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BOTSWANA AIDS IMPACT SURVEY

BAIS IV 2013

SUMMARY RESULTS

Botswana AIDS Impact Survey
BAIS IV



STATISTICS BOTSWANA

NACA Ntwa e Bolotse

MINISTRY of HEALTH

BOTSWANA AIDS IMPACT SURVEY IV (BAIS IV), 2013

SUMMARY RESULTS

Released By

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PREFACE AND ACKNOWLEDGEMENTS

Statistics Botswana in collaboration with National AIDS Coordinating Agency (NACA) and Ministry of Health conducted the fourth Botswana AIDS Impact Survey (BAIS IV) of 2013. BAIS IV was conducted between January and April 2013. This Summary Report provides key results of BAIS IV, 2013.

The major objectives of the survey were to provide current HIV incidence and prevalence estimates among the population aged six weeks to 64 years and indicative trends in preventive behavior among the population aged 10 to 64 years In Botswana.

The BAIS IV was the first national survey to use portable gadgets, as in smart phones for data collection. The information gathered was directly entered into smart phones during field enumeration period and sent to storage centre through network systems, which enabled data capture directly to data savers. This procedure saved costs and data processing period resulting in availability of the preliminary results within seven months compared to the past one and a half year period. The undertaking of a survey of this magnitude and importance demands a well-coordinated planning, thus different organisations and individuals were involved at different survey processes simultaneously or at different times.

I therefore acknowledge contribution of Ministry of Finance and Development Planning, NACA, Ministry of Health, National Health Laboratory, Members of BAIS IV Reference and Technical Working Groups, Development Partners especially CDC Botswana, UNDP & ACHAP, BAIS IV Data Processing Consultants, BAIS IV field personnel and last but not least, Statistics Botswana and NACA BAIS IV teams of specific survey section specialists.

I hope the Summary Report will provide useful information for monitoring and evaluation of progress made in HIV/AIDS interventions.

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A. N Majelantle
Statistician General
April 2014

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1. INTRODUCTION

The fourth Botswana AIDS Impact Survey (BAIS IV) was a national two stage sample survey design. Data collection started on 21 January 2013 and was completed on 24 April 2013 using portable smart phone tablets/ gadgets instead of the conventional paper based method.

The survey estimated Botswana population at 2,045,752 compared to the 2013 adjusted population projection estimates of 2,101,715. This provides a difference of 2.67% (less than 5%), rendering the BAIS IV data a good estimate, credible and representative of Botswana population.

Table 1: Population Estimates 2011-2013

Source	Percent Male	Percent Female	Total
2011 Census	48.8	51.2	2,024,904
2013 Adjusted Projections	48.8	51.2	2,101,715
2013 BAIS (IV) Survey	47.7	52.3	2,045,752

Estimates for response rates showed that 83.9% of persons aged 10 to 64 responded to individual questions. The data also showed that 73.4% of population 6weeks and above participated in HIV testing. Hence the information provided in the BAIS VI survey is reliable given these good response rates.

Among those who provided samples for HIV testing, 79.6 % of tested population wanted to know their results.

Table 2: Un-Weighted Data of Sampled Population by Target Population and Response rate.

Target Population	Sampled Population	Responded Population	Response Rate (%)
Individuals (10-64years)	9,807	8,231	83.9
DBS (6weeks and above)	13,808	10,140	73.4
Tested and want HIV results	10,140	8,070	79.6

2 BAIS IV OBJECTIVES

The primary objective of the 2013 BAIS IV survey was to update current information on the behavioral patterns of the population aged 10-64 years and the HIV prevalence and incidence rates among those aged 18 months and above at national, district and sub-district level. This information will be used for HIV program planning and guide future HIV and AIDS research and interventions.

Specifically, the survey was intended to:

- To provide current national HIV prevalence and incidence estimates among the population 18 months and above.
- To provide indicative trends in sexual and preventive behavior among the population aged 10-64 years.
- To provide a comparison between HIV rate, behavior, knowledge, attitude, poverty and cultural factors that are associated with the epidemic with estimates derived from previous surveys.
- To increase the numbers of those who know their HIV status and assist linking those found to be HIV positive to the healthcare system.
- To produce survey results in a timely manner and ensure that the data are disseminated to a wide audience of potential users in Government and non-governmental organizations within and outside Botswana.

MAJOR CONCEPTS AND DEFINITIONS

3.1 Testing for HIV:

Dried Blood Spot (DBS) specimens for ages over 18 months were screened for HIV antibodies in a parallel testing algorithm using commercial ELISA test kits – Vironostika-HIV Uni-Form II plus O (OrganonTeknika, Boxtel, The Netherlands) and Murex (Abbott, Wiesbaden, Germany) as per Botswana National Policy on HIV Testing. Any specimen that was reactive on parallel ELISA testing was considered HIV antibody positive, and was diagnostic for HIV infection, whereas any specimen that was not reactive on parallel ELISA testing was HIV antibody negative. Dry blood specimens less than 18 months was tested for HIV virus/antigen using DNA PCR Roche technology. Any sample that was reactive was repeated and if reactive twice then it was diagnosed as HIV positive. Samples that were non-reactive were diagnosed as HIV negative. In a few cases, the collected sample was not suitable for testing or the test result was inconclusive. Such samples were excluded from prevalence and incidence computations.

3.2 Prevalence and Incidence

HIV Prevalence measures the relative burden of HIV and AIDS Disease whereas HIV Incidence measures the degree of new HIV infections. HIV Incidence is a better policy measure than prevalence as it assesses the dynamics of current HIV transmission and therefore allows for evaluation of HIV prevention efforts.

3.2.1 Prevalence

Prevalence measures the combined number of old (long term) and new (recent) infections within the population exposed to the risk of HIV infection. In BAIS IV all individuals 6 weeks and older were eligible to provide blood specimens for HIV testing regardless of their HIV status. For measuring prevalence all individuals aged 18 months and above who provided valid and successfully tested blood samples constituted the total population at risk – that is, the denominator. Infants aged 6 weeks to 17 months were tested for the purpose of measuring impact of Mother to Child Transmission (MTCT) program.

The prevalence rate was computed by dividing the number of HIV positive by the total population tested $(N_{pos} + N_{neg})$. The HIV status of each person tested was adjusted using the ART status. Hence everyone who was on ART was considered to be HIV positive irrespective of the outcome of the lab test. The prevalence for any cohort is given by:

$$\text{Prevalence} = \frac{100N_{pos}}{(N_{pos} + N_{neg})}$$

where N_{neg} is the number of HIV negatives from the ELISA test plus the number of HIV positive who said they are on ART and is the number of HIV positives from the ELISA test minus the number of HIV positive persons who said they are on ART.

3.2.2 Incidence

Incidence measures the appearance of new infections among the part of the population hitherto not infected. HIV-1-positive specimens as per prevalence testing above were retested with the Aware BED enzyme immunoassay (EIA) HIV-1 incidence Test (Calypte Biomedical Corporation, Portland, Oregon, USA) to detect ***recent*** HIV-1 sero-conversion. The annualized HIV-1 Incidence Rate (I) was calculated using the formula

$$I = \frac{(365/w)N_{tnc}}{N_{neg} + (\frac{365}{w})N_{tnc}/2} \times 100$$

Where: **w** = mean window period of detection (180 days); N_{inc} = number of subjects found by the BED incidence assay to be recently infected less number who reported to be on ART; and N_neg = number of HIV sero-negative subjects using ELISA (18 months+) and PCR (under 18 months) plus number who reported to be on ART. The adjusted incidence was calculated using False Recent Rate (FRR) of 2.98%, Window period of 180 days.

4.0 SUMMARY OF BAIS IV RESULTS

Table 3: Households and Persons Enumerated by Residence and Response Rates

Households and Persons Enumerated		Urban				Rural	Total
		Cities	Towns	Urban Villages	All		
Enumeration Areas in Sample							
Number of Households	Sampled	462	1186	1085	2733	1791	4524
	Completed	416	1127	995	2538	1663	4201
	Response rate (%)	90	95	91.7	92.9	92.9	92.9
Persons Enumerated							
Persons aged 10-64 years eligible for individual questionnaire	Total Eligible	1063	2630	2493	6186	3621	9807
	Completed	817	2224	2123	5164	3067	8231
	Response Rate (%)	76.9	84.6	85.2	83.5	84.7	83.9
Persons aged 6 weeks and above eligible for HIV Testing	Total Eligible	1339	3361	3486	8186	5622	13808
	Provided Blood Specimen for HIV Testing - Provided	952	2472	2453	5877	4263	10140
	HIV Testing Participation Rate (%)	71.1	73.6	70.4	71.8	75.8	73.4
	Proportion tested and wanting to know test Results (%)	78.9	77.3	82.6	81.2	86.4	79.6

The results show that the survey covered 92.9 percent of targeted sample households. Estimates for response rates show that 83.9 percent of persons aged 10-64 years answered the individual questions. Close to three quarters (73.4%) of the population 6 weeks and above participated in HIV testing, of which, over three quarters (79.6%) wanted to know their HIV test results.

Figure 1: Pyramid for Total Sampled Population, Population Testing and Population Testing HIV Positive

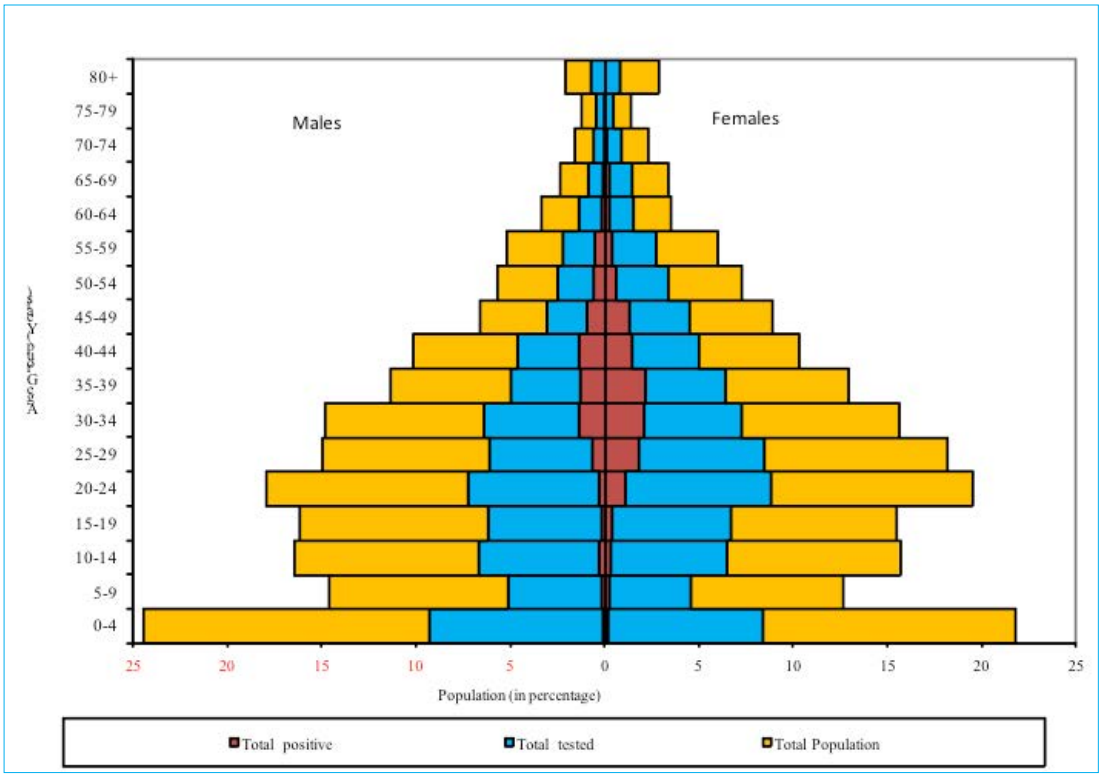


Figure 1 shows the total population (in percentages); the population who received an HIV test during the BAIS IV survey and the corresponding HIV prevalence rates. The pyramid shows that prevalence was predominantly higher among females and tends to be disproportionately concentrated on those aged 25 and 44 years.

Returning the test:

One of the objectives of BAIS IV protocol was to increase the number of people who know their HIV status by returning HIV test results to those who wanted their results returned to them. A system was put in place on how results would be returned; Participants who wanted to know their results completed a results slip which had information on their age, sex, mobile number and health facility which they preferred to collect their results from. They were further requested to present the slip at the time of collecting the results. The results slip had a BAIS IV individual ID which corresponded to the barcode on the Laboratory form and blood sample (DBS card).

However, it is worth mentioning that this objective was not met due to some operational challenges.

4.1 HIV Prevalence and Incidence rates by Demographics

The BAIS IV survey estimated a national prevalence rate of 18.5 percent compared to 17.6 percent in BAIS III among population aged 18 months and above. Among the same population HIV incidence rate (adjusted) was estimated at 1.35 percent compared to 1.45 per cent in 2008.

Using the Recent Infection Testing Algorithm (RITA) method to estimate the crude incidence, crude incidence rate was estimated at 2.61% in BAIS IV compared to 2.7% in BAIS III. (N.B: when not using RITA crude incidence in BAIS III was estimated at 2.9% compared to 2.41 in BAIS IV).

Table 4: Summary of Incidence Rates using RITA

Incidence Calculation	Incidence	
	BAIS IV	BAIS III
Unadjusted	*2.61*	*2.7*
Adjusted: FRR derived from Sentinel Surveillance 2011= 2.98% and	*1.35*	*1.45*
	(043-2.27)	*(0.66-2.24)*
	COV=34.95%	COV=27.64%

Table 5: BAIS IV Prevalence and Incidence Rate

STATUS	POPULATION 18 MONTHS AND ABOVE
Estimated HIV Negative	943,500
Estimated HIV Positive	213,518
Estimated new HIV infections in the last 12 months (weighted)	10,329
Estimated Prevalence (%)	18.5
Estimated Adjusted incidence (%)	1.35

The table above shows the number of participants who provided blood samples that were successfully tested.

4.1.1 Sex

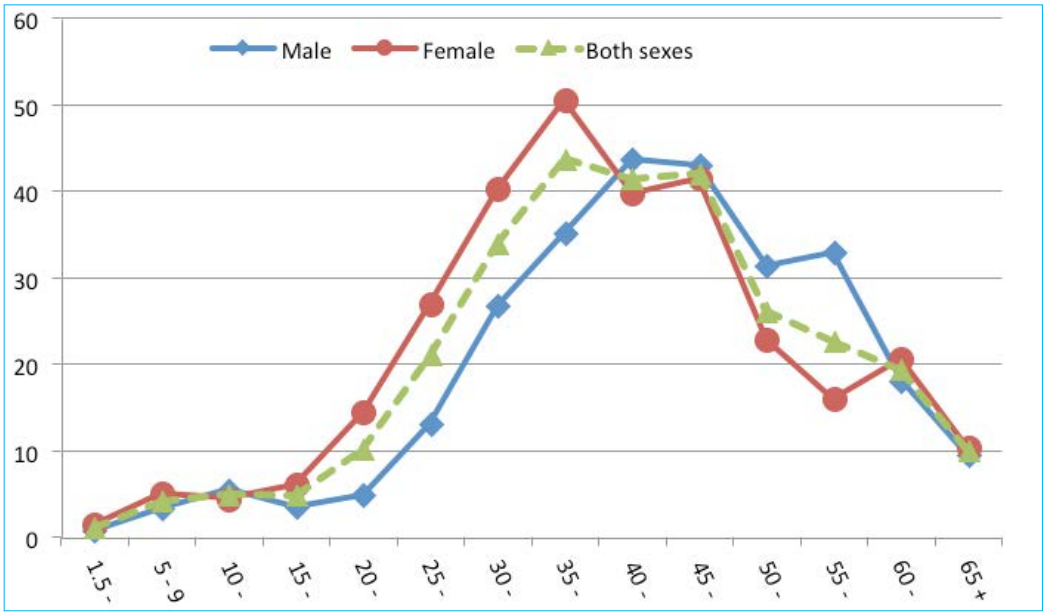
Females had a relatively higher prevalence rate of 20.8 percent compared to 15.6 percent for males.

4.1.2 Age

HIV prevalence was recorded at 1.2 percent for the 1.5-4 age group (0.8 % for males versus 1.4% for females). As shown in Figure 1, national age pattern of HIV prevalence rate is at its peak between ages 35-39 and 45-49 years estimated at 43.7 percent and 41.8 percent, respectively. However, the male and female patterns show differential peaks, with women's prevalence peaking (nearly 50.6 percent) at an earlier age (35-39) while that of males peaks to 43.8 percent in the 40-44 age group. For ages below 50 years, female prevalence

was generally higher than male prevalence, while beyond age 50, male prevalence was higher.

Figure 2: HIV Prevalence Rate by Age and Sex



The prevalence for females (10.9 percent) at 60 years and above has slightly gone up from 8.8 percent in BAIS III to 10.9 percent.

Table 6: HIV Prevalence Rate by Age Groups and Sex

	Prevalence		
Age group (yrs)	**Male**	**Female**	**Total**
1.5 - 4	0.8	1.5	1.2
5-Sep	3.5	5.1	4.3
Oct-14	5.5	4.5	5
15 - 19	3.6	6.2	5
20 - 24	5	14.6	10.3
25 - 29	13.2	27.1	21.2
30 - 34	26.8	40.3	34
35 - 39	35.2	50.6	43.8
40 - 44	43.8	39.8	41.6
45 - 49	43	41.6	42.2
50 - 54	31.5	22.8	26.2
55 - 59	33	16.1	22.8
60 - 64	18.2	20.6	19.5
65 +	9.5	10.4	10
Total	**15.6**	**20.8**	**18.5**

4.1.3 Residence

Table 6b: Estimated HIV Prevalence Rate by Residence and Sex.

Residence		HIV Prevalence by Sex		
		Male	Female	Total Population
Urban	Cities	16	22.3	19.5
	Towns	18.7	24.2	21.6
	Urban Villages	15.3	21.1	18.7
	Total Urban	15.8	21.7	19.2
Rural		15.3	19.3	17.4
Total		**15.6**	**20.8**	**18.5**

4.1.4 Prevalence Rate by Residence and Sex

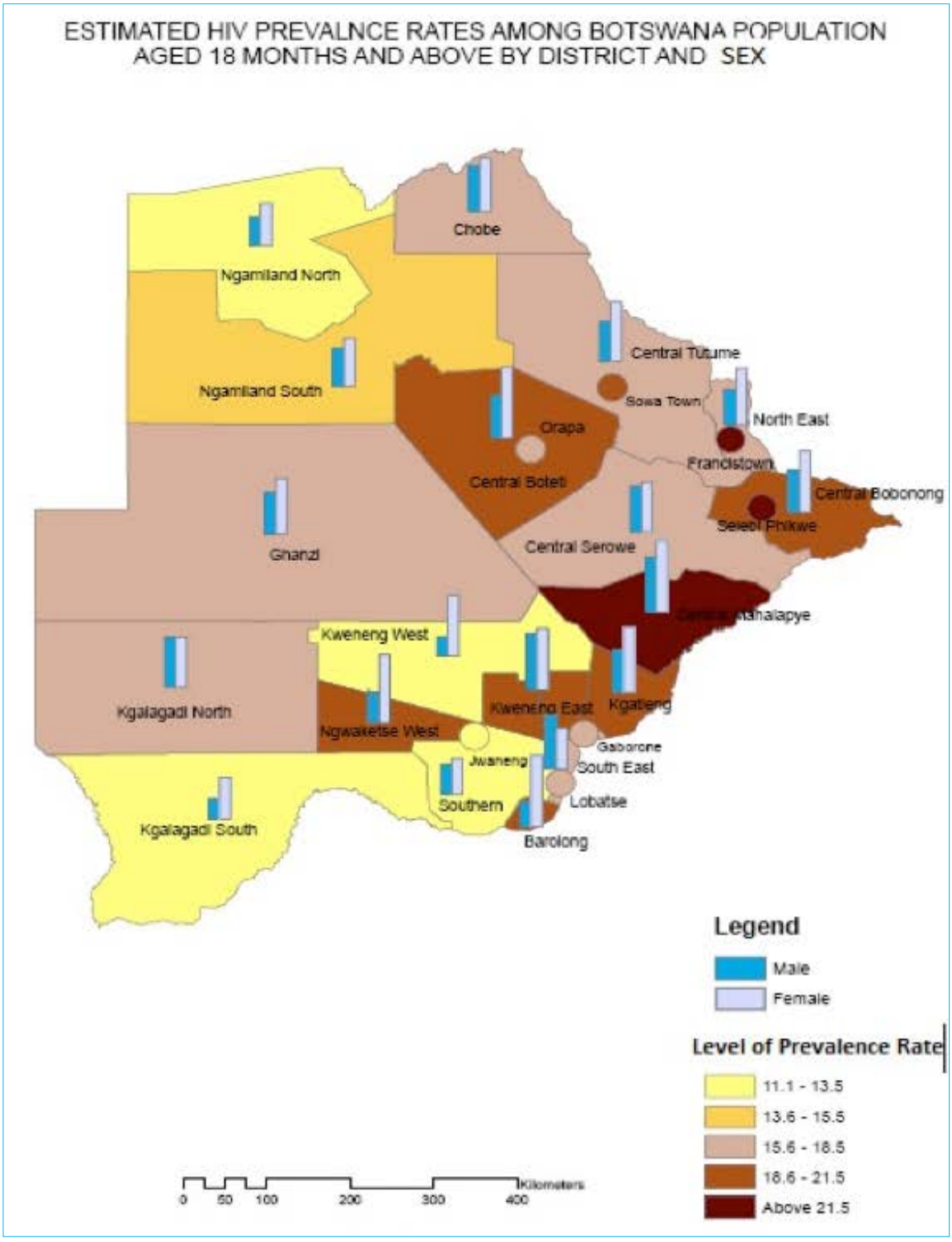
In Figure 2 above, urban areas refer to a combination of Cities, Towns and Urban villages. The prevalence in urban areas combined is higher (19.2 percent) than rural areas (17.4 percent). Rural areas have had almost the same prevalence rate over the years, 17.1 percent in 2008 and 17.4 percent in 2013.

In Urban areas, Towns have a much higher prevalence rate of 21.6 percent which is a slight decrease from 22.1 percent from BAIS III. Cities have a prevalence of 19.5 percent which is almost the same as BAIS III prevalence of 19.1. The prevalence in Urban Villages was found to be 18.7 percent compared to 16.6 from the BAIS III.

4.1.5 District

The 2013 HIV prevalence by district ranges from 11.1 percent in Kgalagadi South to the highest of 27.5 percent in Selebi-Phikwe. Comparison of BAIS IV with BAIS III results for the two districts shows a steep drop in prevalence for Kgalagadi South from 19.1 percent observed in BAIS III to the current 11.1 percent and a slight increase for Selebi-Phikwe from 26.5 percent in BAIS III to the current 27.5 percent as reflected by the map and table below.

Map1: District Pattern of HIV Prevalence



Source: Botswana AIDS Impact Survey IV. April 2014

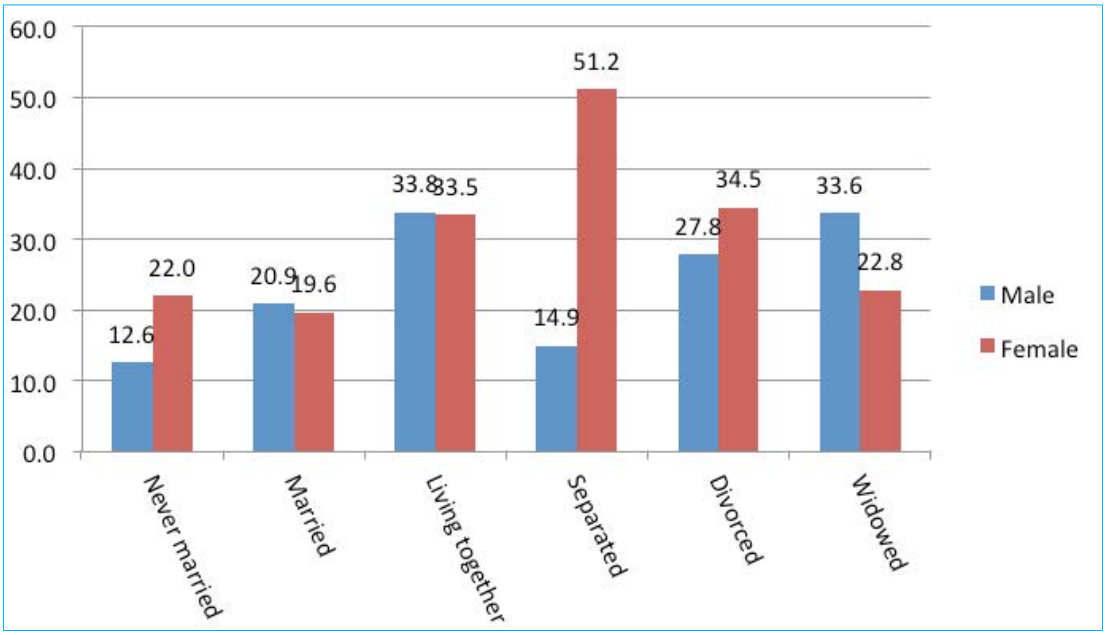
Table 7: HIV Prevalence Rate by District

District	Male	Female	Total population
Gaborone	13.4	19.8	17
Francistown	20.7	27.5	24.3
Lobatse	13.4	20	17.2
Selebi-Phikwe	25.4	29.3	27.5
Orapa	9.9	20.2	15.6
Jwaneng	8.5	16.7	12.8
Sowa	13.3	26.5	19.8
Southern	10.6	12.8	11.8
Barolong	8.9	25.7	20.3
Ngwaketse West	10.9	24.5	18.8
Southeast	19	14.6	16.6
Kweneng East	20.2	22.1	21.5
Kweneng West	7	16.1	11.8
Kgatleng	15.6	23.8	19.9
Central-Serowe	16.4	17.8	17.1
Central-Mahalapye	20.1	25.9	23.1
Central-Bobonong	15.3	22	19.3
Central-Boteti	15.5	25.5	20.3
Central-Tutume	14.1	21.5	18.2
Northeast	13	20.4	17.7
Ngamiland South	13.3	17.2	15.2
Ngamiland North	10.6	15.4	13.5
Chobe	16.5	18.9	17.7
Ghanzi	14.6	19.9	17.1
Kgalagadi South	7.1	15	11.1
Kgalagadi North	18.2	18.1	18.1
Total Population	**15.6**	**20.8**	**18.5**

4.1.6 Prevalence Rate by Marital Status and Gender

HIV prevalence amongst the married is higher among the males estimated at 26.3 percent compared to females at 18.7%; and also higher among never married females 22.0 percent compared to their male counterparts (12.6 percent). Prevalence rates are similar for males and females in cohabiting/living together relationships (34 percent). HIV prevalence is also highest among females who are separated from their spouses (51.2%) compared to males who are separated (14.9 percent). It is also noticeably higher among divorced females (34.5 percent) compared to their male counterparts (27.8 percent). In addition, it was observed that HIV prevalence was marginally higher among widowers (33.6 percent) compared to widows (22.8 percent).

Figure 3: HIV Prevalence Rates by Sex and Marital Status



These results need to be interpreted with caution because analysis of un-weighted data reviewed that there were just 10 males separated, of which 3 where HIV positive. Also, there were only 15 women separated of which 8 were HIV positive. Considering that this is national data, the numbers are too small to draw any useful inference. The number of HIV positive divorcees among males and females were only 6/25 and 11/40 respectively.

4.1.7 Intimate Partner Violence

The results showed that 24.8 percent of females with early sexual debut reported not giving consent at the time of intercourse. In the population of women aged 15 to 49, an estimated 3.1 percent reported sex without consent in the last 12 months.

RESPONSE TO THE EPIDEMIC

4.2 Prevention

4.2.1 Testing

Botswana's population aged 10-64 years who tested for HIV at least once was 70.2 percent compared to 56 percent from the BAIS III. In the 12 months preceding the survey, 63.7 percent of the population aged 15-49 had an HIV test and were informed of the results.

4.2.2 Prevention of Mother to Child Transmission (PMTCT)

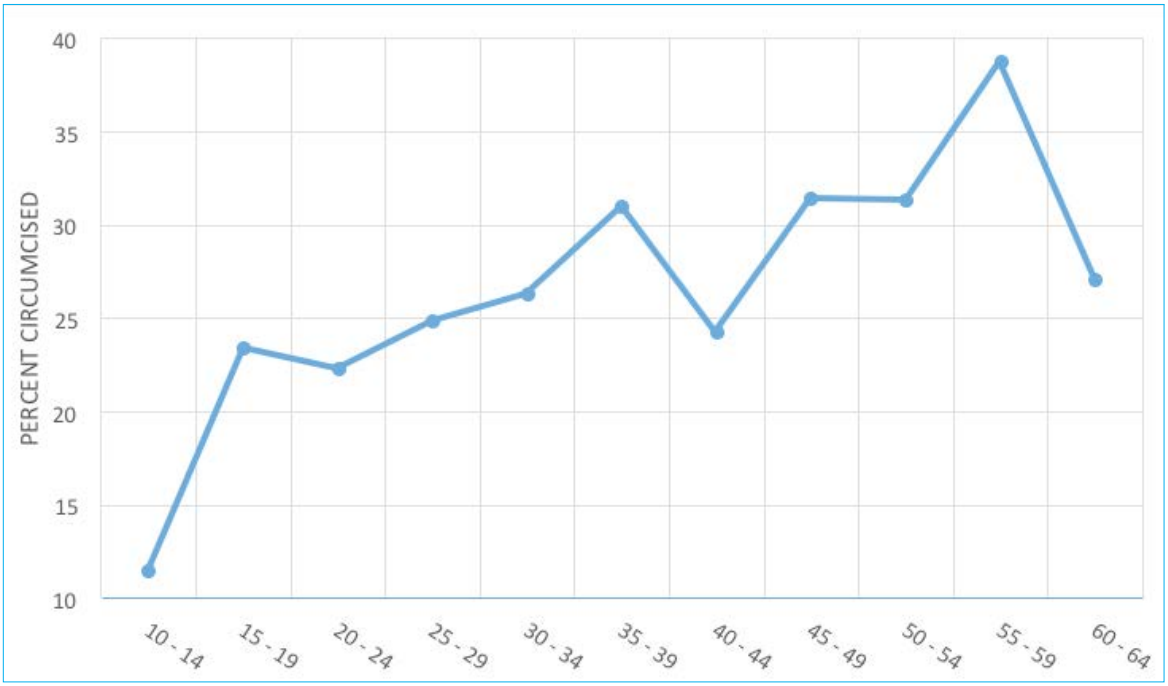
An estimated 154,070 mothers received antenatal care during their last pregnancy, of which 92.8 percent (143,037) were tested for HIV during one of the visits. Of the 143,037 who were tested only1.1 percent did not receive their results while 1.3 percent did not want to reveal their results to the interviewer. A fifth (20.5 percent) of the women who were tested during their visit to the ante natal clinic reported that their HIV test was HIV positive while 77.0 percent reported that they were HIV negative. A very high percentage (93.5 percent) of mothers who tested HIV positive was enrolled into the Prevention of Mother to Child Transmission (PMTCT)(27,441 woman enrolled out of a total of 29,346 who tested HIV positive(.

Just under half (44.4 percent) of mothers who reported that their babies were tested for HIV by the time the babies were 6 to 8 weeks, less than one percent (0.4 percent) tested HIV positive, while 94.1 percent were reportedly HIV negative. However, 4.4 percent of mothers whose babies were tested did not receive the results of their babies' tests while 1.1 did not want to reveal the results of their baby's test results. Just under half (46.4 percent) of babies who were HIV positive received antiretroviral medication.

4.2.3 Male Circumcision

As shown in Figure 4, male circumcision generally increases with age, except at the age of 40-44 where there is a relative drop. The overall circumcision among male population aged 10-64 years has doubled from 11 percent in 2008 to 24.3 percent in the 2013 BAIS IV. Amongst those aged 30-34, 35-39 and 40-44 where the HIV infection is concentrated, 26.5, 30.8 and 24.1 percent respectively, were circumcised. The uptake of circumcision in males again peaks at 55-59 age group with 39.2 percent. .

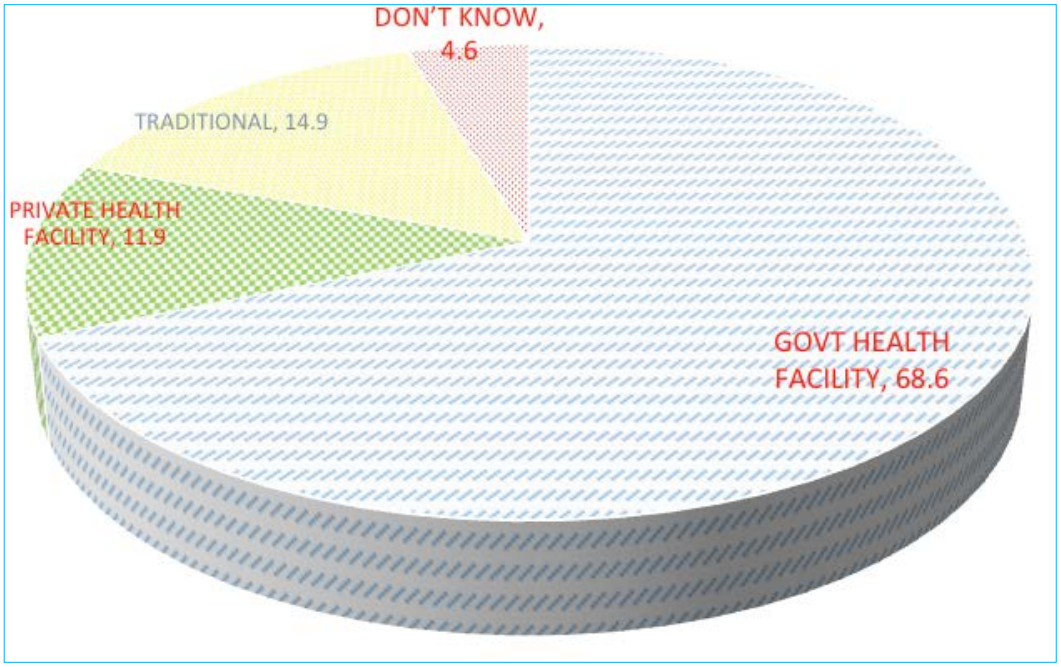
Figure 4: Male population aged 10-64 circumcised by age group



4.2.3.1 Male Circumcision by Place of Operation

According to Figure 6 below, 68.6 percent of the circumcision was performed at a Government health facility, followed by 14.9 percent done by traditional methods and 11.9 percent at private health facilities. A small proportion of 4.6 percent did not know where they were circumcised possibly because they were circumcised while they were still young.

Figure 5: Percent of male population aged 10-64years Circumcised by Place of Circumcision



4.2.4 Knowledge and Behaviour

Early sexual debut was found to be 4.4 percent for men and women aged 15-24 who had sexual intercourse before the age of 15 years compared to BAIS III in which it was 4 percent. The percentage for both sexes aged 15-49 who had multiple concurrent sexual partners in the last 12 months was found to be 15.8 percent. Amongst the same population 81.9 percent reported having used a condom during the last sexual intercourse.

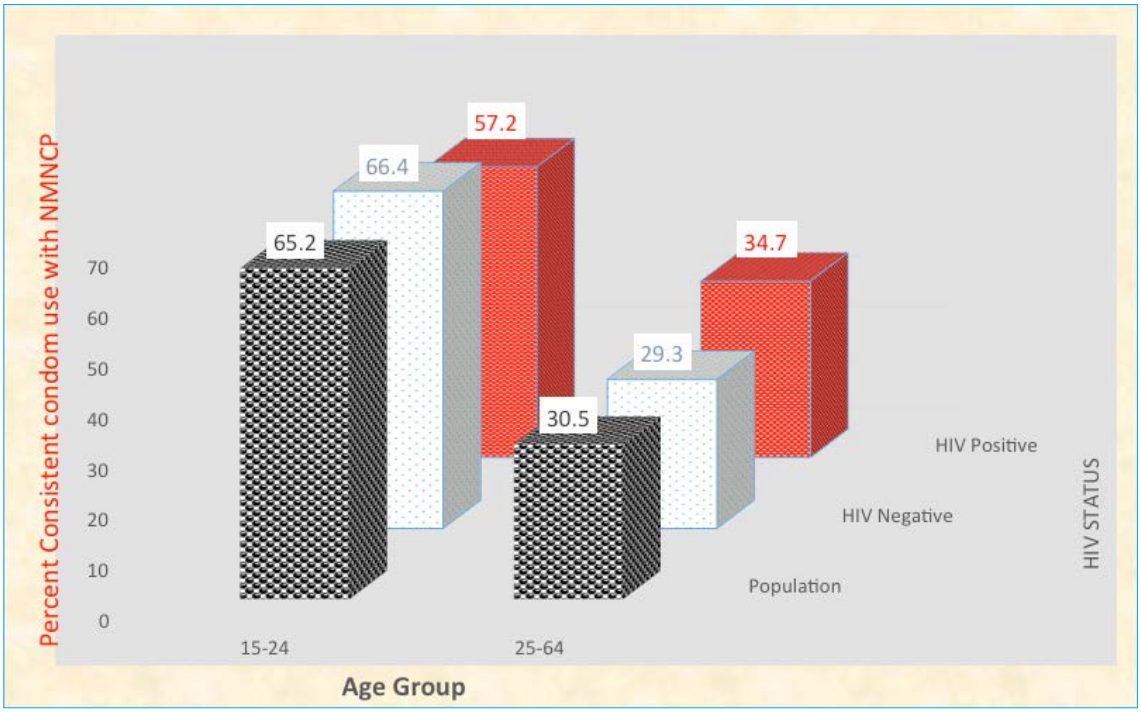
4.2.5 Stigma and Discrimination

Persons aged 15-49 years showed accepting attitudes towards people living with HIV and AIDS. An overwhelming, 96.8 percent responded in the affirmative t when asked whether they would share a meal or buy vegetables from a person living with HIV. Discriminatory attitudes were predominant among males, at 5 percent compared to females at 2.7 percent on the same questions. Furthermore, the younger age groups showed discriminatory attitudes than older age groups, males and females (15-19 years) at 9 & 3.9 percent respectively; compared to 3 percent (males) and 2.4 percent for females for those aged 25-49 years.

4.2.6 Consistent use of condoms with non-regular partners

Figure 6 shows the percent of population consistently using condoms with a non-regular partners by age and HIV status. Overall, 65.2% of population aged 15-24 said they always use a condom with a non-marital or non-regular partner.

Figure 6: Consistent Using Condoms with Non-Regular Partners



An almost the same proportion (66.4 per cent) of people who were HIV negative reported using a condom with a non-regular partner. This proportion drops to 57.2% among population aged 15-24 who were HIV positive. As shown in Figure 6, the percentages are much lower among the population age 25 to 64. Among this age group, only 30% of those who are HIV negative, were reportedly using condoms consistently, while among those HIV positive, only one in three reported using condoms consistently.

4.2.7 Care and Support

It was found that 14.4 percent of persons below the age of 18 years was double orphans (those who lost both parents) compared to 16 percent from the 2008 BAIS III. Of those, 1.8 percent had lost both the mother and father.

The survey showed that 13.9 percent of the households in which orphaned children lived received some free basic external support in the 12 months preceding the survey compared to 31.0 percent from BAIS III. It was found that Home Based Care from trained caregiver was being provided to about 50.3 percent of the households with bedridden people compared to 49.0 percent from the previous BAIS III.

Furthermore, the results showed that school attendance among children aged 10-17 years who had lost both mother and father is high estimated at 95.8 percent among males and 79.4 percent among females.

5.0 STRUCTURAL FACTORS

5.1 Literacy Rate

The survey included questions on school attendance and the final grade attained. This indicator was then used as a proxy for literacy. In using this proxy, 85.9 percent of the adult population 15 years and above was estimated to be literate showing a slight improvement from the 83.2 percent from the 2009/10 Botswana Core Welfare Indicator Survey.

Table 8: Trends in Literacy Rates - 1981 - 2013

	10 - 70			12 - 70			15 - 65		
YEAR	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
1981	32	36	34	..	..	..	..	..	..
1991	..	..	..	..	..	..	66.8	67.7	67.3
1993	..	..	..	..	..	..	66.9	70.3	68.9
2001	65	69.8	67.5	..	..	..	69.9	73.6	71.8
2003	75.3	77.9	76.6	79.6	81.8	80.9	80.4	81.8	81.2
2010	85.1	86.5	85.3	87.4	89.2	88.4	82.3	83.8	83.2
2013	82.6	86.4	84.6	83.8	85.9	84.9	84.1	87.5	85.9

5.2 Unemployment Rate

The 2013 unemployment rate among population aged 18 years and above was estimated at 19.8 percent. The unemployment rate for persons aged 15 years and above was estimated at 20 percent. The unemployment was largely concentrated among the youths of age group of 18 to 34. Although this is higher than the rate of 17.9 percent in the 2009/10 Botswana Core Welfare Indicator Survey (BCWIS) unemployment tends to be higher from January to May in which the BAIS IV survey was conducted.

Table 9: Unemployment Rate by Survey

Survey	Unemployment among 19 years and above (%)
BCWIS 2009/10	17.6
BAIS IV (2013)	19.8

6.0 BAIS IV RESULTS STATISTICAL TABLES

Table 10: Population by 5 Year Age Groups, Sex and Sex Ratio

Age group	Males	Females	Total	Sex Ratio
0-4	145889	141829	287718	102.9
5-Sep	91171	85540	176711	106.6
Oct-14	94138	97555	191693	96.5
15-19	96203	92963	189166	103.5
20-24	102992	112906	215898	91.2
25-29	85767	103103	188870	83.2
30-34	81582	88099	169680	92.6
35-39	61672	68952	130624	89.4
40-44	53214	56770	109985	93.7
45-49	34263	46516	80778	73.7
50-54	30140	41805	71944	72.1
55-59	29108	34465	63574	84.5
60-64	19192	21210	40402	90.5
65-69	14095	20375	34469	69.2
70-74	9568	15179	24747	63
75-79	7240	9448	16688	76.6
80+	12528	21852	34380	57.3

Figure 7: Cohort Comparison of HIV Prevalence Rate, 2008 and 2013

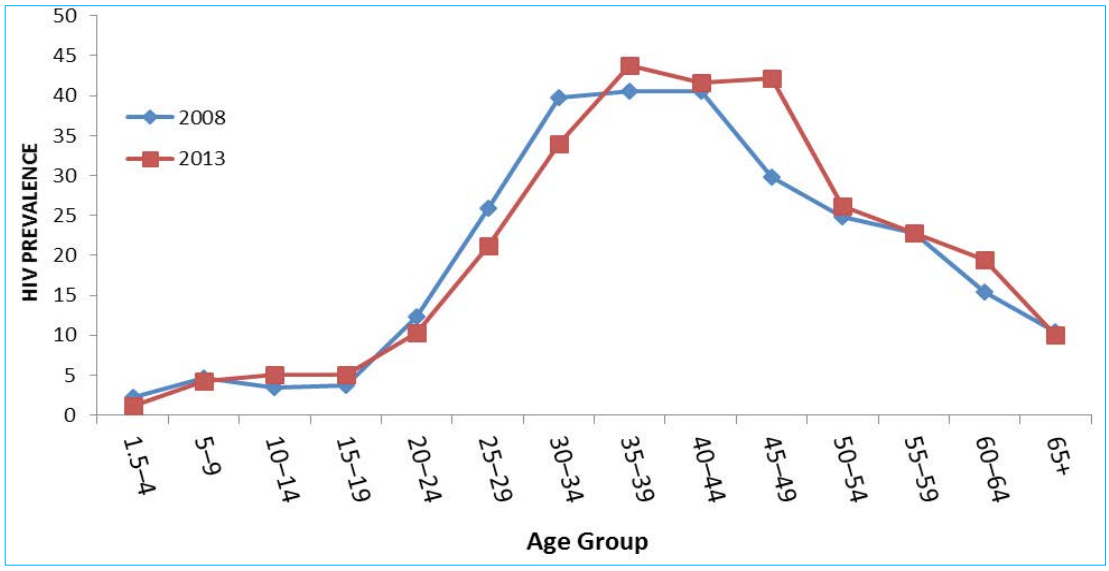


Figure 10 above shows that in 2013 (BAIS IV), HIV prevalence rate was lowest in the 1.5-4 years at 1.2 percent and was 2.2 percent in the same age group in BAIS III (2008). The prevalence rate is highest in the 35-39 age group at 43.8 percent in 2013, and 40.5% in the same age group in 2008 (BAIS III), indicating an increase in the prevalence rate. Further comparison, shows a gradual decline in the prevalence rate from the age of 40 years to 65+ years.

Table 11: Estimated HIV prevalence rate by district and targeted age group

District	15-24	25-49	15-49	14-18	19-24	20-30	31-49	50-64
Gaborone	4.4	29.8	20.3	0	6.2	10.7	39	12.2
Francistown	10.1	42.2	29.9	6.7	12.4	20.2	54.2	33.4
Lobatse	8.2	31.9	22.3	2.7	11.3	11.9	42.6	13.8
Selebi-Phikwe	9.2	42.6	30.8	4.3	12.1	20.2	51.3	38
Orapa	8	23	19.1	2.8	10.7	18.1	24.3	16.2
Jwaneng	9.6	18.5	15.9	10.7	8.4	12.7	21	11.6
Sowa	7.1	33.5	25	2.7	9.3	15.7	39.7	23.6
Southern	8	28.2	18.2	6	8.9	6.8	38.6	10
Barolong	1.8	44	27.3	3.3	0	26.9	43.4	27.3
Ngwaketse West	9.2	32.6	25.6	5.1	11.4	17.1	37.5	33.1
Southeast	5.4	32.9	23.3	0	6.5	10.6	39.1	3.9
Kweneng East	10.2	37.3	26.8	2.7	12.8	18.1	42.1	24.6
Kweneng West	6.8	27.9	20	3.8	7.7	14.6	31.1	12
Kgatleng	9.1	34	24.6	6.4	10.3	20.3	40.1	23.1
Central-Serowe	3.7	32.8	20.7	7.6	1.7	3.7	45.8	35.5
Central-Mahalapye	5.4	47.7	33.4	0	8.4	26.1	51.2	39.8
Central-Bobonong	9.6	39.4	29.2	4.8	13	21.1	43.9	19.6
Central-Boteti	13	32.3	25.3	7.9	15.4	21.2	39.3	40.4
Central-Tutume	10.4	44.4	28.7	2.6	15.1	24.6	48	18
Northeast	11.3	44.9	30.8	6.2	14.9	27.7	48.4	22.5
Ngamiland South	7.8	22.7	17.3	7	7.2	15.7	23.2	33.2
Ngamiland North	12.3	26.1	20.3	0	17.2	23.4	25.1	16.8
Chobe	14.5	25.1	22.3	12.7	14.7	16	29.7	19.2
Ghanzi	8.5	25.1	19.6	8	7.6	15.8	25.3	27.7
Kgalagadi South	4.4	17.1	13.6	7	2.1	7.6	20.7	13
Kgalagadi North	3.3	36.4	27.3	0	4.6	8.5	44.6	5.6
Total	**7.9**	**34.4**	**24.3**	**4.1**	**9.5**	**16.3**	**40.6**	**23.9**

Table 12: Estimated HIV Prevalence by District, Youth Age Group and Sex

	15 - 19			20 - 24			25 - 29			30 - 34		
District	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Gaborone	0.0	0.0	0.0	0.0	11.8	7.2	4.2	17.0	10.9	25.0	55.5	42.2
Francistown	0.0	10.2	6.5	2.9	23.3	13.4	11.9	26.2	20.0	36.6	56.0	46.8
Lobatse	0.0	3.4	2.3	9.5	17.3	12.8	0.0	20.7	11.4	0.0	44.8	33.4
Selebi-Phikwe	0.0	7.1	3.7	7.4	20.6	15.5	23.4	20.2	21.9	43.9	42.4	43.1
Orapa	5.3	0.0	2.1	4.5	18.1	14.2	3.1	29.7	21.5	16.6	36.5	26.8
Jwaneng	6.4	14.2	9.9	0.0	18.7	9.6	13.7	20.4	16.7	7.0	16.8	12.4
Sowa	0.0	4.7	2.7	0.0	22.6	10.8	5.2	28.9	16.6	14.2	44.8	27.8
Southern	0.0	8.6	5.6	10.3	11.8	11.0	0.0	0.0	0.0	38.3	24.3	30.6
Barolong	6.3	0.0	2.7	0.0	0.0	0.0	15.3	52.8	40.6	13.6	42.7	34.3
Ngwaketse West	8.1	12.2	9.6	11.2	7.6	8.9	0.0	22.3	15.9	21.3	61.8	43.1
Southeast	0.0	0.0	0.0	11.6	5.5	7.1	17.4	20.5	18.8	47.3	40.3	42.9
Kweneng East	5.7	7.5	6.7	8	16.1	12	14.9	34.5	28.3	35	20.5	26.8
Kweneng West	0.0	20.6	3.7	5.3	12.9	9.1	24.3	24.3	24.3	23.9	0.0	14.9
Kgatleng	0.0	9.4	4.7	0.0	26.4	13.7	7.7	40.7	25.3	23.2	45.6	33.8
Central-Serowe	5.0	8.8	7.2	0.0	0.0	0.0	0.0	10.2	5.7	26.3	41.8	33.7
Central-Mahalapye	7.4	0.0	2.5	4.6	11.4	7.6	39.5	50.7	44.5	20.7	74.3	43.6
Central-Bobonong	8.3	5.9	7.2	0.0	15.7	12.3	24.0	19.4	21.3	21.5	52.7	39.7
Central-Boteti	7.7	5.7	6.7	7.0	30.8	19.8	17.8	19.1	18.5	22.9	43.8	34.1
Central-Tutume	5.1	0.0	2.6	8.7	23.7	16.9	25.8	43.5	38.5	24.4	41.8	32.6
Northeast	1.9	12.2	6.8	5.5	21.7	17.5	20.1	39.1	33.8	36.7	41.4	40.4
Ngamiland South	0.0	11.4	6.4	0.0	15.3	8.8	17.9	28.7	23.8	20.9	6.7	14.4
Ngamiland North	0.0	3.4	2.4	12.0	23.4	19.3	14.7	36.2	29.6	18.6	42.4	31.4
Chobe	0.0	23.6	15.7	14.6	13.8	14.2	10.7	20.8	16.2	28.9	20	25.3
Ghanzi	0.0	19.7	10.8	9.4	4.7	7.0	13.4	34.4	22.5	14.3	65.9	32.9
Kgalag N	0.0	12.9	6.1	0.0	5.3	2.9	0.0	12.9	7.7	15.4	19.1	17.5
Kgalag N	0.0	14.0	6.2	0.0	0.0	0.0	0.0	10.8	5.7	13.4	39.8	27.5
Total	**2.9**	**6.4**	**4.8**	**5.0**	**14.7**	**10.3**	**13.2**	**27.2**	**21.2**	**26.9**	**40.1**	**33.9**

TABLE 13: Selected Self Reported Diagnosis of Communicable and Non-Communicable Disease among Males and Females Aged 10-64

DIAGNOSIS	YES		NO		Total	
	Count	Percent	Count	Percent	Count	Percent
Have you ever been diagnosed with Tuberculosis in the last 12 months?	22,132	3.6	586,382	96.4	608,514	100.0
Have you ever been diagnosed with Diabetes?	15,123	2.5	593,390	97.5	608,514	100.0
Have you ever been diagnosed with high blood pressure/hypertension	76,053	12.5	532,460	87.5	608,514	100.0
Have you ever been diagnosed with Asthma?	32,671	5.4	575,842	94.6	608,514	100.0
Did the doctor tell you that you may have problems with your cervix?	18,729	14.0	114,710	86.0	133,439	100.0

Table 14: Selected National and International Indicators for BAIS 2008 and 2013

Indicator	BAIS III 2008	BAIS IV 2013	Reporting purpose
1. Percentage of women and men aged 10-64 who have ever received an HIV test	56.60%	70.20%	National
2. Percentage of women and men aged 15-49 who received an HIV test in the last 12 months and who know their results	41.20%	63.70%	UNGASS
3. Percentage of General Population who Received an HIV Test in the Past 12 Months and were informed of the Results			UNIVERSAL

		BAIS IV 2013
	10 – 14	46.3
	15 – 19	63.6
	15 – 24	70.6
	15 – 49	63.7
	20 – 24	72.6
	25 – 49	61.4
Total	**10 – 64**	**61.8**

4. Proportion of young people aged 10-24 who cite having discussed HIV and AIDS with a family member over the past 4 weeks[1](Family = Spouse or Other relatives or Family member/s)

	BAIS III 2008	BAIS IV 2013	
	7	No Question	UNGASS

Table 15: Care and Support:

INDICATOR	BAIS III 2008	BAIS IV 2013	REPORTING PURPOSE
5.Percentage of children aged less than 18 years who are orphans (single, double orphans)	16.2	14.4	SADC
6.Percentage of orphaned and vulnerable children aged 0-17 whose households received free basic external support in caring for the child in the last 12 months[1]	31.2	13.9	UNGASS UNIVERSAL Access
7. Percentage of bedridden people that are receiving Home Based Care from trained caregivers (Hospital/Clinic and Social Workers)[2].	46.5	50.3	National

Table 16: Knowledge and Behavior:

INDICATOR	BAIS III 2008	BAIS IV 2013	REPORTING PURPOSE
8. Percentage of young women and men aged 15-24 who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission or prevention	42.1	47.9	National, UNGASS, Universal Access, SADC
9. Percentage of young women and men aged 15-24 who have had sexual intercourse before the age of 15	3.5	4.4	National, UNGASS, Universal Access
10. Percentage of women and men aged 15-49 who have had sexual intercourse with more than one partner in the last 12 months	11.2	15.8	National, UNGASS, SADC
11. Percentage of people 15-24 years of age who have had sex with a non-marital, non-cohabiting sexual partner in the last 12 months	38.6	TBD	Universal Access
12. Percentage of women and men aged 15-49 who have had sexual intercourse with more than one partner in the last 12 months reporting the use of a condom during last sexual intercourse	81.1	81.9	National and UNGASS
13. Percentage of people 15-24 years of age reporting the use of condoms every-time they had sex with non-regular partners in the last 12 months[1]	78.4	65.2	Universal Access
14. Percentage of men and women aged 15 – 49 years who used a condom the last time they had sex with a casual partner within the last 12 months.	6.0	79.7	SADC
15.(a) Percentage of population expressing accepting attitudes (At least one) towards People Living with HIV and AIDS	93.7	75.7	National
(b) Percentage of population expressing accepting attitudes (All accepting attitudes) towards People Living with HIV and AIDS	64.8	23.8	SADC

[4]This modifies the Universal Access indicator in the sense that it takes into account people who always used condoms instead of those who ever used.

Table 17: Circumcision:

INDICATOR	BAIS IV 2013	REPORTING PURPOSE
23.a) Percentage of males aged 10-64 who are circumcised by age group		National
Oct-14	11.9	
15-19	23	
20-24	22.5	
25-29	24.3	
30-34	26.5	
35-39	30.8	
40-44	24.1	
45-49	30.9	
50-54	31.1	
55-59	39.2	
60-64	26.3	
Total	**24.3**	
b) Percentage of males aged 10-64 who are circumcised by district		
Gaborone	25.9	
Francistown	30.3	
Lobatse	34.5	
Selebi-Phikwe	28	
Orapa	33.9	
Jwaneng	30.8	
Sowa	26.7	
Southern	25.4	
Barolong	22	
Ngwaketse West	18.9	
Southeast	23.5	
Kweneng East	22.9	
Kweneng West	22.8	
Kgatleng	38.4	
Central-Serowe	22.1	
Central-Mahalapye	25	
Central-Bobonong	14.7	
Central-Boteti	22.5	
Central Tutume	20.3	
Northeast	25.8	
Ngamiland South	25.8	
Ngamiland North	10.9	
Chobe	26.4	
Ghanzi	22.1	
Kgalagadi South	10	
Kgalagadi North	19.7	
Total	**24.5**	

Table 18: Comparison of Some BAIS II 2004, BAIS III 2008 and BAIV IV 2013 Results:

HIV Prevalence	2004	2008	2013
Age			
1.5 - 4	6.3	2.2	1.2
5 – 9	6.0	4.7	4.3
10 – 14	3.9	3.5	5.0
15 – 19	6.5	3.7	5.0
20 – 24	19.0	12.3	10.3
25 – 29	33.0	25.9	21.2
30 – 34	40.2	39.7	34.0
35 – 39	35.9	40.5	43.8
40 – 44	30.3	40.6	41.6
45 – 49	29.4	29.8	42.2
50 – 54	20.9	24.8	26.2
55 – 59	14.0	22.8	22.8
60 – 64	12.0	15.4	19.5
65+	6.8	10.4	10.0
Total	**17.1**	**17.6**	**18.5**

Residence	2004	2008	2013
Cities	20.2	19.1	19.5
Towns	21.3	22.1	21.6
Urban Villages	17.4	16.6	18.7
Total Urban	**19.6**	**17.9**	**19.2**
Rural	15.6	17.1	17.4
Total	**17.1**	**17.6**	**18.5**

Table 18: Comparison of Some BAIS II 2004, BAIS III 2008 and BAIV IV 2013 Results: cont...

HIV Prevalence BY District	2004	2008	2013
Gaborone	18.3	*17.1*	*17.0*
Francistown	24.6	*23.1*	*24.3*
Lobatse	17.8	*16.3*	*17.2*
Selebi-Phikwe	23.3	*26.5*	*27.5*
Orapa	18.2	*16.7*	*15.6*
Jwaneng	19.0	*15.7*	*12.8*
Sowa	18.8	*25.4*	*19.8*
Southern	12.4	*13.3*	*11.8*
Barolong	14.2	*13.9*	*20.3*
Ngwaketse West	16.0	*16.1*	*18.8*
Southeast	14.2	*12.6*	*16.6*
Kweneng East	15.2	*16.7*	*21.5*
Kweneng West	10.8	*10.3*	*11.8*
Kgatleng	14.7	*15.8*	*19.9*
Central-Serowe	18.2	*20.0*	*17.1*
Central-Mahalapye	17.9	*17.1*	*23.1*
Central-Bobonong	18.2	*18.9*	*19.3*
Central-Boteti	16.0	*14.6*	*20.3*
Central-Tutume	18.9	*20.0*	*18.2*
Northeast	18.1	*21.8*	*17.7*
Ngamiland South	16.6	*19.8*	*15.2*
Ngamiland North	13.3	*16.5*	*13.5*
Chobe	29.4	*23.0*	*17.7*
Ghanzi	15.6	*13.5*	*17.1*
Kgalagadi South	11.8	*19.1*	*11.1*
Kgalagadi North	15.2	*11.8*	*18.1*
Total	**17.1**	**17.6**	***18.5***

Table 19: Comparable Indicators for Reporting Purpose

Indicator	2001	2004	2008	2013	Reporting \ Purpose
Prevention					
1. Percentage of women and men aged 10-64 who have ever received an HIV test	15.2	27.9	56.4	70.2	National
2. Percentage of women and men aged 15-49 who received an HIV test in the last 12 months and who know their results	9.4	18.3	41.2	63.7	UNGASS
Care and Support					
3. Percentage of children aged less than 18 years who are orphans (single, double orphans)	12.7	16.7	16.2	14.4	SADC
4. Percentage of orphaned and vulnerable children aged 0-17 whose households received free basic external support in caring for the child in the last 12 months[1]	3.3	34.3	31.2	13.9	UNGASS Universal Access
Knowledge and Behavior					
5a. Percentage of young women and men aged 15-24 who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission or prevention	36.3	28.1	43	47.9	National, UNGASS Universal Access SADC
5b. Percentage of women and men aged 15-49 who have had sexual intercourse with more than one partner in the last 12 months	10.6	5.4	11.2	15.8	National, UNGASS, SADC

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BAIS IV

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