

Botswana achieved the Joint United Nations Programme on HIV/AIDS (UNAIDS) 95-95-95 targets: Results from the Fifth Botswana AIDS Impact Survey (BAIS V), 2021

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Introduction

- In 2002, Botswana was the first African country to offer free HIV treatment to its citizens. Since then, Botswana has expanded treatment coverage and adopted evidence-based practices, including test-and-start and dolutegravir treatment.
- The Fifth Botswana AIDS Impact Survey (BAIS V) was used to measure national progress toward UNAIDS 95-95-95 targets (percent of persons living with HIV (PLHIV) aware of their status, on treatment, and virally suppressed).

Methods

- BAIS V used a two-stage cluster design to obtain a nationally representative sample of adults 15–64 years.
- During March–August 2021, survey teams consented 14,763 participants in their households, administered questionnaires, and tested blood specimens for HIV.
- Viral load and presence of antiretrovirals (ARVs) in the blood were measured. Viral load suppression (VLS) was defined as HIV RNA <1,000 copies per milliliter.
- The first and second UNAIDS 95 estimates were based on self-report and adjusted for detectable ARVs.
- Data were weighted to account for the complex survey design, and jackknife methods were used to estimate variance.

Results

- National HIV prevalence among adults 15–64 years was 20.8% (men: 15.2%; women: 26.2%), and 0.8% among children 0–14 years, Table 1.
- National annual incidence of HIV was estimated to be 0.2%, Table 1.
- VLS among all PLHIV was 91.8% (men: 88.1%; women: 94.0%), Table 1.
- Among adults 15–64 years living with HIV, prevalence of VLS ranged from 85.3% in Gaborone to 100.0% in Selibe Phikwe, Figure 1.
- Among PLHIV, 95.1% (men: 93.0%; women: 96.4%) were aware of their status, 98.0% (men: 97.2%; women: 98.4%) of those aware were on ART, and 97.9% (men: 96.6%; women: 98.6%) of those on ART achieved VLS, Figure 2.
- Among PLHIV 15–24 years, 84.5% were aware of their status, 98.5% of those aware were on ART, and 91.6% of those on ART achieved VLS, Table 2.

Conclusions

- BAIS V is the first population-based survey to confirm achievement of UNAIDS 95-95-95 goals, both overall and among women.
- Men have achieved the second and third 95 targets and surpassed 90% for the first 95 target.
- Gaps remain in awareness among men 25–44 years and among younger adults, particularly young women.
- Botswana has made tremendous progress in 20 years and is well-positioned to end the AIDS epidemic by 2030.

Table 1. Key Findings, BAIS V

HIV Indicator	Males	95% CI	Females	95% CI	Total	95% CI
Annual incidence (%) ¹						
15-49 years	0.0	0.0-0.2	0.2	0.0-0.4	0.1	0.0-0.2
15-64 years	0.0	0.0-0.2	0.4	0.0-0.8	0.2	0.0-0.4
Prevalence (%)						
0-14 years	1.0	0.0-12.9	0.6	0.0-5.3	0.8	0.0-9.1
15-49 years	11.8	10.5-13.2	23.8	21.6-26.0	17.9	16.3-19.4
15-64 years	15.2	13.8-16.6	26.2	24.0-28.4	20.8	19.1-22.4
Viral load suppression (%) ²						
15-49 years	84.1	80.3-87.9	93.6	91.6-95.5	90.4	88.5-92.4
15-64 years	88.1	85.5-90.7	94.0	92.2-95.8	91.8	90.2-93.5

¹Incidence estimation is based on recent/long-term classification by the recent infection algorithm. ²Viral load suppression is defined as HIV RNA <1,000 copies per milliliter among all persons who tested HIV positive.

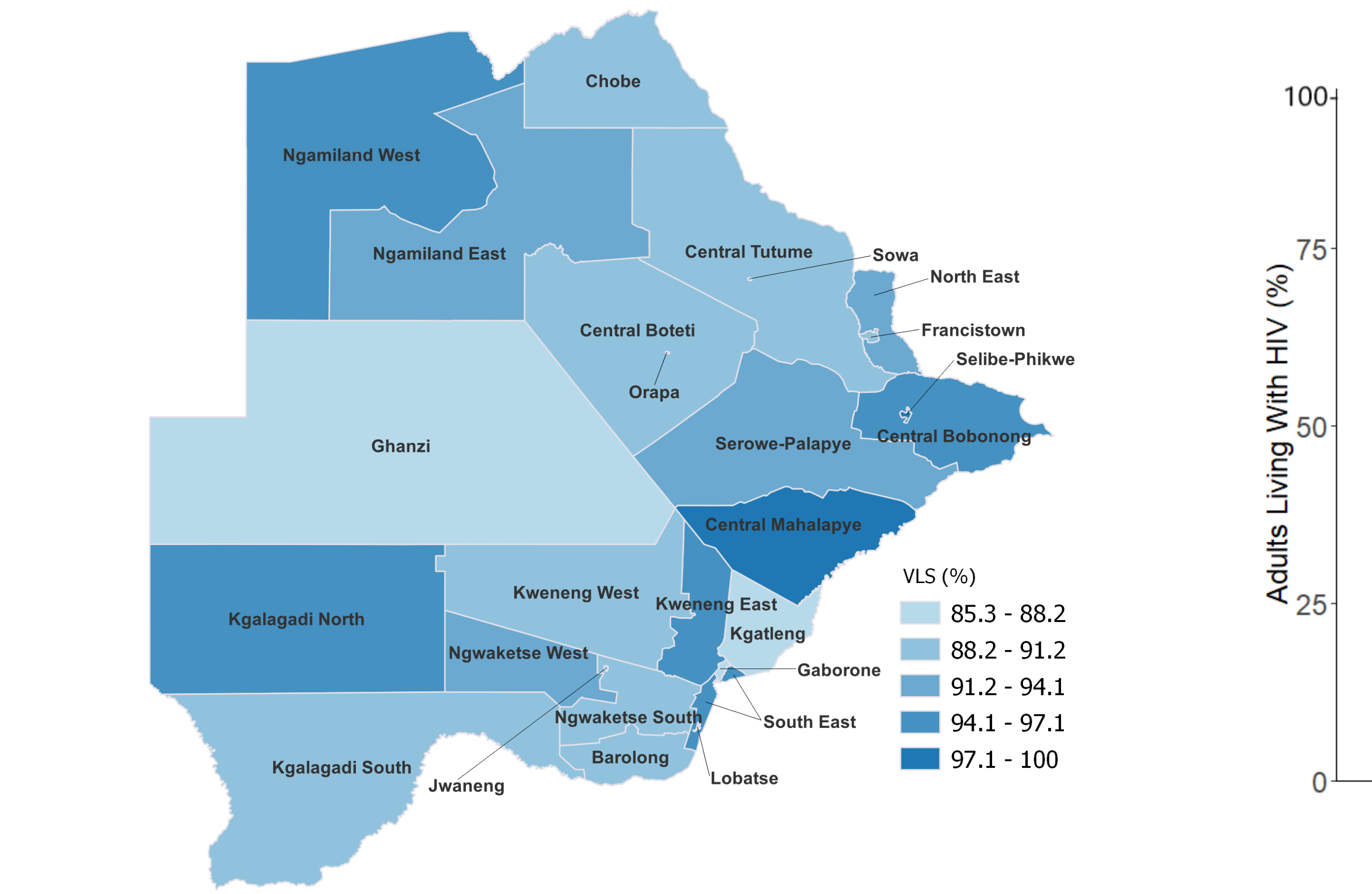


Figure 1. Viral load suppression prevalence, by district

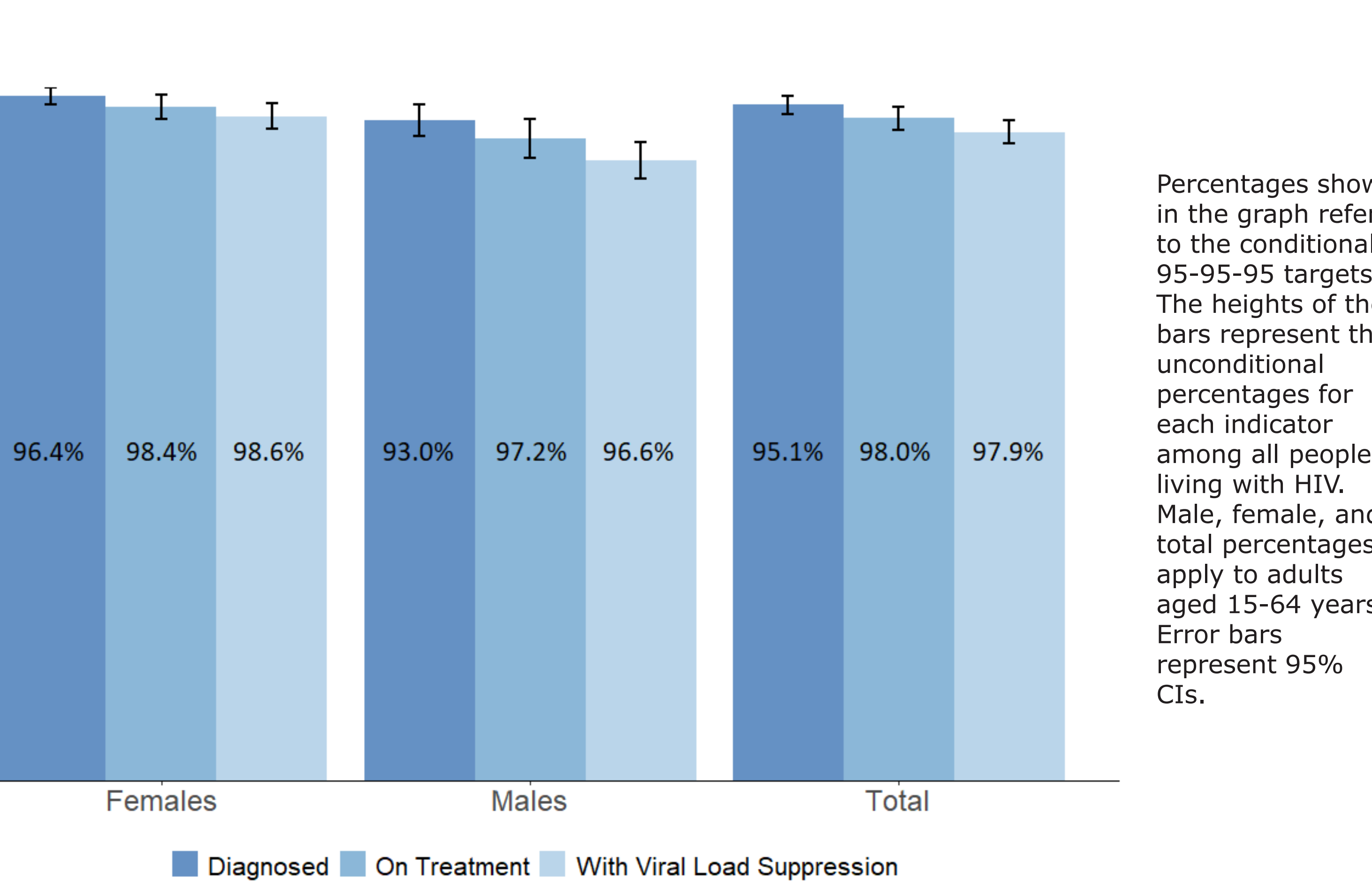


Figure 2. Achievement of the 95-95-95 targets, by sex, BAIS V

Table 2. Achievement of the UNAIDS 95-95-95 targets among people living with HIV aged 15–64 years in Botswana, by age and sex, BAIS V

	Diagnosed		On Treatment		Virally Suppressed	
	N	Weighted % (95% CI)	N	Weighted % (95% CI)	N	Weighted % (95% CI)
Males	989	93.0 (90.8-95.2)	920	97.2 (95.7-98.8)	899	96.6 (95.2-98.0)
15-24 years	39*	89.1 (77.3-100.0)	34*	100.0 (100.0-100.0)	34*	91.8 (83.9-99.8)
25-44 years	360	88.7 (85.0-92.5)	315	94.2 (90.4-98.0)	302	94.9 (91.5-98.4)
45-64 years	590	96.4 (93.6-99.2)	571	99.2 (98.4-100.0)	563	98.0 (97.2-98.8)
Females	2,428	96.4 (95.0-97.7)	2,342	98.4 (97.5-99.2)	2,309	98.6 (98.0-99.2)
15-24 years	118	82.3 (70.1-94.5)	99	97.8 (94.4-100.0)	96	91.5 (84.2-98.8)
25-44 years	1,302	97.1 (95.9-98.2)	1,256	98.4 (97.7-99.1)	1,235	98.8 (98.2-99.4)
45-64 years	1,008	97.0 (95.0-99.0)	987	98.3 (96.3-100.0)	978	99.1 (97.9-100.0)
Total	3,417	95.1 (93.8-96.5)	3,262	98.0 (97.2-98.7)	3,208	97.9 (97.2-98.6)

Note: To be included in the 95-95-95 cascade, a person must have been HIV positive and have had viral load data available. If the person self-reported as aware of their positive status or had ARVs detected, they must also have had self-reported treatment status or ARV testing results to be included.
*Cells with <50 participants should be interpreted with caution.