DEPARTMENT OF HEALTH
Republic of South Africa

REPORT

NATIONAL HIV AND SYPHILIS ANTENATAL SERO-PREVALENCE SURVEY IN SOUTH AFRICA 2003

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NATIONAL HIV AND SYPHILIS ANTENATAL SERO-PREVALENCE SURVEY IN SOUTH AFRICA 2003

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PREFACE

In October 2003 the National Department of Health once again conducted its annual HIV and syphilis surveys among pregnant women attending antenatal care in the public sector. This was the 14th survey since the 1st of the series began in 1990. Over 16 000 women attending antenatal care for the 1st time in all nine provinces participated in the survey and thus provided us with valuable information on the trends and magnitude of HIV and syphilis in the country. The results of the survey have continued to be a useful monitoring tool for the progression of the epidemic.

As the HIV and AIDS epidemic continues to present a major challenge to the Health Sector in South Africa, Government is increasingly aware of strengthening the implementation of the HIV Plan strategic plan 2000 - 2005 and providing an integrated and comprehensive health care service. With the approval of the Operational Plan for Comprehensive Care and Treatment for people living with HIV and AIDS by National Cabinet on the 8th August 2003, there was a clear indication by government to commit even more resources to HIV and AIDS. As we embark on this new challenge I would like to urge South Africans to be aware of the HIV prevention messages, live healthy lives and continue to respond positively to information and education messages around HIV and AIDS.

In our comprehensive approach to HIV and AIDS care we continue to strengthen prevention of HIV infection, we are strengthening treatment of opportunistic infections such as tuberculosis, we are encouraging the strengthening of healthy lifestyles and healthy diets as well as providing antiretroviral medication for individuals who are living with HIV and AIDS. I urge South Africans to join together, and together do everything possible to provide support and care where it is needed.

I sincerely believe that this study will contribute to our understanding of the progression of the HIV epidemic and will continue to inform both government and non-government sectors in the struggle against HIV and AIDS.

MINISTER: HEALTH
DR M E TSHABALALA-MSIMANG

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I would like to acknowledge the ongoing support of the MECs and Provincial Heads of Health Departments in this and other HIV and AIDS activities. Special thanks all staff of the Department of Health - to the National HIV and AIDS Cluster in particular Dr Nono Simelela for the tireless effort in co-ordinating the implementation of HIV and AIDS Programmes.

With respect to this survey, I would like to thank all those who have made the 2003 annual HIV and syphilis survey possible. Special thanks to the Provincial Project Coordinators Messieurs A Ntoto & T Dhlamini and Ms N Mzana (E.C), Ms L van der Bank (FS), Ms K Chuene (GP), Mr Z Ahmed and Dr T Govender (KZN), Ms M Mogoswane (LP), Dr B Harris (MP), Mr R Rabie (NC), Mr H Metsileng (NW), Dr N Shaikh (WC).

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I am grateful for the support of Dr J Levin, Senior Statistician – MRC for assistance with the supporting methodological design and data verification of the survey findings and Dr Charles Mugero; WHO for his contributions.

Special thanks go to the Cluster responsible for co-ordinating the survey. In particular Dr L Makubalo, Chief Director: Health Information, Evaluation & Research, Ms P Netshidzivhani, Director: Research & Epidemiology and Directorate members - Ms L Mahlasela, Ms R du Plessis, Messieurs L Mudzanani, F Dikgale, E Maimela. Thanks to Ms M Cassim and Mr N Mabunda Directorate Health Information Systems for their role in generating the maps.

Finally, I would like to thank service providers at all participating sites and especially the women attending antenatal clinics without whom the survey would not have been possible.

ACTING DIRECTOR-GENERAL: HEALTH
MS MK MATSAU

1. INTRODUCTION

Since the beginning of the epidemic, an estimated 60 million people worldwide have become infected with the HI virus. AIDS claimed more than 3 million lives in 2003, and an estimated 5 million people acquired the virus, bringing to 40 million the number of people living with the disease in the world (UNAIDS, 2003). In South Africa it was estimated that a total number of 5.3 million individuals had acquired HIV infection by the end of 2002 (Department of Health, 2003).

The country's estimate on changing HIV prevalence trends are to a large extent made on the basis of an annual facility based survey involving approximately 16,000 participants. Annual antenatal HIV and syphilis surveys are internationally recognised tools for monitoring HIV trends and provide the basis for HIV estimation in the general population (Kustner *et al, 1998,* Allen *et al*, 2000). These surveys have been conducted in South Africa annually since 1990. The most recent survey was conducted by the Department of Health in October 2003.

The South African antenatal surveillance has developed up to track the prevalence of HIV on a yearly basis. This has been done over the last 14 years. It was observed in the first 9 years of surveillance between 1990 and 1998 that there was an exponential increase from one year to the next. This rapid rate of increase slowed down over the next five years suggesting a gradual stabilization in HIV prevalence rates. Some models have predicted that stabilization would occur approximately around 2004. HIV prevalence in teenagers has been used as an estimate of new HIV infections (UNAIDS/WHO, 2000). It has been observed over the last five years that rates of HIV prevalence have not increased in this group. However, when the teenagers are merged with women in the early twenties, slight increases in HIV prevalence are observed.

Other studies and surveillance approaches have been developed to augment the antenatal survey approach. The strengthening of HIV surveillance methods is particularly important in a mature HIV epidemic and also important as implementation of the HIV and AIDS Comprehensive Treatment Plan adds the components of treating with antiretroviral drugs in addition to comprehensive interventions which will include strengthening the HIV prevention programme, care for those who are infected, and treatment for opportunistic infections (Cabinet, 2003).

The findings of the most recent survey, which was conducted in 2003 are summarised in this report.

2. SURVEY OBJECTIVES

The primary objective of the antenatal survey was to provide information on HIV and Syphilis prevalence among pregnant women attending antenatal care in the public sector. The specific objectives of the 2003 survey were to:

- Determine an estimate of HIV and syphilis prevalence among pregnant women attending public sector antenatal clinics and
- Describe HIV and syphilis trends in terms of time, place (province) and age among pregnant women.
- Determine estimate of HIV infection in the general population through modelling

3. METHODOLOGY

Study Design

A cross-sectional, anonymous, unlinked survey was conducted among pregnant women attending antenatal care at selected sites in all nine provinces in the country. All pregnant women attending antenatal care for the first time during the current pregnancy were eligible for inclusion in the survey. The survey was conducted in October 2003. Some demographic details; (excluding personal identifiers such as names, addresses and identification number) are collected using standard forms in all nine provinces. Blood samples were collected from all participating women and labelled with a unique barcode label, which was also used on the data collection sheet. All specimens were transported to participating laboratories where they were tested for HIV using ELISA and for syphilis using RPR technique (WHO Global Programme on AIDS, 1989, Department of Health, 1997, UNAIDS/WHO, 2001).

Training and fieldwork

A preparatory workshop was held with all provincial survey and laboratory coordinators.

The purpose of the workshop was:

- To clarify the roles and responsibilities for each participating province and laboratory

- To revisit the study protocol, study administration methods and procedures
- To clarify and resolve any outstanding issues regarding the logistics, the administration and the procedural audit of the survey.

Furthermore, laboratory coordinators were responsible for sending the data capture sheets with the results and the preliminary electronic data to the provincial coordinator where the second data entry and checking took place. The coordinators were also tasked with ensuring proper storage and transportation of all HIV positive sera to the National Institute for Communicable Diseases (NICD) for incidence testing.

Following the workshop, all provinces in conjunction with the Epidemiology directorate conducted training workshops for the critical role players in the survey including; regional and district managers, communicable disease coordinators, health information officers, clinic supervisors, clinic staff, *etc*. At these workshops all participants were introduced to the survey's standard operating procedures: logistics, transportation of specimens and overall administration of the survey.

The study population comprised pregnant women attending antenatal care for the first time during the current pregnancy in October 2003.

Specimen collection

After the routine blood sample was drawn, a second vacutainer of blood was taken from every participating woman. This blood sample is labelled with a barcode label, at the same time demographic data such as age, race, education, gravidity, parity, etc. are completed on a data capture sheet, which is labelled with a second barcode label with the same number. The specimen and data capture sheet are sent via courier to the participating laboratory in the province.

For HIV testing, all specimens were tested with one ELISA in all provinces including Western Cape where prevalence was reported higher than 10% for the 1st time, in 2002. All specimens were also screened for syphilis using the RPR test. All HIV positive specimens were sent from all participating laboratories to the NICD for incidence testing.

Quality Assurance

The National Institute for Communicable Diseases (NICD) was responsible for the external quality control of the HIV prevalence testing. All participating laboratories were sent a panel of 20 specimens (HIV positive, negative and borderline) prior to the survey and were required to test and submit the results to the NICD.

The Medical University of South Africa (MEDUNSA) was responsible for the external quality control for syphilis testing. Similarly a panel of 20 specimens was sent to all participating laboratories and they were required to test and submit the results back to MEDUNSA.

Data Processing and Analysis

All participating laboratories did the initial data entry. All laboratories transferred the data into an Excel spreadsheet, which together with the original data capture forms, were sent to all Provincial Coordinators for second data entry and checking. The data was then sent to the National Epidemiology directorate where it was re-checked and cleaned, merged into a single national file and analysed in STATA.

Extrapolation of HIV estimates to the general population

The Department of Health developed a model for estimating the number of HIV infected people in the general South African population based on the results of the survey. Certain assumptions are made and the results arrived at are only crude estimates due to the constraints of the survey. The estimates are only as good as the validity of the assumptions and the generalisability of the survey results, which are used in the extrapolation process.

The assumptions are as follows:

- Assumption 1: The prevalence rate of HIV infection in all pregnant women in South Africa is the same as the prevalence rate in women attending public antenatal clinics.
- Assumption 2: The prevalence rate of HIV infection in all women aged 15 to 49 years is the same as the prevalence rate in pregnant women
- Assumption 3: Estimate of males infected= 85% of infected females
- Assumption 4: The mother- to-child transmission rate= 30%[1]

[1] Note that this assumes a 30% transmission rate from mother to child and does not factor in the reductions due to Prevention of Mother –to-Child Transmission of HIV interventions that are in place.

4. FINDINGS

4.1 Distribution and characteristics of study participants

The distribution of women who participated in the antenatal survey in 2003 is shown in Table 1 below.

Table 1 a. Antenatal survey participants for 2003 by province

Province	Number	Percentage of the total sample
Eastern Cape	1919	11.5
Free State	1039	6.2
Gauteng	3146	18.9
KwaZulu-Natal	3406	20.5
Limpopo	1890	11.4
Mpumalanga	1241	7.5
Northern Cape	623	3.7
North West	1388	8.3
Western Cape	1991	11.9
Total	16 643	100.0

Age group: 2001 - 2003

The proportions of women by age group have remained consistent over the past three years. Women 19 years and younger constitute approximately 19% of all women participating in the survey. As expected the proportion of women declines with age, with those aged over 40 years constituting just fewer than 3% of all participants.

Table 1 b. Antenatal survey participants for 2001 to 2003 by age group

	2001 Number	Percent of the total sample	2002 Number	Percent of the total sample	2003 Number	Percent of the total sample
Age						
< 20	3268	19.5	3211	19.4	3198	19.2
20-24	4788	28.6	5052	30.5	5152	30.9
25-29	4070	24.3	3871	23.3	3886	23.4
30-34	2615	15.6	2604	15.7	2612	15.7
35-39	1451	8.7	1323	8.0	1297	7.8
40-44	389	2.3	378	2.3	371	2.2
45-49	35	0.2	42	0.3	39	0.2
Missing	127	0.8	106	0.6	88	0.5
Total	16743	100.0	16587	100.0	16643	100.0

4.2 HIV prevalence

4.2.1 HIV prevalence trends: 1990- 2003

HIV prevalence among pregnant women in 2003 was observed to be 27.9% (CI 26.8% – 28.9%), in comparison with a prevalence of 26.5% (CI 25.5% - 27.6%) for 2002 (p= 0.074). The prevalence statistic between 2002 and 2003 is not statistically significant. In addition, over the recent five years the observed prevalence despite being high, the trend remained at relatively lower rate with the annual average difference of 1.1% compared to 2.94% during the previous period of exponential rise (1994 – 1998). These findings show that South African HIV prevalence rates remain high and the epidemic is still in the stabilisation phase and has not yet begun to decline. Figure 1 below shows trends in HIV prevalence among antenatal care users from 1990- 2003.

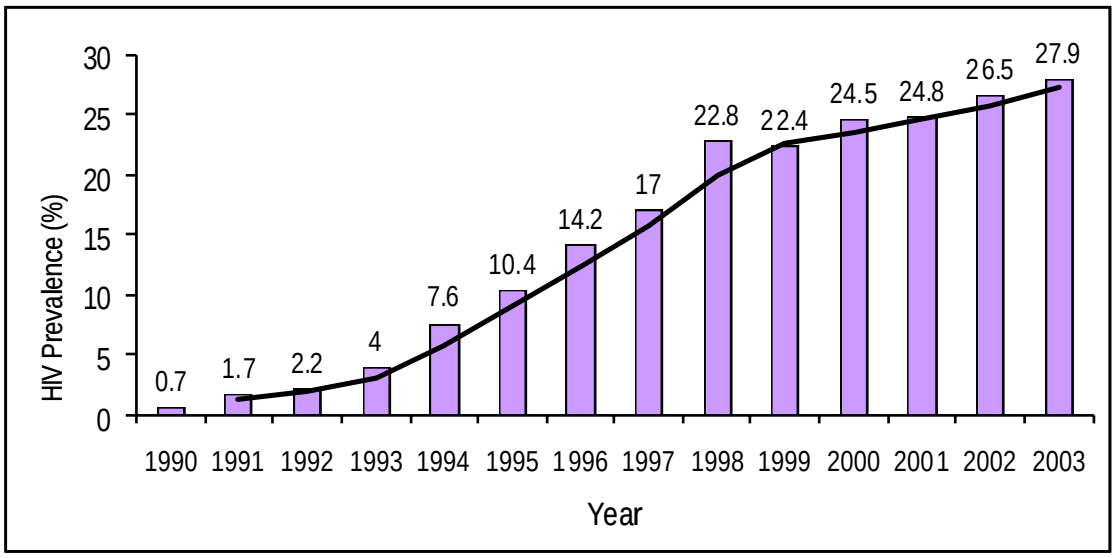


Figure 1: Prevalence of HIV among antenatal care attendees in South Africa, 1990- 2003

4.2.2 HIV prevalence by province

As observed in previous years, the maturity of the epidemic varies across provinces (geographical areas). The prevalence of HIV by province is shown in Figure 2 and Table 2 below. A prevalence rate of 37.5% was observed for KwaZulu-Natal. This was followed by Mpumalanga (32.6%), Free State (30.1%), Gauteng (29.6%) and Eastern Cape (27.1%). The three remaining provinces showed prevalence rates below 20%, with Limpopo at (17.5%), followed by Northern Cape (16.7%) and Western Cape (13.1%). It is important to note that none of these apparent increases in prevalence between 2002 and 2003 are statistically significant.

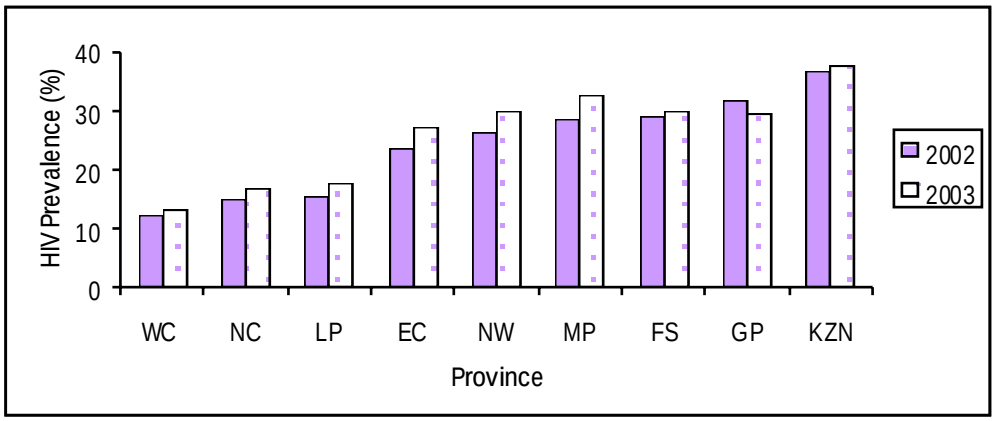


Figure 2. HIV prevalence by province among antenatal clinic attendees, South Africa: 2002 – 2003

Table 2. HIV prevalence by province among antenatal clinic attendees, South Africa: 2001 – 2003

Province	HIV prev (CI 95%) 2001	HIV prev (CI 95%) 2002	HIV prev (CI 95%) 2003
KwaZulu-Natal	33.5 (30.6 – 36.4)	36.5 (33.8 – 39.2)	37.5 (35.2 – 39.8)
Mpumalanga	29.2 (25.6 – 32.8)	28.6 (25.3 – 31.8)	32.6 (28.5 – 36.6)
Free State	30.1 (26.5 – 33.7)	28.8 (26.3 – 31.2)	30.1 (26.9 – 33.3)
North West	25.2 (21.9 – 28.6)	26.2 (23.1 – 29.4)	29.9 (26.8 – 33.1)
Gauteng	29.8 (27.5 – 32.1)	31.6 (29.7 – 33.6)	29.6 (27.8 – 31.5)
Eastern Cape	21.7 (19.0 – 24.4)	23.6 (21.1 – 26.1)	27.1 (24.6 – 29.7)
Limpopo	14.5 (12.2 – 16.9)	15.6 (13.2 – 17.9)	17.5 (14.9 – 20.0)
Northern Cape	15.9 (10.1 – 21.6)	15.1 (11.7 – 18.6)	16.7 (11.9 – 21.5)
Western Cape	8.6 (5.8 – 11.5)	12.4 (8.8 – 15.9)	13.1 (8.5 – 17.7)
South Africa	24.8 (23.6 – 26.1)	26.5 (25.5 – 27.6)	27.9 (26.8 – 28.9)

N.B. The true value is estimated to fall within the two confidence limits, thus the Confidence interval (CI) is important to refer to when interpreting data

4.2.3 HIV prevalence by age group

Figure 3 below shows trends in HIV prevalence by age group since 1991. It can be seen that there has been a constant decline in prevalence among teenagers since 1999. What appears as a marginal increase between 2002 and 2003 was found not to be a statistically significant increase (p=0.344). Other age groups have shown increases in prevalence, with the 25 to 29 year age group in comparison consistently recording higher rates compared to others.

Table 3 shows prevalence by age group. The highest prevalence rate was observed in the age group 25 to 29 years (35.4%). Lower prevalence rates (15.8%) were observed in teenagers (women under 20 yrs).

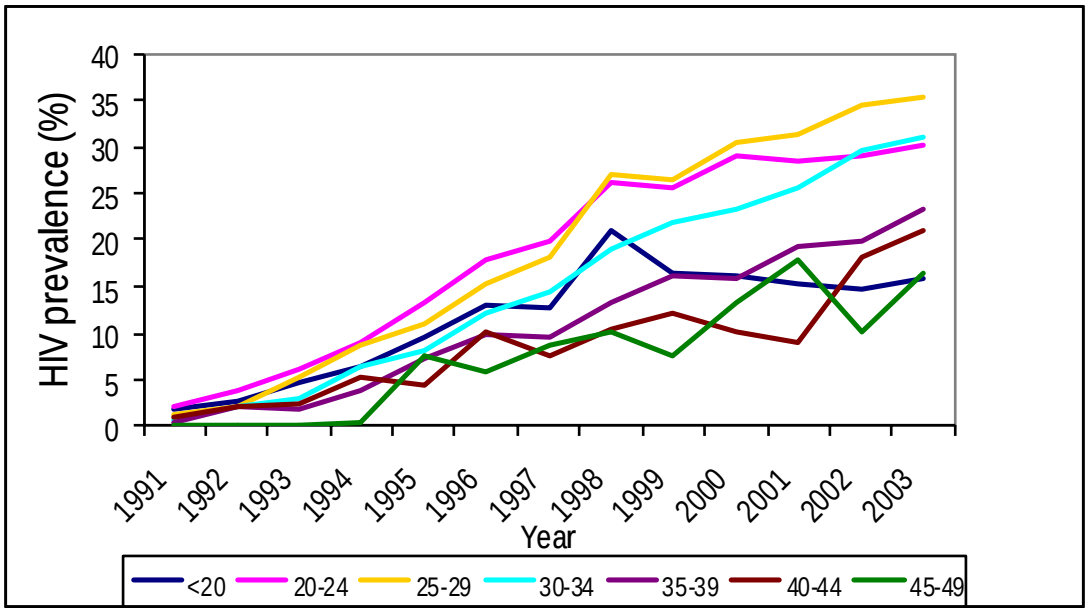


Figure 3. HIV prevalence trends by age group among antenatal clinic attendees, South Africa: 1991 – 2003

Table 3. HIV prevalence by age group among antenatal clinic attendees, South Africa: 2001 – 2003

Age group (years)	HIV prev (CI 95%) 2001	HIV prev (CI 95%) 2002	HIV prev (CI 95%) 2003
< 20	15.4 (13.8 – 16.9)	14.8 (13.4 – 16.1)	15.8 (14.3 – 17.2)
20 – 24	28.4 (26.5 – 30.2)	29.1 (27.5 – 30.6)	30.3 (28.8 – 31.8)
25 – 29	31.4 (29.5 – 33.3)	34.5 (32.6 – 36.4)	35.4 (33.6 – 37.2)
30 – 34	25.6 (23.5 – 27.7)	29.5 (27.4 – 31.6)	30.9 (28.9 – 32.9)
35 – 39	19.3 (17.0 – 21.5)	19.8 (17.5 – 22.0)	23.4 (20.9 – 25.9)
40+	9.8 (7.0 – 12.6)	17.2 (13.5 – 20.9)	15.8 (12.3 –19.3)

N.B. The true value is estimated to fall within the two confidence limits, thus the Confidence interval (CI) is important to refer to when interpreting data

4.2.4 United Nations General Assembly Special Session on HIV/AIDS (UNGASS) Indicators

South Africa is committed to the UNGASS Declaration (UNAIDS, June 2001). This section reports on indicators for UNGASS based on the findings of the annual antenatal HIV and syphilis survey.

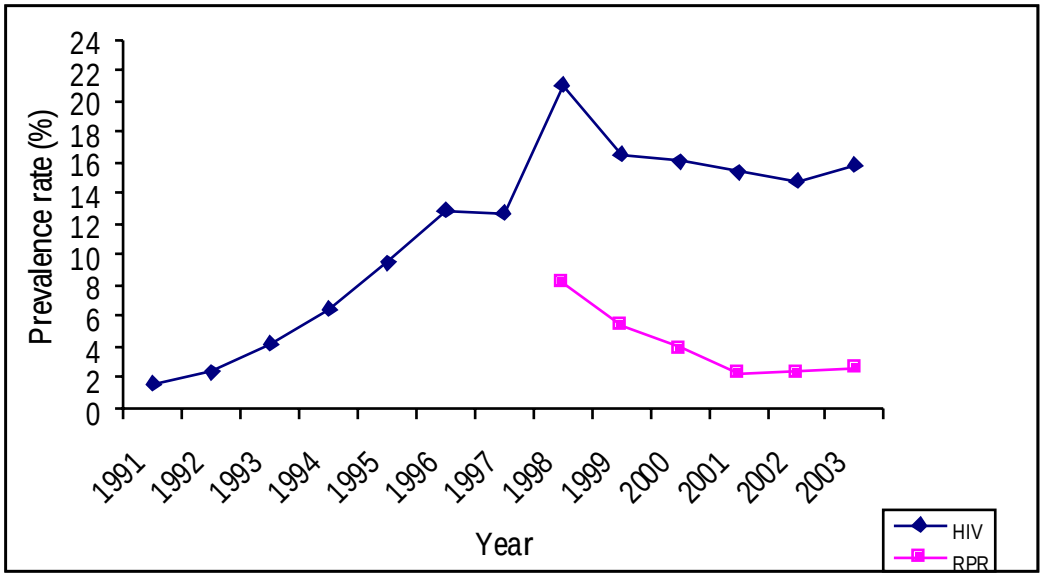
The table 4 shows HIV infection by age among women aged 15 to 24 years. As required the table reflect the number of women tested in each age group as well as the proportion of those who tested positive in each group. The table shows that the 23 year olds and 24 year old women were estimated to have the highest prevalence rates in the 20 – 24 year age groups.

Table 4: Annual Antenatal Survey Prevalence of HIV among pregnant women aged 15-24 years 2001 to 2003

Age in years	% HIV+ 2002	No. HIV+ (n) 2002	% HIV+ 2003	No. HIV+ (n) 2003
15	7.2	10 (145)	8.5	12 (145)
16	8.3	32 (386)	9.4	36 (390)
17	11.7	73 (639)	12.5	91 (740)
18	16.1	153 (959)	19.1	176 (931)
19	18.7	188 (1036)	19.4	180 (947)
20	23.4	257 (1121)	23.0	247 (1093)
21	25.7	242 (955)	27.5	295 (1089)
22	31.1	328 (1068)	28.1	257 (937)
23	33.5	332 (1008)	36.3	409 (1142)
24	32.3	284 (900)	37.1	326 (891)
15 - 19	14.7	463 (3211)	15.8	495 (3198)
20 – 24	29.1	1443 (5052)	30.3	1534 (5152)
15 – 24	23.5	1906 (8263)	24.8	2029 (8350)

Figure 4 below shows HIV and syphilis trends among women aged below 20 years since 1991 for HIV and 1998 for syphilis. The figure shows that there has been a decline in both syphilis

and HIV since 1998.



Note: RPR trends by age are shown from 1998 when these data became available

Figure 4 HIV and syphilis prevalence among ANC attendees aged below 20 years in South Africa: 1991-2003

4.2.5 Extrapolation of HIV prevalence to the general population

Based on results of the 2003 antenatal survey, using the Department of Health model; 5.6 million (a rise of 300,000 when compared to estimates of 2002) South Africans were estimated to be HIV positive by the end of 2003. This estimate includes 3.1 million women (15 to 49 years), and 2.4 million men (15 and 49 years) and 96 228 babies were infected. Tables 5a to 5c below show the estimated HIV infection among women, babies and men, respectively.

Table 5 a. Estimated number of HIV infected women; 2003

Age Group	Estimated Population	Estimated infections (LE, HE)#
15-19	2 528 642	398 514 (362 354; 434 421)
20-24	2 195 230	664 716 (632 446; 697 205)
25-29	2 035 814	720 678 (684 034; 757 119)
30-34	1 746 413	540 165 (505 063; 575 094)
35-39	1 630 263	381 155 (340 073; 422 401)
40+	2 505 608	395 635 (307 689; 483 582)
TOTAL	12 641 970	3 100 864 (2 831 658; 3 369 822)

N.B. The true value is estimated to fall within the two confidence limits, thus the Confidence interval is important to refer to when interpreting data

.#- Low estimate and high estimate

Table 5b. Estimated number of infected babies

Women's Age Group	Estimated births	Estimated HIV infected babies (LE; HE) #
15-19	192 177	9 086 (8 262; 9 905)
20-24	305 137	27 719 (26 373; 29 073)
25-29	291 121	30 917 (29 345; 32 480)
30-34	190 359	17 663 (16 515; 18 806)
35-39	120 639	8 462 (7 550; 9 377)
40+	50 267	2 381 (1 852; 2 910)
TOTAL	1 149 701	96 228 (89 897; 102 552)

N.B. The true value is estimated to fall within the two confidence limits, thus the Confidence interval (CI) is important to refer to when interpreting data

#- Low estimate and high estimate

Table 5c. Estimated number of infected males

Age Group	Estimated Population	Estimated infections (LE; HE) #
15-19	2 453 079	328 615 (299 006; 358 223)
20-24	2 099 293	540 316 (514 085; 566 725)
25-29	1 899 124	571 446 (543 035; 600 342)
30-34	1 594 488	419 199 (391 957; 446 305)
35-39	1 441 507	286 471 (255 594; 317 470)
40+	2 201 236	295 438 (229 765; 361 113)
TOTAL	11 688 727	2 441 485 (2 233 442; 2 650 178)

N.B. The true value is estimated to fall within the two confidence limits, thus the Confidence interval is important to refer to when interpreting data

#- Low estimate and high estimate

4.3 SYPHILIS PREVALENCE

4.3.1 Syphilis prevalence trends: 1997- 2003

The syphilis prevalence rate among pregnant women for 2003 is estimated at 2.7%. This prevalence is slightly lower than the estimate for 2002 (3.2%). Syphilis among pregnant women has generally declined since 1998, although the prevalence estimate in 2002 was an outlier (see Figure 5 below).

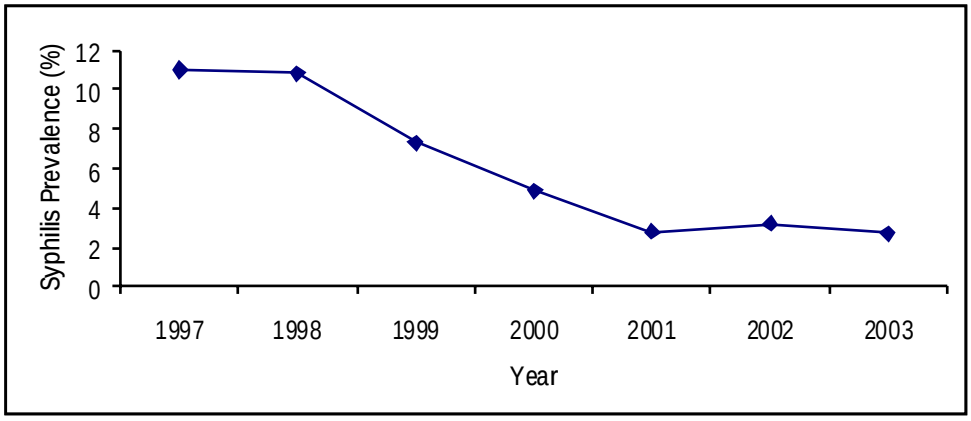


Figure 5: Syphilis prevalence trends among antenatal clinic attendees: 1997- 2003

4.3.2 Syphilis prevalence by province

The highest syphilis prevalence rate was recorded in Northern Cape at 8.6%. This is higher than the prevalence reported in 2002 for the province. The second highest rate was recorded in the Western Cape province (5.5%), which too is higher than the 2002 rate (2.0%). All other provinces reported lower syphilis prevalence rates in 2003 compared to 2002 (see Table 6).

Table 6. Syphilis prevalence by province among antenatal clinic attendees, South Africa 2001 – 2003

Province	RPR prev (CI 95%) 2001	RPR prev (CI 95%) 2002	RPR prev (CI 95%) 2003
Northern Cape	6.2 (4.0 – 8.5)	5.2 (2.5 – 7.9)	8.6 (5.9 – 11.3)
Western Cape	2.9 (2.1 – 3.7)	2.0 (1.2 – 2.9)	5.5 (4.5 – 6.5)
Free State	2.0 (1.1 – 2.9)	5.0 (3.6 – 6.4)	3.8 (2.6 – 5.1)
Eastern Cape	3.3 (2.4 – 4.2)	3.1 (2.1 – 4.1)	3.8 (2.5 – 5.1)
Gauteng	2.7 (2.0 – 3.3)	6.0 (5.0 – 7.1)	2.1 (1.6 – 2.6)
North West	4.0 (2.8 – 5.2)	3.2 (2.0 – 4.5)	2.0 (1.2 – 2.8)
Mpumalanga	2.0 (1.3 – 2.7)	2.5 (1.6 – 3.4)	1.8 (1.1 – 2.6)
Limpopo	4.9 (3.6 – 6.2)	1.9 (1.3 – 2.6)	1.7 (1.1 – 2.4)
KwaZulu-Natal	1.3 (0.9 – 1.7)	1.5 (1.0 – 1.9)	1.4 (1.0 – 1.8)
South Africa	2.8	3.2 (2.9 – 3.6)	2.7 (2.4 – 3.0)

N.B. The true value is estimated to fall within the two confidence limits, thus the Confidence interval (CI) is important to refer to when interpreting data

4.3.3 Syphilis prevalence by age group

Syphilis prevalence rates are generally low across age groups, with the highest rate among women aged 25 to 29 years. For comparisons between 2001 to 2003 see Table 7 below.

Table 7. Syphilis prevalence by age group among antenatal clinic attendees, South Africa: 2001 – 2003

Age group	RPR prev (CI 95%) 2001	RPR prev (CI 95%) 2002	RPR prev (CI 95%) 2003
< 20	2.3 (1.8 – 2.9)	2.4 (1.8 – 3.0)	2.6 (2.0 – 3.1)
20 – 24	3.1 (2.6 – 3.6)	3.5 (3.0 – 4.1)	2.8 (2.3 – 3.3)
25 – 29	3.0 (2.4 – 3.6)	3.7 (3.1 – 4.4)	3.0 (2.4 – 3.5)
30 – 34	3.1 (2.4 –3.8)(	3.2 (2.5 – 4.0)	2.8 (2.2 –3.4)
35 – 39	2.3 (1.6 – 3.1)	2.8 (1.9 – 3.7)	2.1 (1.4 – 3.0)
40+	1.8 (0.6 – 3.1)	1.3 (0.3 – 2.3)	1.6 (0.17 – 3.0)

N.B. The true value is estimated to fall within the two confidence limits, thus the Confidence interval (CI) is important to refer to when interpreting data.

5. DISCUSSION

The findings of the 2003 antenatal survey show that HIV prevalence rates remain high in South Africa. The findings estimate a prevalence rate of 27.9% in 2003. When compared to the estimate of the previous year (2002) there is an apparent increase, however it is not statistically significant. Similarly the provincial estimates suggest that although there appears to be some slight increases in the prevalence between 2002 and 2003 in provinces, these increases are not statistically significant.

The findings in general seem to suggest that the epidemic is slowly stabilizing. This stabilization is slow evident from comparisons made between estimates of national prevalence in 2000 and 2003 which show marginal increases which are statistically significant.

In terms of age groups, the observed rise in HIV prevalence in the 35 to 39 year age group may be due to a shift in the cohort that is from one age group (30 – 34 yrs) with a previously higher rate, to the next (35 – 39 yrs). Furthermore, stability observed particularly among teenagers and the non-significant difference between the national figures for HIV prevalence for 2002 to 2003 all point to an epidemic in stabilization phase.

Nationally, there has been a slight decline in the prevalence of syphilis. Encouragingly, syphilis rates remain low across the country and also across age groups. These findings should continue to encourage health workers and all those involved in community programmes associated with HIV and STI prevention to strengthen these programmes and strengthen the syndromic management of STI's nationally.

The recently conducted loveLife survey (Pettifor *et al*, 2004) reports that 33% of young people who had sex in the twelve months prior to the survey always used a condom, however 67% were still not using condoms consistently. Furthermore, the Department of Health's Behavioural Surveillance Survey reports 27% condom use at last sex among young people aged 15 to 24 years (Department of Health). These studies show that there have been some increases in condom use since 1998, when the Demographic and Health Survey was conducted. However, there still needs to be increases in both use and consistency of condoms, which would not only reduce the chances of HIV infection, STIs, but also unwanted pregnancies.

In conclusion, it can be said that while HIV rates have not declined nationally, the rate of increase has slowed, indicative of a mature epidemic. The findings of this survey however show that HIV and AIDS is still an important public health problem in South Africa. Strategies such as The Comprehensive HIV and AIDS Management Care and Treatment initiative, with its strong prevention focus as well as intersectoral programmes aimed at socio-economic development and poverty alleviation, as well as other health programmes need to be given full support by all sectors and partnerships to improve the health status of South Africans

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7. APPENDICES

7.1 Technical notes on maps:

- The probability proportion to size (PPS) methodology has been used in the selection of sentinel sites since 1997. There is a relationship between population density and probability of clinics being included in the sample. Low or sparsely populated areas may have fewer sentinel sites because of relatively small numbers of women in the area as well as those who are likely to be pregnant during the survey period.

- The next 10 pages show the antenatal survey sentinel sites, which may be scattered across the province or clustered together (as a result of the PPS selection method).

- In maps (2, 3, 4, 5, 6, 8, 9, 10) not all sentinel sites are mapped due to the fact that the geo-coding of clinics has not yet been completed. The selected sentinel sites are listed in the figure.

- Ongoing expansion and review of sites is taking place as a result of the changing nature of services being offered by sites, (e.g. moving of 1st antenatal visits from one clinic to another) closure of a site (e.g. when a new clinic is built) and changing population dynamics (e.g. urbanisation resulting in population shifts and increased utilisation of a clinic compared to the resultant decline in the utilisation of a clinic in a rural area.

7.1.1 Maps on HIV prevalence and participating clinics by province