



Republic of Botswana

BOTSWANA

Fifth Botswana AIDS Impact Survey (BAIS V)



The Fifth Botswana AIDS Impact Survey (BAIS V) was a household-based national survey among adults (defined as individuals aged 15 to 64 years) and children (defined as individuals aged 6 weeks to 14 years) conducted from March through August 2021 to measure the impact of the national HIV response. BAIS V offered HIV counseling and testing with return of results to the participants and collected information about uptake of HIV care and treatment services.

BAIS V data were used to estimate national HIV incidence and national and district-level prevalence of HIV and viral load suppression (VLS), defined as HIV RNA <1,000 copies per milliliter (mL). The previous BAIS surveys were conducted in 2001, 2005, 2008, and 2013. The results from these five surveys provide critical information about national and district-level progress toward control of the HIV epidemic.

BAIS V was led by the Ministry of Health (MOH), the National AIDS and Health Promotion Agency (NAHPA), and Statistics Botswana (SB). The survey was conducted with funding from the United States (U.S.) President's Emergency Plan for AIDS Relief (PEPFAR) with technical assistance from the U.S. Centers for Disease Control and Prevention (CDC), the University of Maryland Baltimore (UMB), Botswana University of Maryland School of Medicine Initiative (BUMMHI), and ICF.

The Government of Botswana, local civil society organizations, and international development partners participated in the Technical Working Group to provide input on survey planning and survey implementation.

KEY FINDINGS

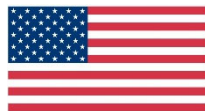
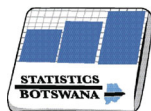
HIV Indicator	Females	95% CI	Males	95% CI	Total	95% CI
Annual incidence (%)						
15-49 years	0.2	0.0-0.4	0.0	0.0-0.2	0.1	0.0-0.2
15-64 years	0.4	0.0-0.8	0.0	0.0-0.2	0.2	0.0-0.4
Prevalence (%)						
0-14 years	0.6	0.0-5.3	1.0	0.0-12.9	0.8	0.0-9.1
15-49 years	23.8	21.6-26.0	11.8	10.5-13.2	17.9	16.3-19.4
15-64 years	26.2	24.0-28.4	15.2	13.8-16.6	20.8	19.1-22.4
Viral load suppression (%)						
15-49 years	93.6	91.6-95.5	84.1	80.3-87.9	90.4	88.5-92.4
15-64 years	94.0	92.2-95.8	88.1	85.5-90.7	91.8	90.2-93.5

Viral load suppression is defined as HIV RNA <1,000 copies per milliliter among all persons who tested HIV positive.

Annual incidence of HIV among adults aged 15-64 years in Botswana was 0.2%, which corresponds to approximately 2,200 new cases of HIV per year among adults. HIV incidence was 0.4% among females and 0.0% among males.

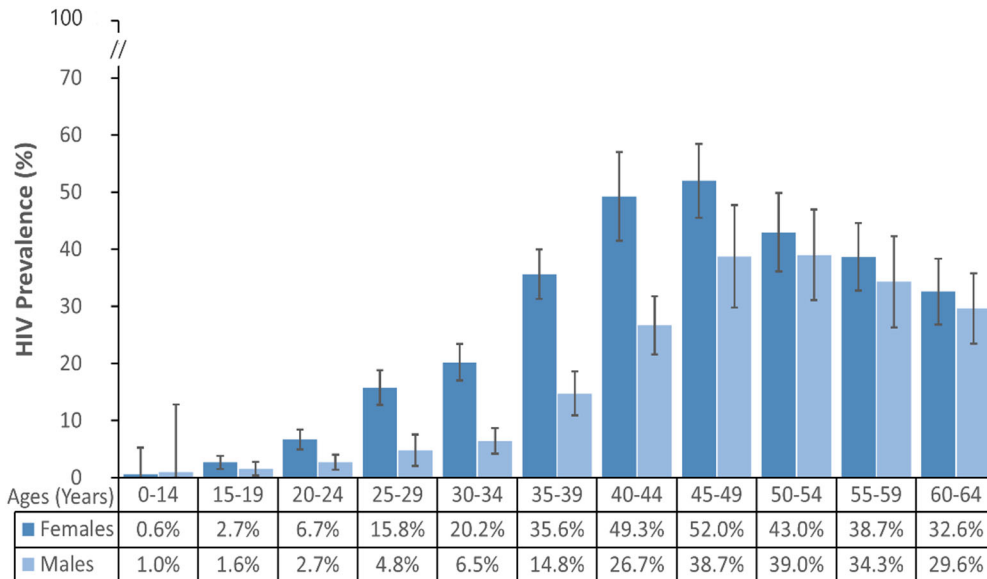
Prevalence of HIV among adults in Botswana was 20.8%, which corresponds to approximately 329,000 adults living with HIV. HIV prevalence was 26.2% among females and 15.2% among males. The prevalence of HIV among children aged 0-14 years in Botswana was 0.8%, which corresponds to approximately 5,600 children living with HIV.

Prevalence of VLS among adults aged 15-64 years living with HIV in Botswana was 91.8%: 94.0% among females and 88.1% among males.



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HIV PREVALENCE



HIV PREVALENCE, by AGE and SEX

Among adults aged 15-64 years, HIV prevalence ranged from 2.7% for females aged 15-19 years to 52.0% for females aged 45-49 years, and from 1.6% for males aged 15-19 years to 39.0% for males aged 50-54 years. By 5-year age groups, HIV prevalence was higher among females than males in each age group from ages 20-24 years through 40-44 years.

HIV prevalence was 0.6% among females aged 0-14 years and 1.0% among males aged 0-14 years.

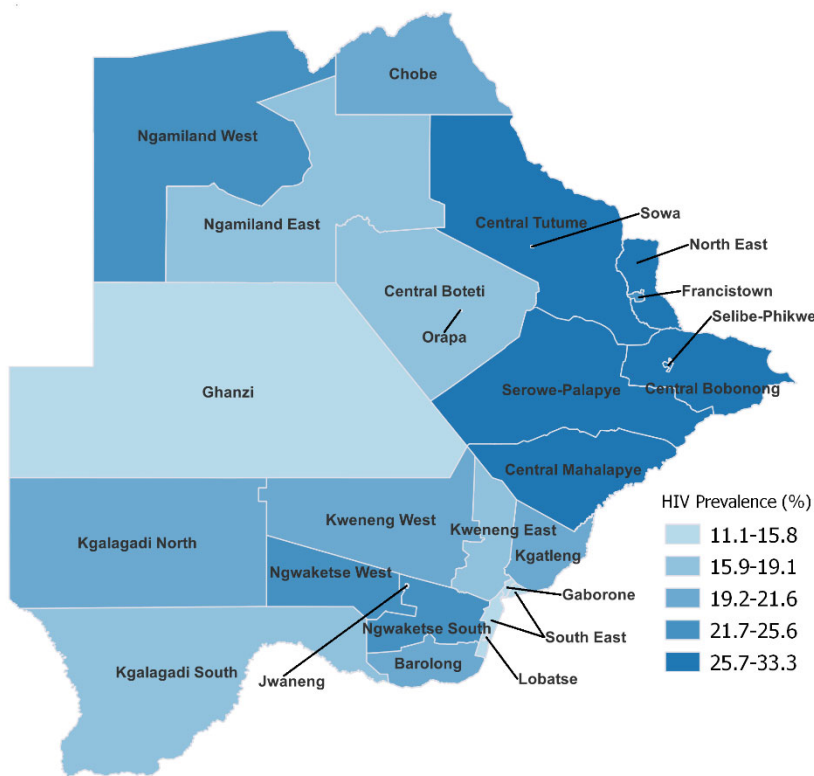
Error bars represent 95% CIs.

HIV PREVALENCE, by DISTRICT

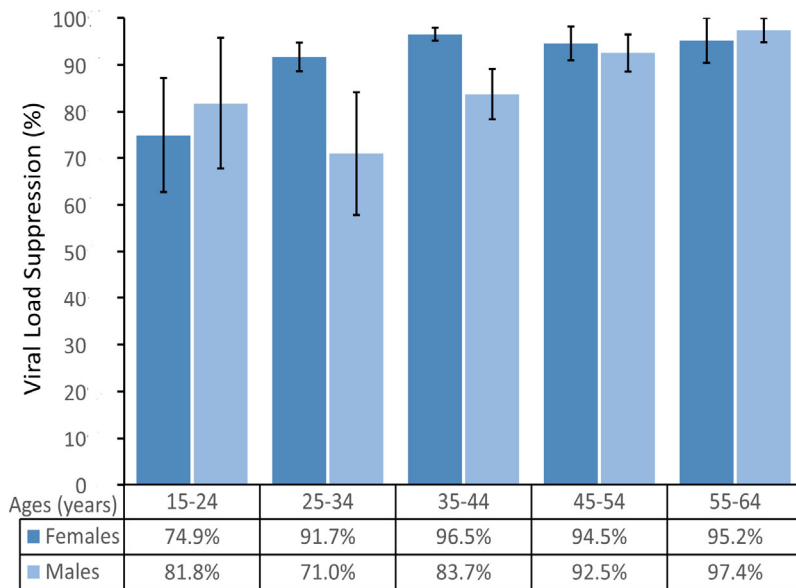
Among adults aged 15-64 years, HIV prevalence varied geographically across Botswana, ranging from 11.1% in Gaborone to 33.3% in Central Mahalapye.

District	HIV Prevalence (%)	95% CI
Gaborone	11.1	7.4-14.9
Francistown	22.6	17.3-27.8
Lobatse	13.4	9.2-17.6
Selibe Phikwe	26.7	22.1-31.4
Orapa	17.1	14.4-19.7
Jwaneng	13.4	9.1-17.6
Sowa	15.6	11.4-19.8
Ngwaketse South	21.9	18.8-25.0
Barolong	21.4	18.5-24.3
Ngwaketse West	23.2	18.6-27.7
South East	12.8	10.8-14.8
Kweneng East	18.7	13.4-24.1
Kweneng West	20.5	15.8-25.2
Kgatleng	19.3	15.6-22.9
Serowe Palapye	25.9	20.5-31.3
Central Mahalapye	33.3	27.4-39.2
Central Bobonong	30.5	22.8-38.2
Central Boteti	18.6	15.2-21.9
Central Tutume	31.1	24.7-37.5
North East	30.0	26.5-33.6
Ngamiland East	19.1	15.7-22.4
Ngamiland West	25.0	20.8-29.1
Chobe	21.4	18.1-24.8
Ghanzi	15.2	12.6-17.8
Kgalagadi South	18.8	14.9-22.6
Kgalagadi North	21.1	18.3-24.0

Percentage and 95% CIs for HIV prevalence apply to adults aged 15-64 years.



VIRAL LOAD SUPPRESSION AMONG PERSONS LIVING WITH HIV



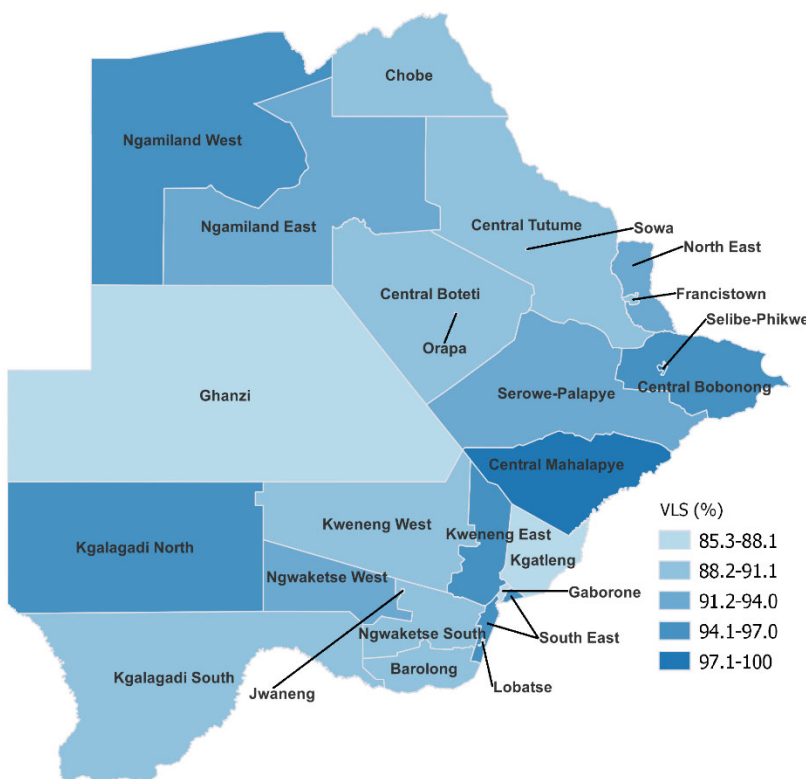
VIRAL LOAD SUPPRESSION, by AGE and SEX

Among adults living with HIV in Botswana, the prevalence of VLS ranged from 74.9% among females aged 15-24 years to 96.5% among females aged 35-44 years, and from 71.0% among males aged 25-34 years to 97.4% among males aged 55-64 years. VLS was higher among females than males at ages 25-34 years and 35-44 years.

Error bars represent 95% CIs.

VIRAL LOAD SUPPRESSION AMONG ADULTS LIVING WITH HIV, by DISTRICT

Among adults aged 15-64 years living with HIV, prevalence of VLS ranged from 85.3% in Gaborone to 100.0% in Selibe Phikwe.



District	VLS Prevalence (%)	95% CI
Gaborone	85.3	68.2-100.0
Francistown	89.7	80.2-99.2
Lobatse	87.5	77.7-97.3
Selibe Phikwe	100.0	100.0-100.0
Orapa	89.9	83.5-96.3
Jwaneng	89.7	82.9-96.4
Sowa	89.8	81.8-97.9
Ngwaketse South	89.3	83.5-95.0
Barolong	90.1	85.4-94.7
Ngwaketse West	93.4	89.4-97.5
South East	96.8	93.0-100.0
Kweneng East	95.1	90.5-99.7
Kweneng West	90.2	84.3-96.0
Kgatleng	88.2	82.8-93.5
Serowe Palapye	91.9	88.2-95.6
Central Mahalapye	97.1	94.0-100.0
Central Bobonong	95.2	91.8-98.5
Central Boteti	88.6	80.8-96.3
Central Tutume	88.9	84.4-93.5
North East	92.7	87.5-98.0
Ngamiland East	91.6	87.4-95.8
Ngamiland West	94.7	91.8-97.6
Chobe	90.6	83.6-97.7
Ghanzi	86.5	75.3-97.6
Kgalagadi South	90.0	84.5-95.4
Kgalagadi North	97.0	93.9-100.0

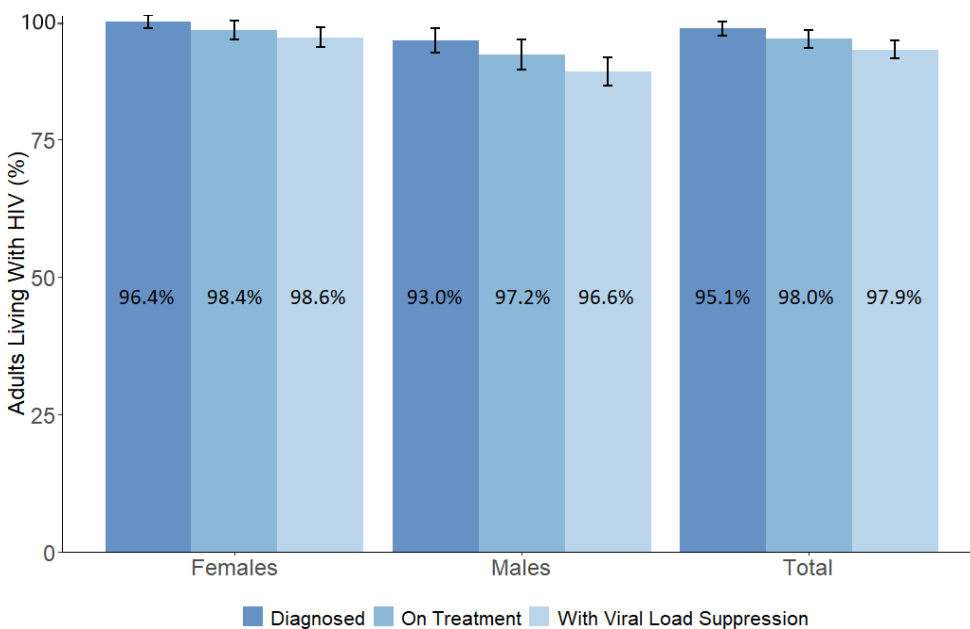
VLS=viral load suppression

ACHIEVEMENT OF THE 95-95-95 TARGETS AMONG ADULTS LIVING WITH HIV

95-95-95: Treatment targets to help end the HIV epidemic

The Joint United Nations Programme on HIV/AIDS (UNAIDS) set the 95-95-95 targets with the aim that by 2030, 95% of all people living with HIV will know their HIV status; 95% of all people with diagnosed HIV infection will receive sustained ART; and 95% of all people receiving ART will have VLS.

ACHIEVEMENT OF THE 95-95-95 TARGETS, by AGE and SEX



Diagnosed: In Botswana, 95.1% of adults (15-64 years) living with HIV were aware of their HIV status: 96.4% of females and 93.0% of males. Individuals were classified as aware if they reported their HIV-positive status or had a detectable antiretroviral (ARV) in their blood.

On Treatment: Among adults living with HIV who were aware of their status, 98.0% were on ART: 98.4% of females and 97.2% of males. Individuals were classified as being on ART if they reported current ART use or had a detectable ARV in their blood.

Viral Load Suppression: Among adults who were on ART, 97.9% had VLS: 98.6% of females and 96.6% of males.

Percentages shown in the graph refer to the conditional 95-95-95 targets described in the text to the right. The heights of the bars represent the unconditional percentages for each indicator among all people living with HIV. Male, female, and total percentages apply to adults aged 15-64 years. Error bars represent 95% CIs.

CONCLUSIONS

- Botswana has exceeded all 95-95-95 targets among adults (15 to 64 years) living with HIV. The country has surpassed the overall population-level target for 2030 with more than 91% of all adults living with HIV achieving VLS.
- HIV prevalence was 0.8% among children aged 0-14 years, 17.9% among adults aged 15-49 years, and 20.8% among adults aged 15-64 years.
- Annual HIV incidence was 0.2% among adults aged 15-64 years.
- Although the country's HIV program has achieved remarkable results at the national level, some gaps remain. For instance, adult males aged 15-64 years have not yet reached the first 95. In addition, viral load suppression among males aged 15-44 years and females aged 15-24 years is lagging behind other age groups.
- Moving forward, Botswana is well positioned to maintain the UNAIDS 95-95-95 targets and end the AIDS epidemic by 2030. The country can ensure that all people benefit from these achievements by helping younger people achieve viral load suppression and focusing on finding the remaining few people living with HIV who are unaware of their status.
- Ongoing surveillance to detect threats to epidemic control such as interruptions in treatment and suboptimal viral suppression will be important to maintain Botswana's achievements.

RESPONSE RATES AND HIV TESTING METHODS

Of 11,478 eligible households, 87.7% completed a household interview. Among 19,914 eligible adults aged 15 to 64 years (11,095 females and 8,819 males), 74.1% were interviewed and tested for HIV (78.2% of females; 69.0% of males). The overall response rate for adults was 65.0% (68.6% of females; 60.5% of males). Children were eligible for participation if their mother had HIV, had unknown HIV status, or were deceased. Among the 2,493 eligible and selected children (aged 0 to 14 years), 95.6% were tested for HIV.

HIV testing was conducted in each household using a serological rapid diagnostic testing algorithm based on national guidelines, with laboratory confirmation of seropositive samples using a supplemental assay. For confirmed HIV-positive samples, laboratory-based testing was conducted for quantitative evaluation of viral load and qualitative detection of ARVs (efavirenz, nevirapine, lopinavir, and dolutegravir). A laboratory-based incidence testing algorithm (HIV-1 limiting antigen-avidity assay with correction for viral load and detectable ARVs) was used to distinguish recent from long-term infection. Incidence estimates were obtained using the formula recommended by the World Health Organization Incidence Working Group and Consortium for Evaluation and Performance of Incidence Assays. Survey weights were utilized for all estimates.



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 6th September 2022