 [71.5–80.3]	1 771 528
Female	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 and older	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
Race				
Black African	64.1 [61.7–66.5]	4 408 026	81.1 [78.2–83.8]	5 445 880
Other	51.6 [36.8–66.0]	124 304	75.8 [59.3–87.1]	242 065
Locality type				
Urban	60.5 [57.2–63.7]	2 588 234	77.4 [73.5–80.9]	3 414 963
Rural informal [tribal areas]	69.2 [65.5–72.6]	1 730 610	85.9 [81.9–89.1]	1 878 261
Rural formal [farms]	63.5 [54.7–71.4]	213 486	90.4 [86.9–93.1]	437 423
Province				
Western Cape	54.4 [43.8–64.7]	279 755	76.8 [67.9–83.8]	369 202
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

Of those on ART and aged 15 years and older, 73% were on a dolutegravir (DTG)-containing ART (i.e., optimized) regimen (Table IV). Uptake of DTG was 77.5% in males and 71.1% in females. Among provinces, uptake of DTG-containing regimen ranged from 78.9% in North West to 38.1% in Northern Cape.

Table IV *Dolutegravir-containing regimen coverage among people 15 years and older with detectable ARVs, South Africa, 2022*

Variable	N	%	95% CI
Total	4 993	73.0	70.4–75.5
Sex			
Male	1 237	77.5	72.7–81.6
Female	3 754	71.1	67.9–74.2
Age group (years)			
15–24	312	65.8	54.6–75.5
25–49	3 286	72.3	69.3–75.1
50 and older	1 395	76.7	72.0–80.9
15–49	3 598	71.9	68.9–74.7
Race			
Black African	4 881	73.6	71.0–76.1
Other	106	54.9	38.9–69.9
Locality type			
Urban	2 928	70.8	67.0–74.3
Rural informal (tribal areas)	1 366	74.9	70.9–78.6
Rural formal (farms)	699	82.6	76.4–87.4
Province			
Western Cape	124	77.5	65.9–85.9
Eastern Cape	584	69.1	61.9–75.5
Northern Cape	113	38.1	26.1–51.6
Free State	596	64.2	56.4–71.4
KwaZulu-Natal	2 128	77.2	73.5–80.5
North West	342	78.9	70.4–85.4
Gauteng	326	74.3	66.3–81.0
Mpumalanga	643	70.7	65.0–75.9
Limpopo	137	68.6	55.1–79.5

* ART coverage refers to a confirmed laboratory test or self-reported ART use among those who tested HIV-positive. Insufficient sample for ARV testing or where the sample could not be tested for ARVs.

HIV Incidence

Incidence estimates provide direct means to assess the impact of biomedical, behavioural and structural interventions to prevent new HIV infections. As shown in Figure III and Table V, the estimated overall HIV incidence in people 2 years and older for 2022 was 0.44% [95% CI: 0.23–0.67] translating to 232 400 (121 500–353 900) new HIV infections in South Africa. HIV incidence was 0.60% [95% CI: 0.31–0.92] among adults 15 years and older translating to 227 400 (116 600–352 100); 0.39% [95% CI: 0.01–0.72] among youth and young adults aged 15–24 years; and 0.72% [95% CI 0.34–1.14] among adults aged 15–49 years. In 2022, HIV incidence was higher in females than males in all age categories; however, the differences were not substantial.

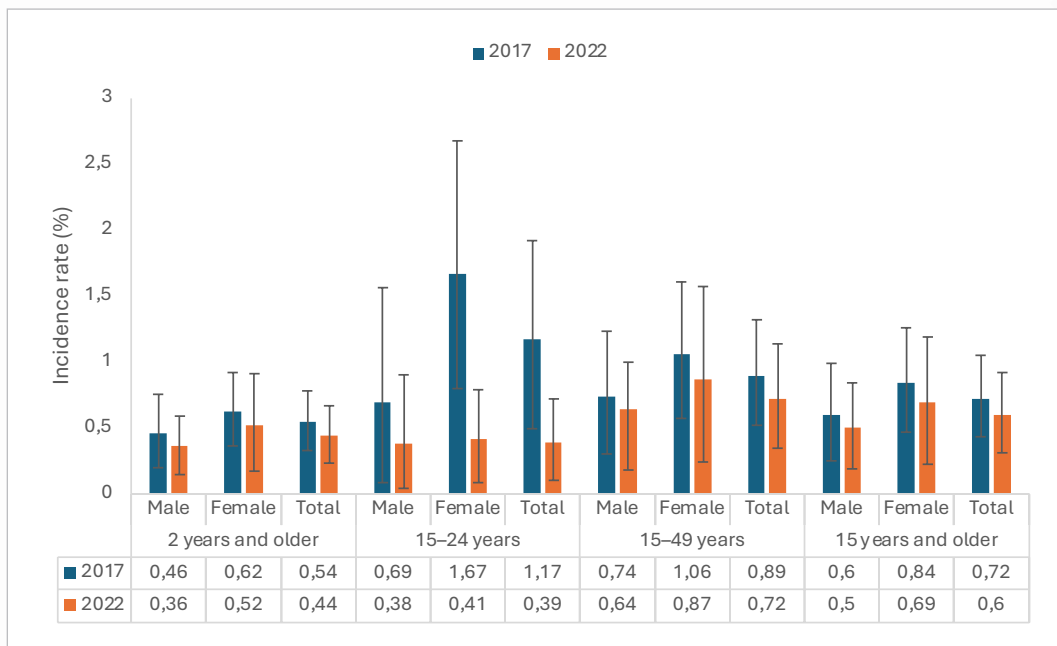


Figure III Estimated HIV incidence (%) by age and sex, South Africa, 2017 and 2022

The overall decrease in estimated HIV incidence was from 0.54% [95% CI: 0.33–0.78] in 2017 to 0.44% [95% CI: 0.23–0.67] in 2022. The most substantial decline in HIV incidence was observed among females aged 15–24 years, which decreased approximately three-fold from 1.17% [95% CI: 0.49–1.92] in 2017 to 0.39% [95% CI: 0.10–0.72] in 2022.

Table V *Estimated number of new infections by age and sex, South Africa, 2017 and 2022*

Age groups (years)	Sex	2017	2022
		Estimated number of new infections per year [95% CI]	*Estimated number of new infections [95% CI]
2 and older	Total	249 800 [150 600–362 400]	232 400 [121 500–353 900]
	Male	109 000 [47 600–177 000]	96 000 [37 600–158 000]
	Female	140 800 [81 600–208 400]	136 000 [44 500–238 000]
15–24	Total	103 400 [43 100–170 600]	38 000 [9 400–70 200]
	Males	31 500 [3 700–71 000]	19 000 [2 000–45 700]
	Females	71 900 [34 400–115 400]	19 200 [4 000–36 900]
15–49	Total	217 900 [126 300–322 200]	205 400 [97 000–324 000]
	Males	97 000 [39 000–161 100]	80 300 [25 400–140 700]
	Females	120 800 [64 800–183 700]	125 000 [35 000–224 600]
15 and older	Total	232 000 [137 800–339 000]	227 400 [116 600–352 000]
	Males	98 300[40 300–163 000]	91 800[34 300–154 500]
	Females	133 500[75 100–200 300]	135 800[43 700–235 200]

* The estimates are based on a recent infection testing algorithm (RITA) using the limiting-antigen (LAg) avidity assay EIA combined with information on laboratory-determined and self-reported ART use, HIV VL, and prior HIV testing history.

HIV viral load suppression (VLS)

HIV VLS is an indicator of adherence to antiretroviral treatment and reduces the risk of HIV transmission to nearly zero. In this survey, VLS was defined as having <1 000 copies of HIV RNA per mL of blood.

Overall, the survey found 81.4% [95% CI: 78.8–83.7] of all PLHIV were virally suppressed. Also shown in Figure IV, VLS was highest among those aged 50 years and over (87.2%) and lowest among females aged 15–24 years (68.2%) and males aged 25–34 years(66.3%).

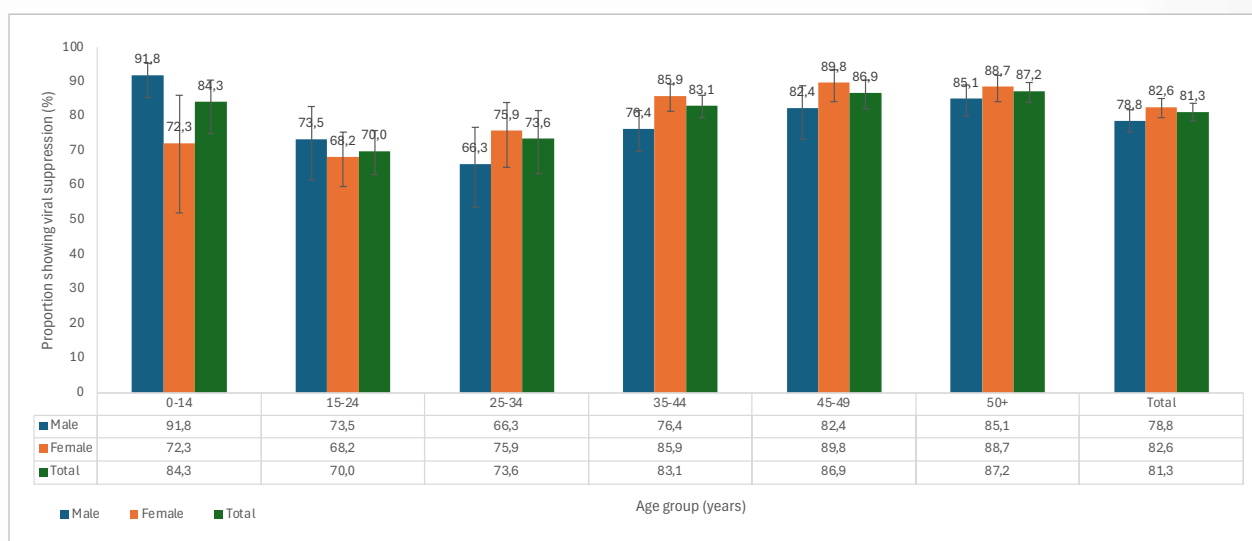


Figure IV Viral load suppression by sex and age, South Africa, 2022

As shown in Figure V, between 2017 and 2022 VLS among all PLHIV increased in all provinces. In 2022, VLS ranged from 88.8% in KwaZulu-Natal to 77.0% in Limpopo and North West.

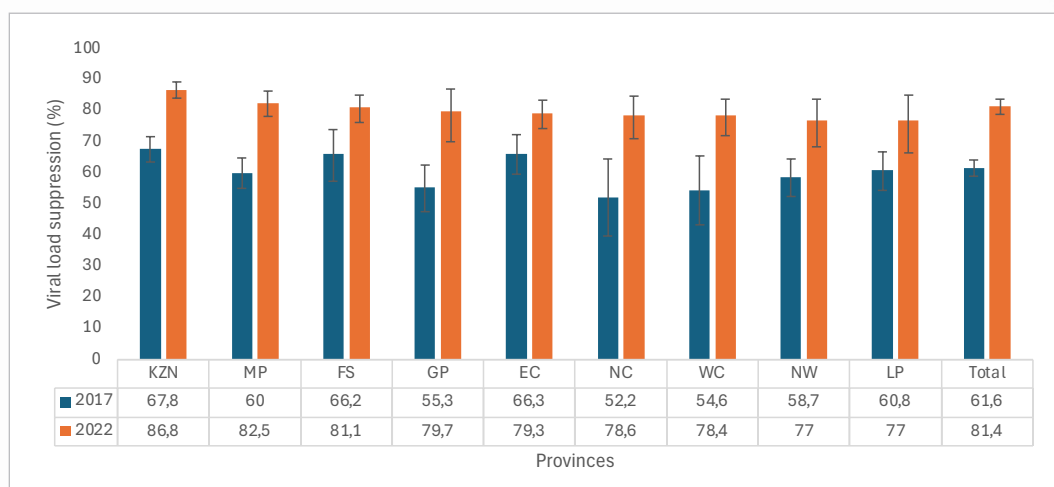


Figure V Viral load suppression by province by all ages, South Africa, 2022

Progress towards the 95-95-95 targets

Figure VI compares the progress towards the 95-95-95 programme targets in the 2017 and 2022 surveys for PLHIV aged 15 years and older. For the first 95, the denominator was all PLHIV, and the numerator was PLHIV who knew their HIV status. The denominator for the second 95 was PLHIV who knew their HIV status and the numerator was the number on ART, while the denominator for the third 95 was the number of PLHIV who knew their HIV status and were on ART, and the numerator was the number of PLHIV who had suppressed viral load. The labelled percentages in Figure VI represent the 95-95-95 targets based on these definitions and the bars represent the denominators described above.

Overall, progress towards the 95-95-95 targets has greatly improved since 2017: the percentage of PLHIV who know their HIV status (first 95) increased from 84.8% to 89.6%; ART use among those who know their status (second 95) increased from 70.7% versus 90.7%; and VLS among those on ART (third 95) increased from 87.4% to 93.9%. Improvement across the 95-95-95 indicators was more pronounced in males compared to females.

In 2022, knowledge of HIV status among females was higher than among males (91.6% vs 85.1%), but once diagnosed with HIV, both sexes had comparable levels of being on ART (91.0% vs 90.1%) and virally suppressed (93.9% vs 93.8%). There were gaps in knowledge of HIV status among young people aged 15 to 24 years (73.1%). For the second 95 of those PLHIV who knew their status in this age group 87.4% initiated treatment. Of these PLHIV on treatment, 92.4% achieved viral load suppression for the third 95.

Among provinces, the first 95 was below 90% in Western Cape, Gauteng, Free State, Mpumalanga and Limpopo, the second 95 was below 90% in three provinces (Eastern Cape, North West and Gauteng) and the third 95 was below 90% in Western Cape, Eastern Cape, Free State, Mpumalanga, Limpopo and North West.

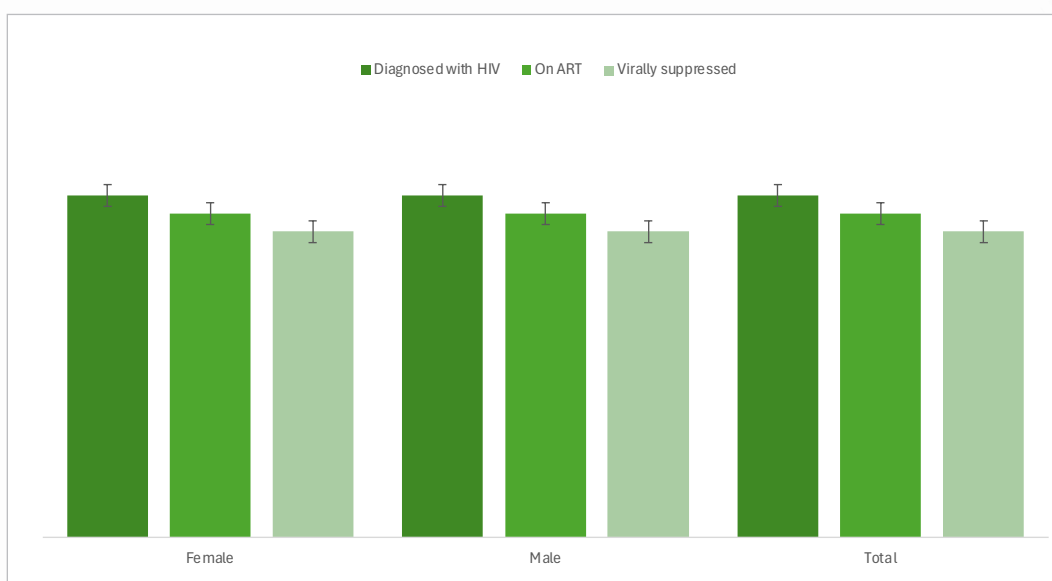


Figure VI 95-95-95 targets for people living with HIV aged 15 years and older, South Africa, 2017 and 2022

HIV drug resistance

HIV drug resistance is caused by mutations in the virus genetic material that affect the ability of ARV drugs to block the HIV replication. As with many other antimicrobial drugs, ARVs, including newer ones, can become partly or fully inactive because of the emergence of drug-resistant strains of the virus.

A total of 1 172 samples from HIV-positive respondents who were virally unsuppressed were submitted for drug resistance testing. Of these 992 (84,6%) were successfully amplified and genotyped. Drug resistance mutations (DRMs) were identified in 36.2% of these samples. The prevalence of DRMs was higher than reported in the 2017 survey, where DRMs were estimated at 27.4%. As was the case in the previous survey, there were more DRMs among those who tested positive for ARVs (50.5%) than those who tested negative for ARVs (30.6%).² Resistance was primarily driven by non-nucleoside reverse transcriptase inhibitor (NNRTI) resistance, with 30.2% of DRMs occurring as NNRTI mono-resistance. An estimated 8.5% of virally unsuppressed respondents had dual NNRTI and nucleoside reverse transcriptase inhibitors (NRTI) resistance. Resistance to protease inhibitors, (0.8%) and integrase strand transferase inhibitors, (0.4%) was low and was not detected in children and youth.

² There are two types of drug resistance, namely primary drug resistance and secondary drug resistance. Secondary drug resistance is when an individual is infected by a strain of HIV that is already resistant to one or more drugs.

Key drivers of HIV

Key drivers of the HIV epidemic include sexual debut before the age of 15 years, engaging in age-disparate relationships, having more than one sexual partner, suboptimal use of condoms, and among males, not being circumcised. Additional factors including access to HIV testing, awareness and disclosure of HIV status, HIV risk perception, knowledge of HIV, attitudes towards people living with HIV, having experienced intimate partner violence, and orphanhood will also be discussed.

Sexual debut before the age of 15 years

Early sexual debut in this report is defined as having had first sexual intercourse (insertion of the penis in the vagina and/or anus) before 15 years of age. Figure VII shows the prevalence of early sexual debut reported by youth aged 15–24 years by sex in 2017 (13.0%) and 2022 (11.2%). In 2022, 15.7% of males versus 6.6% of females reported early sexual debut. Differences among race categories were minimal with the highest prevalence of early sexual debut among coloured (13.0%) followed by black Africans (11.1%), whites (10.7%) and Indians (10.3%).

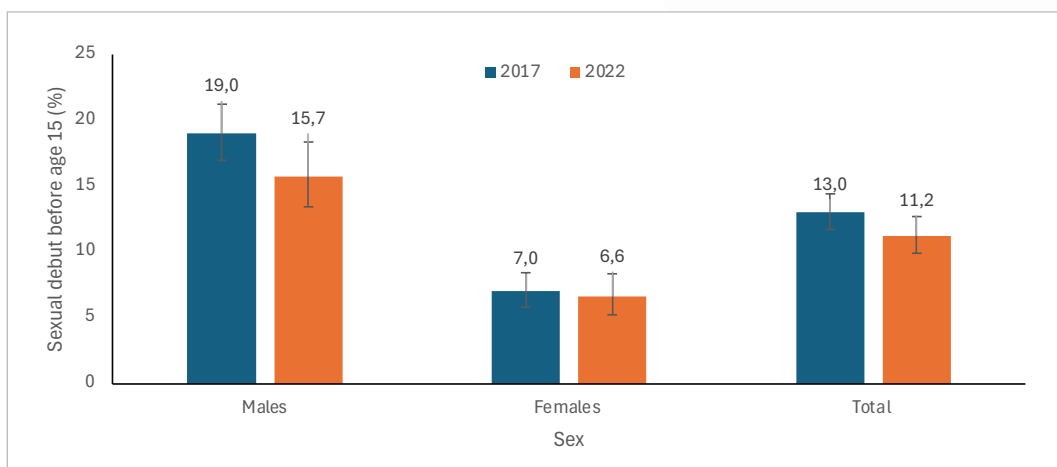


Figure VII Prevalence of sexual debut before the age of 15 years reported by youth aged 15–24 years by sex, South Africa, 2017 and 2022

Age-disparate sexual relationships

Age-disparate sexual relationships are defined as the difference of at least 5 years between partners. Figure VIII below indicates that in 2022, 15.6% of adolescents³ aged 15–19 years reported an age-disparate relationship. A substantially higher proportion of adolescent females (33.5%) as compared to adolescent males (0.9%) reported having a sexual partner who was older by five or more years. The proportions of age-disparate sexual partners by sex remain relatively unchanged from 2017.

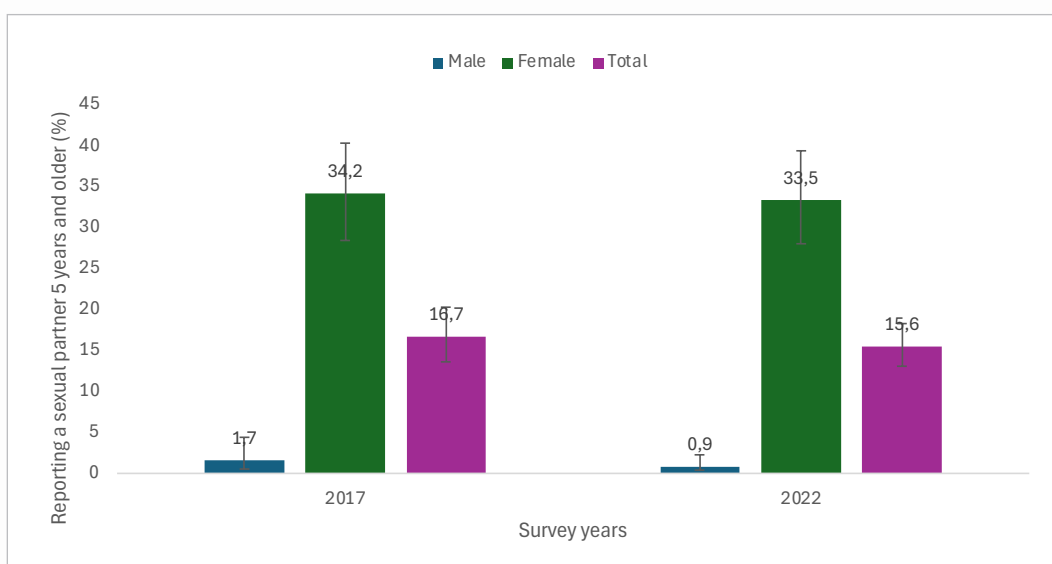


Figure VIII Age-disparate sexual relationships among adolescents aged 15–19 years by sex, South Africa, 2017 and 2022

Multiple sexual partners

Engaging in unprotected sexual activities with multiple partners increases the risk of HIV infection. Figure IX shows that in 2022, 8.9% of sexually active respondents aged 15 years and older reported having two or more sexual partners in the past 12 months. In 2022, a greater proportion of males (13.9%) than females (3.9%) reported having two or more sexual partners.

³ According to the WHO, adolescents are defined as those aged 10 to 19 years old whilst those aged between 15 and 24 years are categorized as youth. Adolescent health in the South-East Asia Region, Accessed 5 June 2024, <https://www.who.int/southeastasia/health-topics/adolescent-health>.

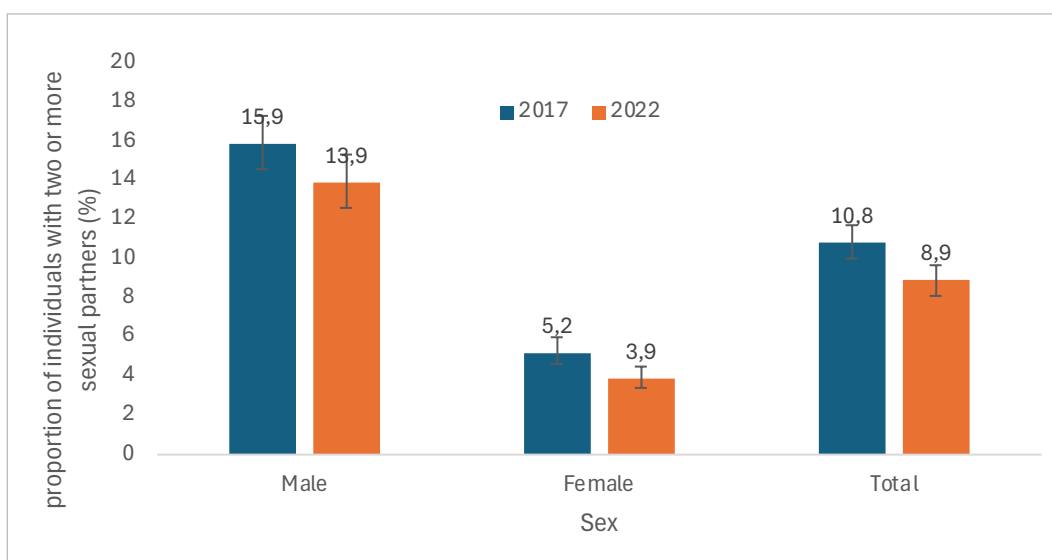


Figure IX Sexually active males and females aged 15 years and older who had two or more sex partners in the last 12 months, South Africa, 2017 and 2022

Condom use

Condom use prevents sexually transmitted infections including HIV. Figure X shows that in 2022, 31.8% of respondents aged 15 years and older reported that they had used a condom during their most recent sexual encounter compared to 38.5% in 2017. In 2022, a higher proportion of males (33.7%) reported having used a condom during their last sexual encounter compared to females (29.9%).

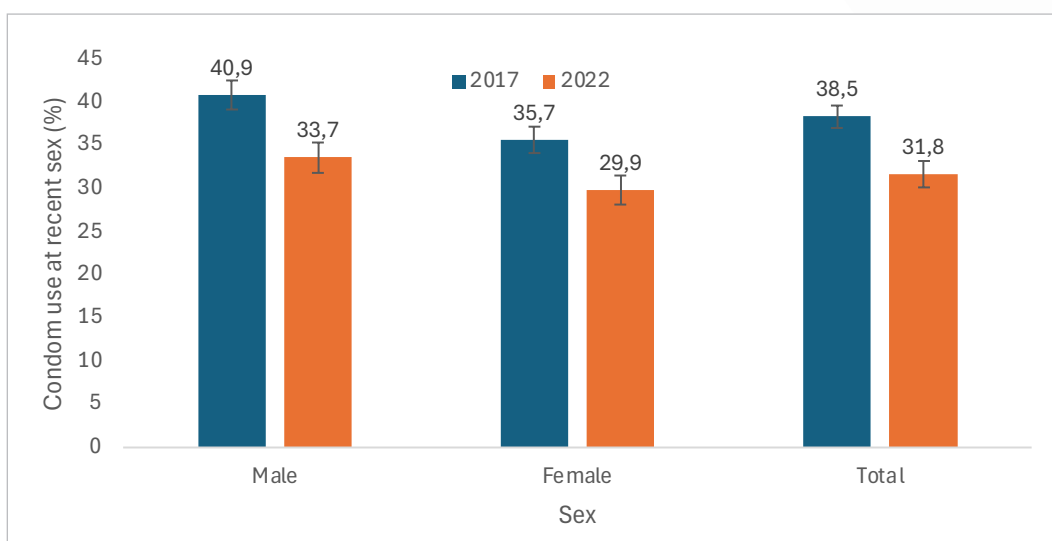


Figure X Condom use during most recent sexual encounter among people aged 15 years and older by sex, South Africa, 2017 and 2022

Male circumcision

Voluntary medical male circumcision was introduced in South Africa in 2011 as part of the national HIV prevention strategy. In 2022, self-reported circumcision among males aged 15 years and older was 63.7%. Prevalence of circumcision was highest among younger males aged 25–34 years (70.6%), black Africans (71.7%) and in rural informal/tribal areas (72.5%). Among provinces, circumcision ranged from 87.7% in Limpopo to 35.6% in Northern Cape. As shown in Figure XI, the proportion of circumcised males who reported medical circumcision increased from 51.7% in 2017 to 60% in 2022.

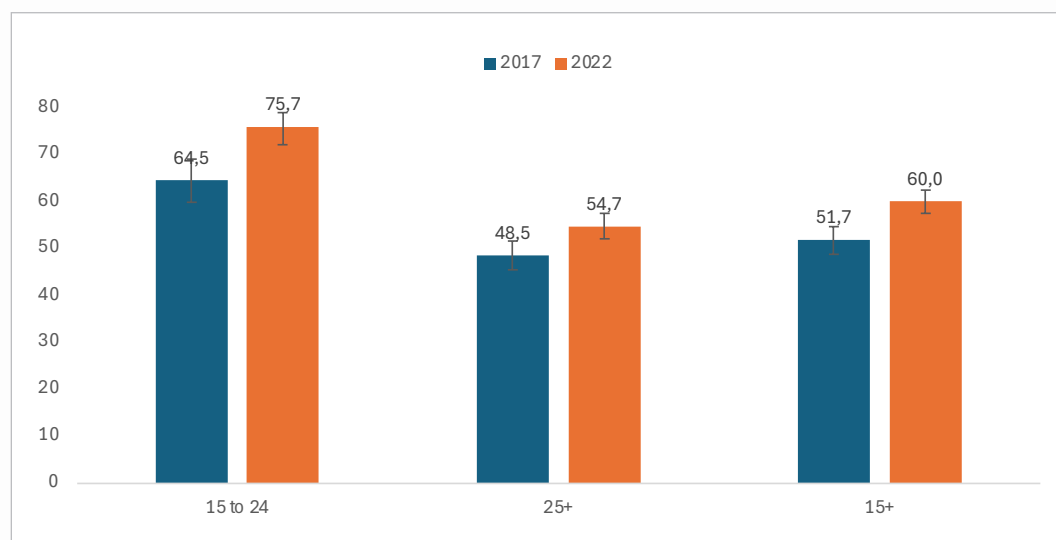


Figure XI Trends in medical circumcision reported by circumcised adult males by age, South Africa, 2017 and 2022

Access to HIV-testing services

An overwhelming majority of respondents (93.7%) reported that they were aware of a nearby HIV testing site. Awareness of a nearby HIV testing site was highest ($\geq 95\%$) in men and women aged 25–49 years and lowest among younger males aged 15–24 years (89.9%) and 50 years and older (87.6%).

HIV testing

HIV testing is a gateway to counseling on HIV prevention, and among people diagnosed with HIV, linkage to care and ART. A greater proportion of females (85.2%) than males (76.8%) reported that they had ever been tested for HIV before the survey. Figure XII shows that recent (in the past three years) HIV testing was lower in youth aged 15–24 (55.8%) and adults 50 years and older (45.3%) as compared to adults 25–49 years (74.4%). A greater proportion of youth aged 15–24 years (32.6%) and older adults aged 50 years and older (25.3%) reported that they never tested for HIV.

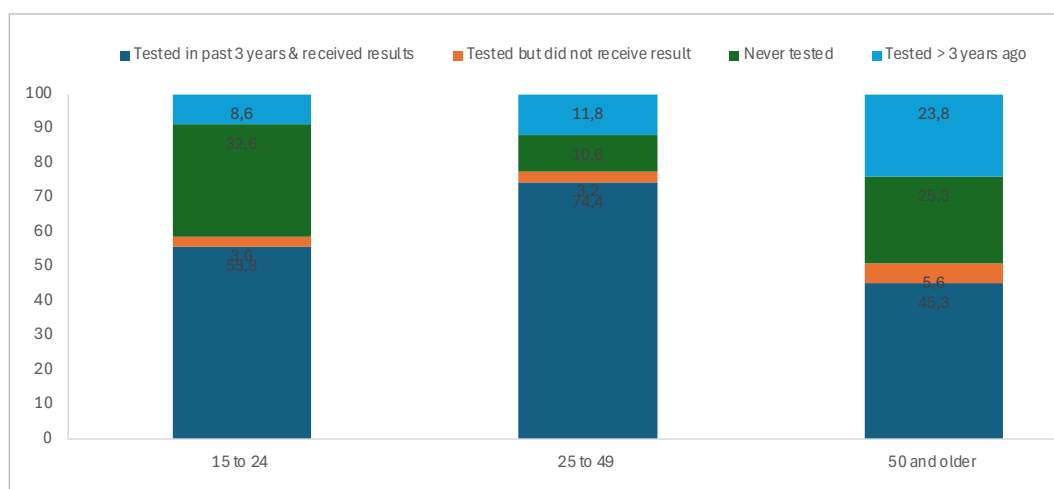


Figure XII HIV testing history among individuals aged 15 years and older who tested HIV negative or were newly identified as HIV-positive in the survey, by age group, South Africa, 2022

Figure XIII shows that recent (<3 years ago) HIV testing was lowest in Northern Cape (32.9%), Free State (43.9%), and Western Cape (54.1%) (Figure XIII).

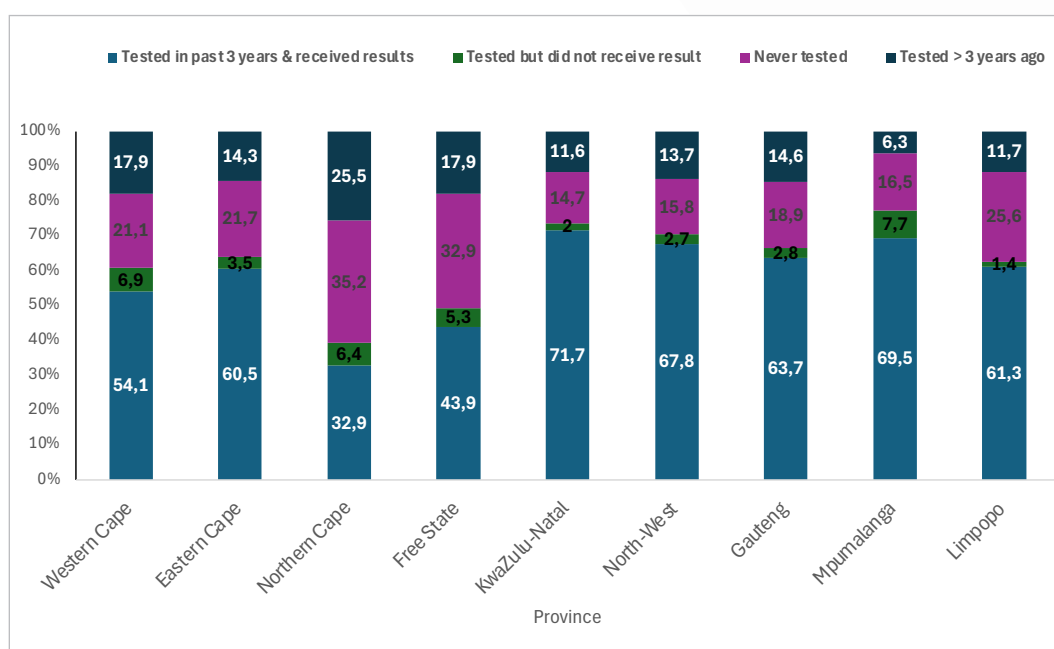


Figure XIII HIV testing history among individuals aged 15 years and older who tested HIV negative or were newly identified as HIV-positive in the survey, by province, South Africa, 2022

Awareness of pre-exposure prophylaxis

National PrEP guidelines for individuals at higher risk for acquisition of HIV were released in 2020 (15). Overall in 2022, 34.2%⁴ of sexually active adults aged 15 years and older had heard of PrEP, of whom 14.0% had taken PrEP. Of those who had taken PrEP, 37.0% 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. A greater proportion of females (39.4%) versus males (28.7%) and younger people aged 15–24 years (42.0%) versus older people aged 50 years and older (19.3%) had ever heard of PrEP. At the provincial level, PrEP awareness ranged from 24.5% in Limpopo to over 44.8% in KwaZulu-Natal and Mpumalanga. Among people who had heard of PrEP, there were no major differences in PrEP use (ever/current) by sex, age categories, or between provinces.

Perceived susceptibility to HIV infection

Risk perception is important for behaviour change and adoption of protective practices. Among individuals aged 15 years and older, 85.6% believed they would either ‘definitely not’ or ‘probably not’ get infected with HIV, and 14.4% believed they ‘probably will’ or ‘definitely will’ get infected with HIV.

Table VI Perceived risk of HIV infection among youth and adults aged 15 years and older by sex, South Africa, 2022

Variable	Low perceived risk ^a			High perceived risk ^b		
	N	%	95% CI	n	%	95% CI
Total	35 634	85.6	84.4–86.7	6 013	14.4	13.3–15.6
Sex						
Male	15 389	85.9	84.4–87.2	2 755	14.1	12.8–15.6
Female	20 245	85.3	84.0–86.5	3 258	14.7	13.5–16.0

a Low self-perceived risk: Participants who reported ‘I definitely will not get infected with HIV’ or ‘I probably won’t get infected’.

b High self-perceived risk: Participants who reported ‘I am probably going to get infected with HIV’ or ‘I am definitely going to get infected’.

⁴ Among participants aged 15 years and older who reported having sex in the past 12 months and who reported that the result of their last HIV test was negative and tested HIV negative in the survey.

Self-perceived high risk of HIV infection was similar among males and females. The self-perceived risk was higher among black Africans (17.3%), person aged 25–49 years (18.5%), those residing in rural informal/tribal areas (22.5%) and those living in Limpopo (22.4%) and Mpumalanga (20.4%). The Northern Cape had the lowest proportion of respondents who perceived themselves to be at high risk for acquiring HIV (4.1%).

Knowledge about the sexual transmission of HIV and rejection of major misconceptions about HIV

Accurate knowledge of HIV was defined as correctly answering five questions about HIV transmission and misconceptions (10). The five questions include items about HIV transmission and misconceptions about HIV (can “AIDS be cured; a person reduce the risk of HIV by having fewer sexual partners; a healthy-looking person have HIV; a person get HIV by sharing food with someone who is infected; a person reduce the risk of getting HIV by using a condom every time he/she has sex?”).

Overall, one quarter (25.7%) of individuals aged 15 years and older had correct knowledge and rejection of major misconceptions about HIV. Knowledge was similar among males and females and across age categories. At provincial level, accurate knowledge of HIV ranged from over 30% in Northern Cape and Mpumalanga to below 18% in North West, Eastern Cape and Free State.

Attitudes towards people living with HIV

HIV-related stigma remains a significant issue among people aged 15 years and older. Addressing stigma is essential to improve the quality of life and well-being of PLHIV. Of the six questions⁵ related to HIV-related stigma, the majority yielded results that indicated that most people held positive attitudes toward PLHIV. The question about the willingness to care for a family member with AIDS had the highest proportion of positive responses at 92.4%. The question “Is it a waste of money to train or give a promotion to someone with HIV/AIDS?” had the lowest proportion of positive responses at 66.3%.

-
- 5 a. If you knew that a shopkeeper or food seller had HIV, would you buy food from them?
b. Would you be willing to care for a family member with AIDS?
c. If a teacher has HIV but is not sick, should he or she be allowed to continue?
d. Is it a waste of money to train or give a promotion to someone with HIV/AIDS?
e. Would you want to keep the HIV-positive status of a family member a secret?
f. Are you comfortable talking to at least one member of your family about HIV/AIDS?

Experiences of intimate partner violence

IPV and HIV are interconnected public health concerns. In each household, one person (15 years and older) was randomly selected to respond to questions about IPV. Among those aged 15 years and older who had ever been in a relationship, 11.7% of females and 5.4% of males had experienced a form of physical or sexual violence from an intimate partner. In addition, 4.6% of females and 3.2% of males reported that a partner had physically hurt them often or sometimes during the past 12 months.

Orphanhood status

Information on orphanhood status was either provided by parents or guardians of those aged 0 to 11 years, or by self-report for those aged 12 to 18 years. The term 'orphan' pertains to people below the age of 18 (minors) who have experienced the loss of their mother (maternal orphan), father (paternal orphan), or both biological parents (double orphan) (7, 11). As shown in Figure XIV, 18.1% of respondents 18 years and younger reported being orphaned in 2022, which was higher than in 2017 (14.0%) reflecting increases among both maternal and paternal orphans between the two surveys.

The provinces with the greatest proportion of orphans in this study ranged from 22.8% in Free State to 16.0% in Limpopo. The proportion of orphans increased with age from 4.1% of children under the age of 4 years, up to 24.1% of teenagers aged 15 to 18 years.

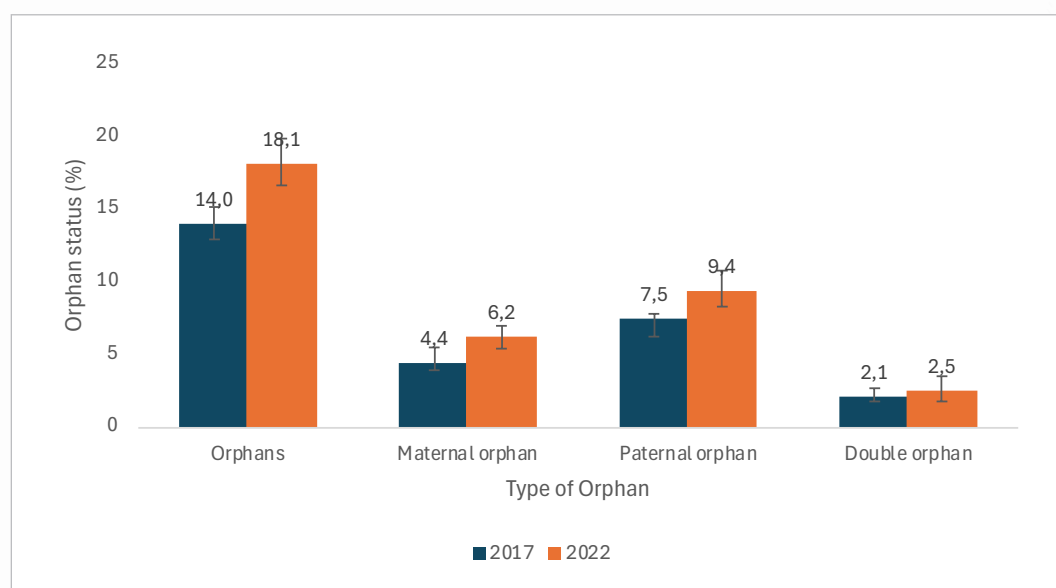


Figure XIV Orphanhood status among minors aged 18 years and younger, South Africa, 2017 and 2022

Tuberculosis knowledge, testing, diagnoses and treatment

In line with the NSP for HIV, STI and TB, understanding TB knowledge on TB transmission, and HIV/TB co-infections at a population level is the first step towards preventing and managing the disease (2).

TB knowledge

Over 84% of respondents were knowledgeable about the transmission of TB. Fewer respondents (54.2%) were aware that TB is a leading cause of death in the country. The knowledge that PLHIV are more likely to get TB was similar among people who tested HIV positive (89.0%) compared to HIV negative (84.0%) in the survey. Knowledge that HIV-negative people can also get TB and that TB is the leading cause of death in South Africa was also similar between HIV-positive (89.0%) and HIV-negative (84.0%) respondents.

TB testing, diagnoses, and treatment

Overall, 7.1% of respondents aged 15 years and older were tested for TB in the past 12 months, of whom 15.4% were diagnosed with TB by a doctor or other health care professionals. A greater proportion of people who tested HIV positive in the survey reported having had a TB test in the past 12 months (15.5%) as compared to those who tested HIV negative (5.3%). Among respondents who were tested for TB in the past 12 months, a greater proportion of HIV-positive people (17.4%) than HIV-negative (14.2%) people were diagnosed with TB. Treatment among those diagnosed was higher among those who tested HIV positive (72.2%) than those who tested HIV negative (42.0%). Over one quarter (25.8%) of those who tested positive for HIV in the survey reported that they had previously taken a pill that prevents TB.

TB stigma

Regarding TB stigma, 9.8% of respondents reported being teased, insulted or sworn at and 11.7% were gossiped about. Almost a quarter reported that they did not disclose their diagnosis to those close to them.

Conclusions and actions for consideration



The results of the Sixth South African National HIV Prevalence, Incidence and Behaviour Survey 2022 suggest advancements in the fight against the HIV epidemic in South Africa. This is evidenced by a stabilization of HIV prevalence, a reduction in HIV incidence, and improvement in HIV treatment outcomes such as increased rates of ART coverage and viral load suppression (VLS) in line with the 95-95-95 targets.

Measures such as HIV prevention initiatives and the continuing expansion of antiretroviral therapy have contributed to these favourable developments. The survey highlighted areas for improvement in HIV services for diverse population groups and different geographical areas, combatting HIV-related stigma, and the consideration of social and behavioural factors that influence health outcomes. Results also show that a combination of HIV prevention interventions including ART (U=U messaging), VMMC, condom use, PrEP, and behaviour change are important for successful HIV response in the country. Despite notable progress being achieved, continued efforts are required to reach the objective of ending HIV as a public health threat by 2030.

Actions for consideration

Key actions that can address the HIV epidemic as a public health threat in South Africa by 2030 could include:

- A long-term strategy to care for individuals in an aging HIV epidemic, including those with age-related comorbid conditions.
- Continued efforts to reduce interruptions in treatment and to support re-engagement in care following an interruption.
- Enhancing prevention efforts that target groups disproportionately affected by the drivers of HIV infection such as women and young people.
- Continuing intensive program focus on reducing new infections among adolescent girls and young women.
- Heightened focus on campaigns such as U=U and other strategies to promote uptake and sustained use of ART, especially among young people and adult men.

- Enhancing accurate public knowledge of HIV, and awareness of effective HIV prevention measures including condom use and PrEP.
- Accelerate further roll-out of dolutegravir-containing regimens.
- Continued focus on increasing VMMC uptake among males aged 15 years and above.
- Addressing health inequalities and combining prevention strategies to address specific HIV prevalence and treatment rates of concern at sub-national levels.
- An all-of-stakeholders approach could assist in addressing ongoing health disparities including intimate partner violence against women, age-disparate relationships that can put adolescent girls and young women at risk for HIV, and high/increasing orphanhood among children.

As the current National Strategic Plan on HIV, TB and STIs (NSP) 2023-2028 is the final guiding document towards reaching the target of ending HIV as a public health threat by 2030, working towards realising its four strategic goals is now more important than ever.

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*See 45 C.F.R. part 46; 21 C.F.R. part 56