

# 2008 NATIONAL ANTENATAL SENTINEL HIV & SYPHILIS PREVALENCE SURVEY

## SOUTH AFRICA

## REPORT

National Department of Health

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**Directorate:** Epidemiology and Surveillance

Department of Health  
Private Bag X 828  
Pretoria  
0001  
Tel: 012 312 0780  
Fax: 012 312 0815  
[www.health.gov.za](http://www.health.gov.za)

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## **EXECUTIVE SUMMARY**

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South Africa has almost two decades (1990 - 2008) of good sentinel surveillance data that assists in monitoring the HIV epidemic trends in the 15 - 49 years old female population. At the end of 2007, the estimated prevalence of HIV in the general adult population was 17.5 %. The Government has responded to the HIV and AIDS epidemic by facilitating a multi-sectoral approach to implement and monitor appropriate treatment, prevention, care and support interventions. The Ministry of Health has played a leading role in these efforts, including the provision of strategic information for monitoring the magnitude of the HIV and AIDS epidemic. South Africa has one of the largest HIV sentinel surveillance systems in the world. Since 1990, the Department of Health has monitored the HIV epidemic using this surveillance system. Currently the HIV sentinel survey is carried out in 1 457 sentinel sites strategically located in all the 52 Health Districts targeting 36 000 pregnant women seeking antenatal care for the first time during the current pregnancy within the survey period.

The HIV sentinel surveillance data has helped to map the epidemic and monitor HIV infection trends in the country and has served as an advocacy tool, resulting in the mobilization of partners, resources and development of innovative approaches by the national response to HIV and AIDS. The 2008 HIV survey was the 19<sup>th</sup> round to be conducted in the country.

The South African antenatal clinic survey is done annually in October to obtain an estimate of the point prevalence for that year. The estimated prevalence of HIV infections among pregnant women aged 15 - 49 and seeking care in public health clinics in South Africa has been stable over the last 3 years. The information from this survey was used to estimate the rate of new HIV infections (incidence) and HIV-associated deaths are derived through mathematical models applied to HIV prevalence estimates.

## **METHODOLOGY**

The 2008 Survey was conducted in 52 health districts. Antenatal HIV sentinel surveillance involved collection of 33 927 intravenous blood samples from pregnant women at their first antenatal visit served in 1 457 public health clinics over a 4-week period. The blood samples were screened using the Enzyme Linked Immuno Sorbent Assay (ELISA) test and the Rapid Plasma Reagin (RPR) card test.

Given that the sentinel sites were chosen on a probability proportional to size basis, the districts were self-weighting and the estimates of provincial level prevalence were simply calculated as the total of the results from the districts in the provinces. The national

prevalence was then estimated as a weighted average of the provincial prevalence estimates weighted according to the total number of women aged 15 - 49 years in each province using the 2008 mid-year population estimates.

## **FINDINGS**

The overall national HIV prevalence among ante-natal women aged 15 - 49 years in the 2008 ANC survey, measured using the parallel test algorithm, was 29.3% (95% CI: 28.5% – 30.1%). The occurrence of the HIV infection nationally has stabilized at around 29.0% from 2006. In 2007, the HIV prevalence estimate among first visit antenatal attendees was 29.4% (95% CI: 28.5 – 30.1).

Nationally, women in the age group 30 - 34 years still have the highest prevalence, with a prevalence of 40.4% in 2008 compared to 39.6% in 2007. The HIV prevalence among the 15 - 24 years old (which is the Millennium Development Goal 6, Target 7 indicator 18) was 21.7% in 2008 compared to 22.1 % in 2007 a decline of 0.4%. There is a slight increase in HIV prevalence among young women in the age group 15 -19 years from 13.1% in 2007 to 14.1% in 2008. The HIV prevalence has remained stable among women aged 25 years and above.

The highest HIV prevalence of 38.7% (CI: 37.2% – 40.1%) in 2008 was seen in the province of KwaZulu-Natal and the lowest estimate of 16.1% (CI: 12.6% – 20.2%) was noted in the Western Cape Province. Free State, Mpumalanga and the Western Cape provinces showed a slight increase in HIV prevalence, while KwaZulu-Natal, North West (which had prevalence above 30%) Northern Cape and Limpopo provinces remained static. Gauteng province is showing a tendency towards a decrease, although this is not statistically significant. Mpumalanga province is the only province in the country that continues to show some evidence of an increase in HIV infection from 32.1% in 2006 to 34.6% in 2007 to 35.5% in 2008.

District HIV prevalence has only been reported since 2006 when the geographic coverage of sentinel sites was increased and the sample size doubled. There was a considerable variation in HIV prevalence between the 52 health districts observed over the three year period 2006-2008, particularly where the sample size in a district is small, making it difficult to discern any trends. However, the following inferences can be made *viz*: Fezile Dabi and Xhariep districts in the Free State are showing an increase, whereas Amajuba in KwaZulu-Natal is showing a decrease in HIV prevalence over the past three years, Dr Ruth S. Mompati in North West, Sekhukhune in Limpopo, Sisonke and uThukela in KwaZulu-Natal

showed a slight increase, while Bojanala in North West, Waterberg in Limpopo and West rand in Gauteng showed a slight decrease over the last three years.

In addition the districts are clearly heterogeneous with respect to the epidemic, with prevalence ranging from a high of over 45% to a low of around 5%. When data are pooled over the three years this heterogeneity persists.

A regression analysis of determinants of HIV positive status in the survey participants using the demographic and laboratory information showed that the most significant determinant factor was age. Splitting the sample at an age of 21 years, the women less or equal to 21 years have HIV prevalence of 16.8% compared the 34.8% of women 22 years and older. This split of the overall group with prevalence of 29.2% has identified a younger subgroup that has a much lower prevalence. No further splits were identified in this group of young women. In the older age-group the next split was on race. An African subgroup (37.6%) is identified versus the rest (6.8%) of White, Asian and Coloured women which has a low prevalence and no further splits were identified in this subgroup of participants. One important observation from the regression analysis was that women having a syphilis co-infection is not a strong predictor for HIV status.

## **CONCLUSION**

The HIV prevalence of 29.3% in 2008 is in line with the prevalence observed in the two previous years. To avoid a resurgence of the HIV and AIDS epidemic in South Africa, HIV prevention efforts need to be urgently strengthened and sustained. Furthermore, ecological correlations between the trends in HIV prevalence and behavioural changes that will focus on reducing the incidence of infection exposure factors, especially in districts that record more than 30% HIV prevalence, is warranted. Further in-depth epidemiological investigations on what could be causing the interjectory between the districts and between provinces in the identified epicentres could assist in understanding the different patterns of the transmission potential of the virus.

## FOREWORD

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One of the greatest health challenges threatening the human race in our time is the HIV and AIDS pandemic. The UNAIDS, estimates that in 2008 there were 5,3 million South Africans infected with the virus, of which 3 million were women above 15 years and 220 000 were children. The impact of deaths due to AIDS-related illnesses is a tragic reality experienced by families, communities and the nation at large. It is for this reason that government has prioritized strengthening HIV prevention interventions to curb incidence and morbidity and is committed to providing universal access to treatment for all those affected, in order to reduce premature deaths due to AIDS.

South Africa with so many millions of people living with the HI virus, face both institutional and human resource capacity challenges to provide treatment, care and support. This is compounded by the simultaneous resurgence of the TB epidemic and Drug Resistant pathogens. There is however, a high level of political commitment and will to ensure that we realize the implementation of the National Comprehensive HIV and AIDS Care, Management and Treatment Plan (2003), but this will require additional public health technical capacity to address the capacity shortfall that continues to hamper acceleration of the public sector efforts to mitigate the HIV and AIDS epidemic.

The antenatal HIV and syphilis prevalence survey is one of the epidemiological tools used by the Department of Health to monitor the epidemic trend. This survey has been conducted annually in South Africa since 1990. It is one of most robust HIV surveillance methods that target the 15 to 49 year old antenatal women who come for a first booking at an antenatal care facility in the public health sector.

The findings from the 2008 survey supports observations that the HIV prevalence is stabilizing in the general adult population when comparing the South African profile to other countries considered to have a generalized epidemic. This survey, further provides evidence that South African women are at highest risk of contracting the HI virus, for a number of reasons, including gender inequality, high geographic mobility and extensive migrant labour. These require further epidemiological in-depth investigation, but can easily be shown when one looks at the location of the HIV epi-centres and the distribution of HIV by health districts (provided in this report).

Furthermore, the results show that there is wide variation in HIV prevalences between provinces, in the age groups over 19 years, from 16.1 % in the Western Cape to 38.7% in KwaZulu-Natal. There is significant variation in HIV prevalences by district over the past 3

year period. For the first time HIV prevalence trends have been reported down to the district level in South Africa. District HIV prevalence results show heterogeneity with respect to the spread of the epidemic, with prevalences ranging from 2.2% in Namakwa (NC) to 45.7% in uMgungundlovu (KZN).

This 2008 report is recommended for use in monitoring progress towards achieving the Health related MDG Goals and providing data for policy planning for strategic HIV and AIDS intervention programmes. National and international stakeholders can use the 2008 antenatal survey data in developing relevant strategies based on evidence provided herein. We acknowledge the complex responsibility of continuing to provide this important data as we strive to improve our efficiency in providing appropriate interventions, strategies for HIV prevention, management and control of AIDS related morbidity and prevention of premature AIDS related deaths in our country.

**DR. A. MOTSOLEDI (MP)**

**MINISTER OF HEALTH**

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**MR. T. D. MSELEKU**  
**DIRECTOR - GENERAL: HEALTH**

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## ACRONYMS

AIDS	Acquired Immuno Deficiency Syndrome
ANC	Antenatal Care
ART	Anti-retroviral Therapy
ASSA	Actuarial Society of South Africa
BSS	Behavioural Surveillance Survey
CCMT	Comprehensive Care Management and Treatment
CI	95% Confidence Interval
DHIS	District Health Information System
ELISA	Enzyme Linked Immuno Sorbet Assay
EPP	Estimation and Projection Package
HAART	Highly Active Anti-retroviral Therapy
HIV	Human Immunodeficiency Virus
HSRC	Human Science Research Council
JSI	John Snow Research and Training Institute inc
NDOH	National Department of Health
MDG	Millennium Development Goals
MEDUNSA	Medical University of South Africa
NICD	National Institute for Communicable Diseases
NHLS	National Health Laboratory Service
PMTCT	Prevention of Mother-to-Child Transmission
PPS	Probability Proportional to Size
QA	Quality Assurance
RPR	Rapid Plasma Reagin (A screening test for syphilis)
SA	South Africa
SACEMA	South African Centre of Excellence in Epidemiological Modelling and Analysis
Stats	Statistics South Africa
STI	Sexually Transmitted Infection
TB	Tuberculosis
UCT	University of Cape Town
UKZN	University of KwaZulu-Natal
UNAIDS	United Nations Joint Program on HIV & AIDS
UNGASS	United Nations General Assembly Special Session on HIV & AIDS
UNICEF	United Nations Children's Fund
VCT	Voluntary Counselling and Testing
WHO	World Health Organisation