Federal Ministry of Health

Department of Public Health

National AIDS/STI Control Programme

Technical Report

2008 National HIV Sero-prevalence Sentinel Survey

NASCP/FMOH
Plot 75, Ralph Shodeinde Street
Central Area, Abuja, Nigeria.

November, 2009

Copies of the Technical Report on the 2008 National HIV Sentinel Survey among Pregnant women attending Antenatal Clinics in Nigeria are available from:

Office of the National Coordinator
National AIDS/STI Control Programme
Department of Public Health
Federal Ministry of Health
Plot 75, Ralph Shodeinde Street, Central Area, Abuja

The 2008 National HIV Sentinel Survey among Pregnant Women in Antenatal Clinics in Nigeria was conducted in collaboration with the following partners:

United States Centres for Disease Control and Prevention (CDC)
World Health Organization (WHO)
National Agency for the Control of AIDS (NACA)
Joint United Nations Programme on HIV/AIDS (UNAIDS)

FOREWORD

The World Health Organization (WHO) introduced the Antenatal Clinic (ANC) HIV sentinel sero-prevalence survey to monitor the HIV and AIDS epidemic in countries of the world including the Federal Republic of Nigeria. The survey uses pregnant women attending antenatal clinics as proxy for the general population. Since inception in Nigeria in 1991, seven rounds of ANC HIV survey have been conducted with the 2008 wave making it the eight in the series. The data from the survey are used for advocacy, monitoring of the epidemic, programme planning and programme implementation. In addition to other data sources, the ANC survey has continued to contribute towards the realization of the second generation surveillance in Nigeria.

The 2008 ANC survey was guided by a survey management committee constituted by the Federal Ministry of Health. The members of the committee were drawn from the Federal and State Ministries of Health, NACA, Development Partners, Research Institutions and private individuals among others. Appropriate trainings were given to all relevant personnel and mechanism instituted for quality assurance and continuous monitoring of the survey activities.

The findings of the 2008 ANC survey have further confirmed that the HIV epidemic remains a major public health problem in Nigeria. With the overall HIV prevalence of 4.6%, about 3 million people were estimated to be living with HIV by the end of 2008. The survey showed wide variations in HIV prevalence between states and among sites. This wide variation has further confirmed a state of multiple epidemics in Nigeria. However, in terms of outcomes of our responses, the survey has given some rays of hopes; a trend analysis among youths aged 15-24 years which is one of the indices of new infection gave a falling HIV prevalence in the last five years. This implies that our prevention interventions strategies are working.

The current response to HIV and AIDS has to be intensified and sustained to attain the various target set by the Nation. To this end, I hereby present this important report for use by all stakeholders towards contributing to the realization of the seven point agenda of the present administration and for the attainment of the Millennium Development Goals.

Prof. Babatunde Oshotimehin OON
Honourable Minister of Health

PREFACE

HIV and AIDS have continued to pose a health and developmental problems for countries of the world and most especially those in the Sub-Saharan Africa. Out of the 33.2 million people estimated to be living with HIV in the world by the end of 2007, 22.5 million (ie about 68%) were from Sub-Saharan African. Of this figure, 2.91 million (ie 13%) were from Nigeria which makes the country one with the highest burden of the disease in the region after South Africa. The most obvious effect of the epidemic has been illness and death, but the impact has not been confined or limited to the health sector alone; households, schools, workplaces and economies have also been badly affected.

In view of the threat to the socio-economic development, relevant global resolutions have been made and specific targets set at different international fora towards halting the spread of the epidemic. In line with actualizing these resolutions, countries of the world including the Federal Republic of Nigeria have identified strategies which are being implemented at country and inter country level to address the situation. Such efforts in Nigeria and especially as related to the health sector are the implementation of prevention, treatment and care interventions including HIV Counseling and Testing (HCT), Prevention of Mother to Child Transmission of HIV (PMTCT), Making Medical Injection Safer (MMIS) and access to free Anti-retroviral drugs at selected government health facilities.

To however guide programme planning and implementation, sustain commitment, and ensure accountability with a view to meeting the targets set, the Federal Ministry of Health has long realized the importance of strategic information on HIV and AIDS epidemic and the response and has since introduced strategies for the continuous generation of such information. This is via HIV M&E routine data collection and processing and regular conduct of HIV and AIDS surveys such as the Anti-natal Clinic (ANC) HIV sentinel sero-prevalence survey. The ANC HIV survey which is being conducted in Nigeria since 1991 has proven to be an important and reliable source of such strategic information. Apart from offering information on HIV prevalence and distribution in the country, the data from the survey is also used to estimate the burden of the epidemic.

The coverage and quality of ANC survey have improved over the years. However, while this 2008 wave of the survey adopted the same number of sentinel sites as in 2005 round, the lessons and experiences from the previous surveys were better employed to improve the quality in 2008.

In view of the need for the findings of the 2008 ANC survey contained in this report to inform planning and programming, I thus present the report to stakeholders for use towards improving the National response to the HIV and AIDS epidemic in Nigeria.

Dr. Jonathan Jiya mni
Director, Department of Public Health

ACKNOWLEDGEMENTS

The Federal Ministry of Health wishes to express gratitude to every individual and organization who contributed in one way or the other to the successful conduct of the 2008 ANC HIV sentinel sero-prevalence survey. Our special appreciation goes to members of the survey management committee for their dedication and technical oversight functions. The cooperation and support of states and especially fieldworkers including the State AIDS Programme Coordinators (SAPCs), State Laboratory Scientists, Medical Doctors, Nurses and site Laboratory Scientists from the ante-natal clinics is highly appreciated.

The survey was made possible by the financial and technical support of Partners and National Organization including the US Centers for Disease Control and Prevention (CDC), World Health Organization and the National Agency for the Control of AIDS (NACA). Also worthy of recognition is the technical support of UNAIDS.

It is my wish that the findings from the survey would be used for advocacy and sensitization, planning, monitoring and evaluation of interventions towards halting the spread of HIV and AIDS in Nigeria.

Dr. E. B. A. Coker
National Coordinator, HIV/AIDS Control Programme

LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Clinic
ART	Anti Retroviral Therapy
ARV	Anti Retroviral
BCC	Behavioural Change Communication
CI	Confidence Interval
DFID	British Government Department for International Development
EDTA	Ethylene Diamine Tetracetic Acid
EIA	Enzyme Immuno Assay
EPP	Epidemic Projection Package
FCT	Federal Capital Territory
FLHE	Family Life and HIV/AIDS Education
FSW	Female Sex Worker
GDP	Gross Domestic Product
GFATM	Global Fund to fight HIV/AIDS, Tuberculosis and Malaria
HCT	HIV Counseling and Testing
HDI	Human Development Index
HEAP	HIV/AIDS Emergency Action Plan
HIV	Human Immunodeficiency Virus
HSS	HIV Sero-Sentinel Survey
ID	Identification
LACAs	Local Government Action Committees on AIDS
MAP	Multicountry HIV/AIDS Program-World Bank
NACA	National Agency for the Control of AIDS
NACA	National Action Committee on AIDS
NARHS	National AIDS and Reproductive Health Survey
NASCP	National AIDS/STD Control Programme
NC	North Central
ND	Not Done
NDHS	National Demographic and Health Survey
NE	North East
NGOs	Non-Governmental Organizations
NPopC	National Population Commission
NSF	National Strategic Framework
NW	North West
OVC	Orphans and Vulnerable Children
PABA	People Affected by AIDS
PCA	Presidential Council on AIDS
PEPFAR	President's Emergency Plan For AIDS Relief
PLWAs	People Living With AIDS
PLWHA	People Living With HIV/AIDS
PMTCT	Prevention of Mother to Child Transmission
PPPC	Purchasing Power Parity for Consumption
QC	Quality Control
RPR	Rapid Plasma Reagin
SACAs	State Action Committees on AIDS
SAPC	State AIDS Programme Coordinator
SE	South East
SMC	Survey Management Committee
SOPs	Standard Operating Procedures
SS	South South
SW	South West
USG	United States Government
WHO	World Health Organization

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EXECUTIVE SUMMARY

This report highlights the findings from the 2008 HIV sentinel sero-prevalence survey among women 15-49 years attending antenatal clinics in Nigeria. The objectives of the survey were to determine HIV prevalence among pregnant women attending antenatal clinics, assess the trend in HIV prevalence and provide data for estimating and projecting the HIV epidemic in the general population. The survey was also designed to compare data obtained from PMTCT records with data obtained through ANC sentinel survey in the same sites. A Survey Management Committee (SMC) constituted by the Federal Ministry of Health under the chairmanship of the Director of Public Health coordinated the survey. Membership of this committee included the National Agency for the Control of AIDS (NACA), UN Agencies, bilateral agencies, academia and other stakeholders.

In line with the WHO recommendation, an unlinked anonymous method of interview, blood sample collection and testing was used. Data were collected over a 12 week-period (between 16th June and 8th September, 2008) from 158 sentinel sites (84 urban and 74 rural) in the 36 States and the Federal Capital Territory (FCT) in Nigeria. A total of 36, 162 samples were collected and analysed for this report.

The survey revealed a National HIV prevalence of 4.6%. The prevalence ranged from 1.0% in Ekiti State to 10.6% in Benue State. Seventeen (17) States and FCT had a prevalence of 5.0% and above each; out of these, seven (7) States and FCT had a prevalence of 7% and above each. The survey further revealed that four (4) of these seven (7) States were in the South-South, two (2) and FCT were in the North Central while one (1) was in the North West geo-political zones of the country. The prevalence was generally higher in urban than rural areas except in nine (9) States and FCT where the reverse was the case. In two of these States and FCT, the prevalence was greater than 10.0 %. In terms of sites, Bwari in FCT recorded the highest prevalence of 22.0% in the country and four sites [Igbara Odo (Ekiti), Ganawuri (Plateau), Taura (Jigawa) and Tudun wada (Kano State] recorded the least (0.0%). The prevalence increased with age up to 25 – 29 years after which it declined. A higher prevalence among singles than married was observed. The prevalence was also higher among women with primary and secondary education than other levels of education.

The HIV prevalence among the surveyed population has declined from 5.8% in 2001 through 5% in 2003 to 4.4% in 2005. However, between 2005 and 2008, the prevalence has increased slightly from 4.4% to 4.6%. A trend analysis of HIV prevalence among youths 15-24 years gave evidence of declining prevalence from 2001 to 2008 (i.e. 6.0% in 2001 through, 5.3% in 2003,and 4.3% in 2005 to 4.2% in 2008). Six states showed a consistent downward trend between 2001 and 2008 while only, Abia State, had a consistent rise.

Based on the overall National prevalence of 4.6% obtained in this survey, it is estimated that 2.87 million people in Nigeria are living with HIV and AIDS in 2008. Of these people, 812,001 require ARV drugs.

On the comparison of HIV prevalence data from ANC sites offering PMTCT with those from PMTCT programme at the same sites, the survey revealed an overall HIV prevalence of 6.0% from the sampled ANC sites with PMTCT programme compared with 4.8% from the PMTCT programme data from the same sites. However, in 64% of the ANC sites offering PMTCT, there were no significant differences in HIV prevalence among pregnant women at ANC and PMTCT sites.

In view of the findings from the survey, the report thus recommends that the national response to the HIV and AIDS epidemic should be strengthened and expanded to ensure a balance in the interventions between urban and rural areas, as well as in the intervention strategies – Prevention, Care and impact mitigation. Special attention must be paid to those areas with consistent rise in trend.
While the results of comparison of HIV prevalence data from the ANC sites offering PMTCT with PMTCT programme in the same sites is encouraging, the level of conformity is not sufficient enough. Thus, the PMTCT programme data cannot be a good substitute for the ANC survey at this stage

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Globally, the pandemic of HIV and AIDS has continued to constitute serious health and socio economic challenges for more than two decades. The magnitude of the epidemic has placed Nigeria third to India and South Africa in terms of disease burden. In underdeveloped and developing countries, it has reversed many of the health and developmental gains over the past three decades as reflected by indices such as life expectancy and infant mortality rate among others. The epidemic has also facilitated the re-emergence of other disease conditions.

As at the end of 2007, about 33.2 million persons were estimated to be infected with the human immunodeficiency virus (HIV) globally. Of these, 22.5 million were in Sub-Saharan Africa, and about 3.0 million in Nigeria (UNAIDS HIV epidemic update 2007), which makes it the country with the third largest burden of HIV and AIDS in the world.

1.2 Country Profile

1.2.1 Geography

Nigeria lies within latitudes 4° 1' and 13° 9' North and longitudes 2° 2' and 14° 30' East. It is bordered in the north by Niger Republic; in the east by the Republics of Chad and Cameroun; in the west by the Republic of Benin and in the south by the Atlantic Ocean. It has a total surface area of approximately 923,768 square kilometres and 800 kilometres of coast line.

1.2.2 Population size

Nigeria remains the most populous country in Africa with a population of 140, 003,542 and a growth rate of 3.2% (Federal Republic of Nigeria Official Gazette, 2007). Approximately two-thirds of the population live in rural areas (NPopC 2006). Nigeria has a relatively young population with a median age of 17 years (NDHS 2003).

1.2.3 Administration

Nigeria is a democratic Federal Republic consisting of 36 States and the Federal Capital Territory (FCT). The States and the FCT are organized for political administration and are further divided into 774 Local Government Areas. The States have also been grouped, on the basis of geographical proximity or ethnic homogeneity and other political considerations, into six geo-political zones North East (NE), North West (NW), North Central (NC), South West (SW), South East (SE) and South South (SS). The zones differ from each other in size, population, ecological characteristics, language, culture, settlement patterns, economic opportunities and historical background.

1.2.4 Socio-demographic characteristics

There are about 400 ethnic groups in Nigeria with Christianity and Islam constituting the major religions. The country has had a mixed public and private economy since independence with the national revenue being derived mostly from crude oil. Other sources of national revenue include agriculture, industry, solid minerals and trade. Most Nigerians are involved in the agricultural sector.

Life expectancy at birth increased from 45 years in 1963 to 51 years in 1991 mainly due to improved living conditions and better health services. This has reduced to 46.5 years in 2005 (HDR 2007/8). The reduction in life expectancy may be partly due to the effects of the HIV and AIDS epidemic on the population.

The Human Development Index (HDI) for Nigeria was 0.470 (UNDP 2007/2008), therefore ranking 158th among 177 countries in the world. The literacy rate was 69.1% while the net primary enrolment in Nigeria was 68%. The combined gross enrolment primary, secondary and tertiary education was 56.2%. The GDP per capita (PPP US$) was 1,128 and GDP index was 0.404 in 2005.

Infectious and parasitic diseases are still predominant causes of morbidity and mortality. Health and socioeconomic related indicators are presented below:

Indicators	*Estimate*
Life Expectancy at birth (in years)**	46.5**
Fertility Rate (births per woman)*	5.8**
Infant Mortality Rate (per 1,000 live births)*	100*
Under 5 mortality rate (per 1,000 children)*	194**
Adult Literacy (15 years & above) Female (%)*	60.1**
Male (%)*	78.2**

Sources of Data: * NDHS 2003; ** HDR 2007/2008

1.3 Epidemiology of HIV and AIDS in Nigeria

The first case of AIDS in Nigeria was reported in 1986, thereby establishing the occurrence of HIV infection in the country. Consequently, and in line with WHO guidelines, the government adopted ANC sentinel surveillance as the system for monitoring the epidemic. The first HIV Sentinel Survey in 1991 showed a prevalence of 1.8%. Subsequent sentinel surveys showed prevalences of 3.8% (1993), 4.5% (1996), 5.4% (1999), 5.8% (2001), 5.0% (2003) and 4.4% (2005). As at 2003, all the States in the country had a generalized epidemic (above 1% prevalence among ANC attendees) with wide variation between the States.

Although there appears to be some consistency in the national trend, this varies between the States. While the prevalence has shown a consistent decline in some States, this has been fluctuating in others except one State with consistent rise. Similarly, HIV prevalence has consistently remained high in some States and low in others.

Estimates from the 2005 ANC survey showed that 2.86 million persons were living with HIV in Nigeria. The survey showed highest HIV prevalence among women aged 25-29 years (4.9%) followed closely by those aged 20-24 years (4.7%). Also, the survey showed highest prevalence among women with only secondary level education (5.0%). In 2007, the national population based survey showed an overall HIV prevalence of 3.6%, (4.0% among females and 3.2% males) (NARHS 2007). Among the high risk groups, female sex workers constitute an important reservoir of HIV infection for continuous transmission to the general population. HIV prevalence among this group has remained high and on the increase from 17.5% (among the brothel based FSW) in 1991 through 22.5% in 1993 (FMOH high risk survey) to 37.4% in 2007 (IBBSS 2007).

1.3.1 Knowledge, Attitudes and Behaviours

AIDS cases are becoming very visible in Nigeria; in 2007, about one out of every four persons in Nigeria had seen someone with HIV or known someone who died of AIDS (NARHS 2007).

Generally, awareness of HIV and AIDS is very high (93.8%); however, correct knowledge of all the routes of HIV transmission and two methods of prevention have remained low (54% and 52.5% respectively). The use of condom in the last sex act was even lower (16%) despite the fact that the predominant mode of HIV transmission is sexual in Nigeria.

1.4 National Response

A national health sector-based response was established in 1986 following the emergence of the epidemic in the country with the Federal, State and LGA structures to drive it. In 2000, an expanded national multisectoral response was put in place with the establishment of a Presidential Council on AIDS (PCA) and National Action Committee on AIDS (NACA) to drive the response. State Action Committees on AIDS (SACAs) and Local Government Action Committees on AIDS (LACAs) also came into operation. Since then, prevention, treatment, care and support interventions have continued to expand impressively; ,these are guided by the appropriate policies (e.g. National HIV/AIDS Policy), strategic plans (e.g. HIV and AIDS Emergency Action Plan - HEAP and National Strategic Framework - NSF) and guidelines (e.g. ART, PMTCT and HCT).

HIV Counselling and Testing and ART care are currently the most rapidly expanding interventions. The multisectoral response has resulted in better resource mobilization and coordination of the many stakeholders (Public, Private and the Civil Societies) applying the principle of ***"Three Ones"*** i.e. One national structure, one strategic plan and one monitoring and evaluation framework).

Participation of the private sector, civil societies, bilateral (USG/PEPFAR, DFID) and multi national organizations, PLWHA and United Nation Agencies has continued to improve over the years. More resources have also been accessed from the governments, private enterprises and Global Fund to fight HIV/AIDS, Tuberculosis and Malaria (GFATM)).

CHAPTER TWO

2.0 GOAL AND SPECIFIC OBJECTIVES

2.1 Goal

The goal of conducting this survey was to provide information about the current HIV prevalence and distribution in the country; it is aimed that the information would sensitize all stakeholders to take appropriate actions.

2.2 Specific Objectives

a. To determine the prevalence of HIV infection among women attending antenatal clinics in the 36 States and the Federal Capital Territory (FCT) in Nigeria.
b. To determine HIV prevalence by selected demographic characteristics and geographical locations.
c. To monitor trends of HIV prevalence among women attending antenatal clinics.
d. To provide general population estimates and projections of the HIV/AIDS epidemic and its impact in the country.
e. To determine the utility of PMTCT programme data for ANC HIV surveillance in Nigeria

CHAPTER THREE

3.0 METHODOLOGY

3.1 Sentinel population

As in the previous HIV sentinel surveys, the target population for the 2008 survey was women aged 15-49 years, who were attending antenatal clinics for the first time during a confirmed pregnancy. Pregnant women constitute the most practical group for this survey as they are sexually active, easily defined and accessible, and are receiving care, which requires routine blood drawn for syphilis testing. Pregnant women are also generally representative of the sexually active population.

3.2 Eligibility criteria

The inclusion criteria for women who participated in this survey were:

1) The woman was aged 15-49 years
2) The pregnancy was confirmed by a health care provider on site
3) The woman was attending the antenatal clinic for the first time, for that particular pregnancy
4) The woman had accepted routine ANC tests (including syphilis).

3.3 Site selection

A site refers to a health facility providing antenatal care for pregnant women. This can be a general hospital, maternity hospital, primary health care center, comprehensive health center, specialist or teaching hospital. In order to provide for the continuous monitoring of the trend of the epidemic, all the sentinel sites which were used in the 2003 and 2005 surveys were retained. A minimum of two urban and two rural sites per State and FCT, as adopted in 2005 survey, was also used in the 2008 survey. The selection of these sites was based on the following criteria:

- Participation in previous surveys.
- Availability of staff and facilities required for drawing blood from antenatal clinic attendees on their first visit of the current pregnancy.
- Provision of services to a relatively large number of pregnant women per week to meet the minimum sample size in 12 weeks.
- Availability of qualified personnel and willingness of on-site staff to cooperate.

The rural sites used were those designated as such by NPopC i.e. population of less than 20,000 people. Prior to the start of the survey, each site was evaluated to determine whether it met the site selection criteria. Further evaluation of the sites included assessment of ability to demonstrate methods required for assuring patient anonymity and appropriate data collection, and availability of adequate laboratory and sample storage capacity. For each selected site, all relevant personnel were identified and trained. With a minimum of two urban and two rural sites per State and FCT, a total of 160 sites (86 urban and 74 rural) were used for the survey.

3.4. Survey design and sample size

Based on the WHO recommendations, which take into consideration an estimate of HIV prevalence in the population to be surveyed, the precision or margin of error considered acceptable (0.05) and the level of confidence (95%) desired, the minimum sample size of 300 was deemed adequate enough per selected site.

The two rural sites in each State generated a minimum combined sample size of 300 (150 in each of the rural sites) such that the rural samples form a rural cluster with a total sample size large enough to be analyzed by State. This was used to estimate the rural prevalence in each State.

Within a site, all eligible women who attended antenatal clinics during the survey period were

consecutively recruited. The period for the survey was 12 weeks. The sites which attained the minimum sample size in fewer weeks stopped further recruitment.

3.5 Study Personnel and Training

The field work of the survey was carried out by qualified health personnel, selected and centrally trained for the survey. Each site had an ANC medical officer, two ANC nurse/midwives and a laboratory scientist or technician.

3.6 Blood and data collection

Government policy states that all public health facilities must screen all pregnant women for syphilis in order to control and prevent congenital syphilis. As such, all women are routinely offered the syphilis test during their first antenatal visit in Nigeria. If they accept, 5ml of blood is collected to conduct the test. Women are then informed of the result of their syphilis screening during the next visit and appropriately treated according to the country guidelines.

For this survey, an unlinked anonymous method was used. After the syphilis test, an anonymous and unlinked serum sample was collected from the leftover blood and sent to the state central laboratory for the HIV test .

3.6.1 Demographic data collection

All sites collected minimum demographic data from each eligible pregnant woman including age, education, marital status, parity and gravidity using the Personal Data Form (Appendix I). The participant's name was written on the personal data form and her survey ID sticker was also placed on the same form.

3.6.2 Blood collection, processing and unlinking process

Pregnant women were sent to the laboratory staff or to the nurse responsible for blood collection. Five (5) milliliters of blood were collected in a vacutainer labeled with the woman's name only and sent to the local site laboratory for screening.

At the laboratory, the sample was centrifuged; the resulting serum was tested for syphilis using the *RPR Syphilis test*. The test result was reported on the syphilis test request form which was provided by the clinic. A transfer pipette was then used to transfer 1.5 ml of serum from the vacutainer to a cryotube which was labeled with the survey ID sticker (the number was identical to that on the personal information form). The original vacutainer was discarded in a laboratory waste box. The participant's name was cut from the Personal information form at the end of the day to remove identifier. The cryotube and the personal information form with the survey ID were sent to the state central laboratory weekly for HIV testing.

3.6.3 Samples' storage and transport

The following guidelines were followed for handling and storage of specimens:

- Non-cold chain dependent test kits (HIV testing).
- Syphilis test kits were stored at 4°C using refrigerators.
- To prevent repeated freezing and thawing, specimens were kept in a refrigerator (4°C) until all syphilis and HIV testing were completed.
- After testing had been completed, specimens were stored in a freezer (-20°C).
- In sentinel sites where there were no refrigerators or adequate refrigeration space, blood specimens were transported to State Laboratories the following day after collection. In other sites with refrigerators, specimens were transported weekly. Transportation of specimens from survey sites to state laboratories was done by laboratory personnel while assuring cold chain maintenance.

- All survey specimens were stored sequentially by specimen ID number in plastic cryoboxes labelled with the following information: ANC survey 2008, state name, site name, samples contained in the box (example: ANC Survey 2008, AN, ON, samples 001-081). Information was written with a large permanent marker.
- At the end of the sample collection period, all specimens were transported to a centralized quality control laboratory while maintaining cold chain.

3.7 Laboratory Methods for HIV Testing

3.7.1 State Laboratory HIV Testing

HIV testing was performed in a two-step serial algorithm. Determine HIV was used to screen all specimens. The non-reactive specimens were reported as HIV negative. These reactive specimens were re-tested using Stat-Pak. Specimens positive for Stat-Pak were reported as **POSITIVE**. Specimens positive for Determine HIV but negative for Stat-Pak were reported as **DISCORDANT**. The true sero-status of these samples was determined using a third test at the Quality Control Laboratory.

For the purpose of standardization, the test results were reported as ***NEG*** for Non-reactive specimens and ***POS*** for Reactive specimens. The results were recorded on the laboratory data form (Appendix II).

3.7.2 Central Quality Control and Re-testing of Samples

All the survey samples were sent to the designated Quality Assurance Laboratory at Plateau State Human Virology Research Center (PLASVIREC), Jos.

The following samples were re-tested:

100% positive specimens
100% discordant specimens (between the two rapid tests)
10% negative specimens which were randomly selected.

The re-testing was performed using an Enzyme Immuno Assay (EIA). For the purpose of this survey, the EIA served as the gold standard. Re-testing using EIA Technique is commonly used for confirming HIV results done in large testing survey sites for the following reasons:

- Capacity to test large number of samples quickly
- Ability to pick lower antibody titres
- Ability to serve as a tie breaker for discordant HIV rapid test results

States with an error rate for negative (HIV) above 5% had all specimens re-tested.

Specimens with the following characteristics were classified as **HIV POSITIVE**:

Reactive by both rapid tests and EIA
Non-reactive by one or both rapid tests, but EIA reactive

Specimens with the following characteristics were classified as **HIV NEGATIVE**:

Non-reactive by both rapid tests and EIA
Reactive by one or both rapid tests but EIA non-reactive

The outcome of the central Quality Control and Re-testing of samples showed that the concordance rate between the state level results and the central QC was greater than 98.5% for State performance (Appendix III).

3.8 Laboratory Safety Measures

The following measures were adopted to ensure safety in the Laboratory:

- Provision of Safety rules and guidelines
- Provision of Personal Protective Equipment (PPE) e.g. Laboratory coats, Gloves, Goggles etc.
- Provision of Waste disposal materials (Sharps Containers, Biohazard bags)
- Provision of Heat inactivated serum panels (Positive and Negative controls) for trainings and HIV testing at the State laboratories.

3.9 Quality Assurance Measures

The following measures were adopted to ensure that the results were accurate, reliable and reproducible:

- Engagement of highly qualified and experienced laboratory personnel at the State laboratories and QC laboratory.
- Conducting central and zonal level trainings for all the personnel involved in the survey.
- The central and zonal level trainings were conducted by a team of resource persons using a standardized three-day training package. This included two days of didactic lectures with group work and one day of laboratory practicals.
- All the laboratory scientists who participated in the quality control aspect of the survey were adequately trained for the activity.
- All the sites/States used the same test kits for syphilis and HIV.
- All the test kits used were thoroughly evaluated and assessed for potency and shelve life before use,
  All kits were stored at 4-8C (refrigerator or vaccine cold room).
  Lot number, batch number and expiry date were noted and documented.
- All the States were provided with positive and negative HIV Control panels (produced in Nigeria). Worksheets were provided to document the running of controls on a weekly basis. At the end of the survey, all the specimens and survey forms were retrieved.
- All the consumables used for sample separation, storage and dispensing were sterile and disposable.
- TWO supervisory visits were made to all the the survey sites by the national survey team to ensure compliance with the survey protocol by all field workers using the Checklist for site supervisory visit (Appendix IV).
- A medical officer in the ANC clinic recruited for the survey supervised the sample and data collection procedures at the respective ANC clinic; while the State laboratory scientist supervised sample processing and storage during the weekly visit to sites. The SAPC also carried out regular supervisory visits to the sites and State laboratory using the Checklist for site supervisory visit (Appendix IV).
- Every State produced a detailed report on the conduct of the survey in the State.
- Laboratory scientists selected for participation in the survey were currently performing routine syphilis and/or HIV screening on the bench at their respective centres.
- A system was put in place to perform HIV test kit lot monitoring.

3.10 Data collection from PMTCT sites

Data on PMTCT were collected from ANC sentinel sites offering PMTCT services. Data collected from PMTCT sites three months preceding the survey and during the survey period included the following:

- Number of new clients
- Number of clients counselled for HIV
- Number of clients tested for HIV
- Number of clients positive for HIV
- Individual level information from the Personal Data Forms of the ANC survey.

3.11 Data Management

A data management team led by a consultant biostatistician ensured data quality control and

analyzed the data that were generated from the survey.

3.11.1 Data Quality Control

At the survey site, data collection forms were completed, stored and later transported to the State level. The State laboratory scientists collated all data forms at the State level and forwarded them to the Federal Ministry of Health for electronic entry by the data entry team. The team checked the data forms for completeness, obvious errors and inconsistencies in order to identify any possible data quality errors.

During the data entry process, the following specific measures were taken to ensure that the data were accurate:

- CHECK codes were created to ensure that only legal entries and data in specified ranges were entered.
- All entries on the computer were checked against the the data on paper, item by item.
- Frequency tables were generated for all variables in order to further examine whether there were double or unusual entries.
- Double entry of data (100%) was done to validate entered data using the *VALIDATE* option in *EPIINFO* menu.
- Discrepant records were reviewed and corrected before data analysis commenced.

3.11.2 Data analysis

The analysis focused on determining the prevalence of HIV infection by the relevant independent variables such as age, site, State, zone, education and location. The median and the overall prevalence rates for States, zones and the entire country were determined. Exact 95% confidence intervals were determined for all the rates. The differences between the States and zones were evaluated and the trend analysis was carried out for some consistent sites and States. PMTCT and ANC sentinel surveillance data were analyzed and compared for all the sites which provided PMTCT services and participated in the ANC survey.

3.12 Methods for estimations and projections

The methods, tools and assumptions used to estimate the burden of HIV/AIDS in Nigeria are based on the recommendations made by the UNAIDS Reference Group in estimates, modelling and projections. The UNAIDS Reference Group is a technical working group made up of experts in epidemiology, modelling and statistics, which advises UNAIDS on the best methods and tools to be used to estimate national figures for HIV and AIDS. These methods and tools are revised regularly and improvements have been made since 2003.

The Epidemic Projection Package (EPP 2007) was used to estimate and project adult HIV prevalence and the burden of infection in the country from the surveillance data obtained from ANC clients. The software uses inputs such as base population, sex ratio and urban - rural infection ratio. The resulting national estimated adult HIV prevalence was then transferred to a demographic package, Spectrum 3, modelling software for demographic projections to calculate the number of people infected and other parameters, such as AIDS cases, AIDS deaths and AIDS orphans.
The basic data used to estimate HIV prevalence at the national level was the data collected on pregnant women attending ANC clinics through regular surveys which have been conducted in Nigeria since 1991. In the recent past (since 1999), these surveys have been conducted every 2 years. One of the main factors affecting the results of this system is the level of attendance of pregnant women in the ANC clinics. In Nigeria, it has been estimated that ANC clinics cover about 60% of the pregnant women, and there are extreme variations in the different States and among social classes.

In the successive surveys in Nigeria, there have been frequent revisions of what was termed rural ANC

site. The terminology has however been consistent since 2003. The opportunity was also taken to use the general population sero-prevalence study conducted in 2007 (NARHS) to correct the notion that ANC data may not truly reflect the situation in the general population.

The estimates were based on the assumption that Nigeria's population in 2006 was 140 million; that a significant percentage of persons who require antiretroviral therapy were receiving such (16.7% UNGASS Report 2007); and that some efforts were being made to provide Prevention of Mother-to-Child Transmission services to the population who live in the rural areas (NPC, 2002).

3.13 Confidentiality and ethical issues

The survey protocol was formally approved by both the National Ethical Committee as well as the Institutional Review Board (IRB) of the Centre for Disease Control (CDC), USA.

The survey was based on anonymous unlinked HIV Testing such that between the interval of conducting syphilis and HIV testing, all identifiers on each specimen had been removed. Thus, HIV test results could not in any way be linked to the owners of the blood specimens either then or in the future. Those who tested positive for syphilis were promptly referred for appropriate treatment.

3.14 Limitations

One of the limitations of ANC sentinel surveillance is the fact that women attending public health facilities may not be representative of women in the general population since the latter include those who are using some form of contraception as well as those who are infertile. Moreover, pregnant women who choose to attend public health facilities may have characteristics different from other pregnant women; and, a substantial proportion of pregnant women, for various reasons, may not attend antenatal clinics. It is also known that men and women have different HIV-related risk behaviours and therefore may have different rates of infection.

Sentinel sites were purposely selected on the basis of specific criteria and therefore may not be representative of all the health facilities. Among the selected facilities, there may be policies and practices that may influence the pattern of attendance. However, studies in many countries have shown that HIV prevalence from pregnant women compares favourably with data from the general population.

CHAPTER FOUR

4.0 RESULTS

4.1 Number of Subjects

This survey collected data from 36,162 pregnant women, aged 15 49 years, who were attending antenatal clinics in the 158 selected sentinel sites in the 36 States and FCT of Nigeria, during the 12-week survey period.

4.2 Characteristics of the Surveyed Population (Table I).

4.2.1 Age Distribution

Overall, the 25 29 years age group constituted 32.0% of the surveyed population; this is followed by the 20-24 years age group with 26.6%. Those aged 15 24 years old had a proportion of 37%, which was higher in North East (47.6%) and North West (49.0%) and much lower in South East (27.6%) and South West (25.0%). The 40-49 years age group constituted the least (2.2%) of the women surveyed.

4.2.2 Marital Status

Majority of the surveyed women were married (95.4%). In all the zones, married women constituted more than 90% except in South South (88.9%).

4.2.3 Educational Status

A high proportion (90.2%) of the women had one form of education or the other. Women in the SW, SE and SS zones were relatively more educated than those in the NC, NE and NW zones.

4.2.4 Gravidity and Parity

Slightly more than one quarter (27.3%) of the women presented with first pregnancy, 29.3% were yet to have their first delivery while 50.8% have had more than one delivery.

Table I: Characteristics of the surveyed population

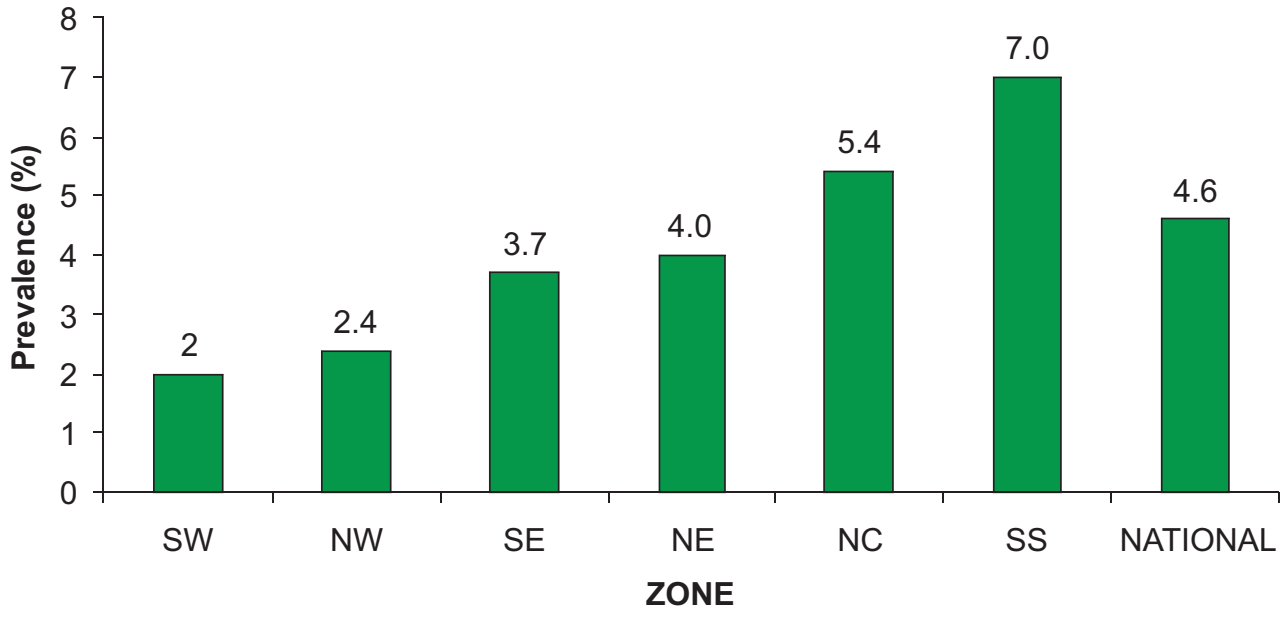
Characteristics	North Central		North East		North West		South East		South South		South West		Total	
	No.	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*	*No.*	*%*
Age Group														
15-19 yrs	602	8.7	1031	18.4	1143	16.7	239	5.3	442	7.8	317	4.8	3774	10.4
20-24yrs	1889	27.4	1639	29.2	2216	32.3	1012	22.2	1465	25.8	1392	21.2	9613	26.6
25-29yrs	2424	35.2	1502	26.8	1740	25.4	1622	35.7	1972	34.7	2303	35.0	11563	32.0
30-34yrs	1304	18.9	847	15.1	1067	15.6	1177	25.9	1211	21.3	1694	25.8	7300	20.2
35-39yrs	536	7.8	468	8.3	491	7.2	435	9.6	470	8.3	713	10.8	3113	8.6
40-49yrs	132	1.9	124	2.2	199	2.9	64	1.4	127	2.2	153	2.3	799	2.2
Total	**6887**	**100**	**5611**	**100**	**6856**	**100**	**4549**	**100**	**5687**	**100**	**6572**	**100**	**36162**	**100**
Marital Status*														
Single	180	2.6	147	2.6	56	0.8	191	4.2	597	10.5	279	4.2	1450	4.0
Married	6678	97.0	5443	97.1	6771	98.8	4267	93.9	5051	88.9	6259	95.3	34469	95.4
Divorced/separated	16	0.2	9	0.2	15	0.2	23	0.5	20	0.4	20	0.3	103	0.3
Widowed	11	0.2	7	0.1	8	0.1	65	1.4	10	0.2	9	0.1	110	0.3
Total	**6885**	**100**	**5606**	**100**	**6850**	**100**	**4546**	**100**	**5680**	**100**	**6567**	**100**	**36134**	**100**
Educational status*														
None	1221	17.8	1258	22.4	582	8.5	116	2.6	153	2.7	200	3.0	3530	9.8
Quranic only	461	6.7	1800	32.1	2891	42.2	65	1.4	39	0.7	60	0.9	5316	14.7
Primary	1767	25.7	1193	21.3	1218	17.8	998	21.9	1395	24.6	1489	22.7	8060	22.3
Secondary	2376	34.5	1001	17.8	1585	23.2	2196	48.3	2896	51.0	2646	40.3	12700	35.1
Higher	1048	15.2	359	6.4	567	8.3	1173	25.8	1199	21.1	2174	33.1	6520	18.0
Total	**6877**	**100**	**5611**	**100**	**6843**	**100**	**4548**	**100**	**5682**	**100**	**6570**	**100**	**36131**	**100**
Location														
Urban	4940	71.7	3817	68.0	4773	69.6	3054	67.1	3890	68.4	4821	73.4	25295	69.9
Rural	1947	28.3	1794	32.0	2083	30.4	1495	32.9	1797	31.6	1751	26.6	10867	30.1
Total	**6887**	**100**	**5611**	**100**	**6856**	**100**	**4549**	**100**	**5687**	**100**	**6572**	**100**	**36162**	**100**
Gravidity														
1	1899	27.6	1161	20.7	1615	23.6	1473	32.4	1623	28.5	2110	32.1	9881	27.3
>1	4988	72.4	4450	79.3	5241	76.4	3076	67.6	4064	71.5	4462	67.9	26281	72.7
Total	**6887**	**100**	**5611**	**100**	**6856**	**100**	**4549**	**100**	**5687**	**100**	**6572**	**100**	**36162**	**100**
Parity														
0	1944	28.2	1163	20.7	1642	23.9	1583	34.8	1891	33.3	2355	35.8	10578	29.3
1	1358	19.7	954	17.0	1142	16.7	867	19.1	1257	22.1	1628	24.8	7206	19.9
>1	3585	52.1	3494	62.3	4072	59.4	2099	46.1	2539	44.6	2589	39.4	18378	50.8
Total	**6887**	**100**	**5611**	**100**	**6856**	**100**	**4549**	**100**	**5687**	**100**	**6572**	**100**	**36162**	**100**

Missing data **31 records missing educational status *28 records missing marital status

4.3 HIV Prevalence

Overall HIV prevalence among women attending ANC during the period was 4.6%. The highest zonal prevalence (7.0%) was in the SS and the lowest in the SW (2.0%) (Figure1). HIV prevalence in urban sites was 5.0% (CI: 4.7 5.3) and 4.1% (CI: 3.7 4.5) in rural sites.

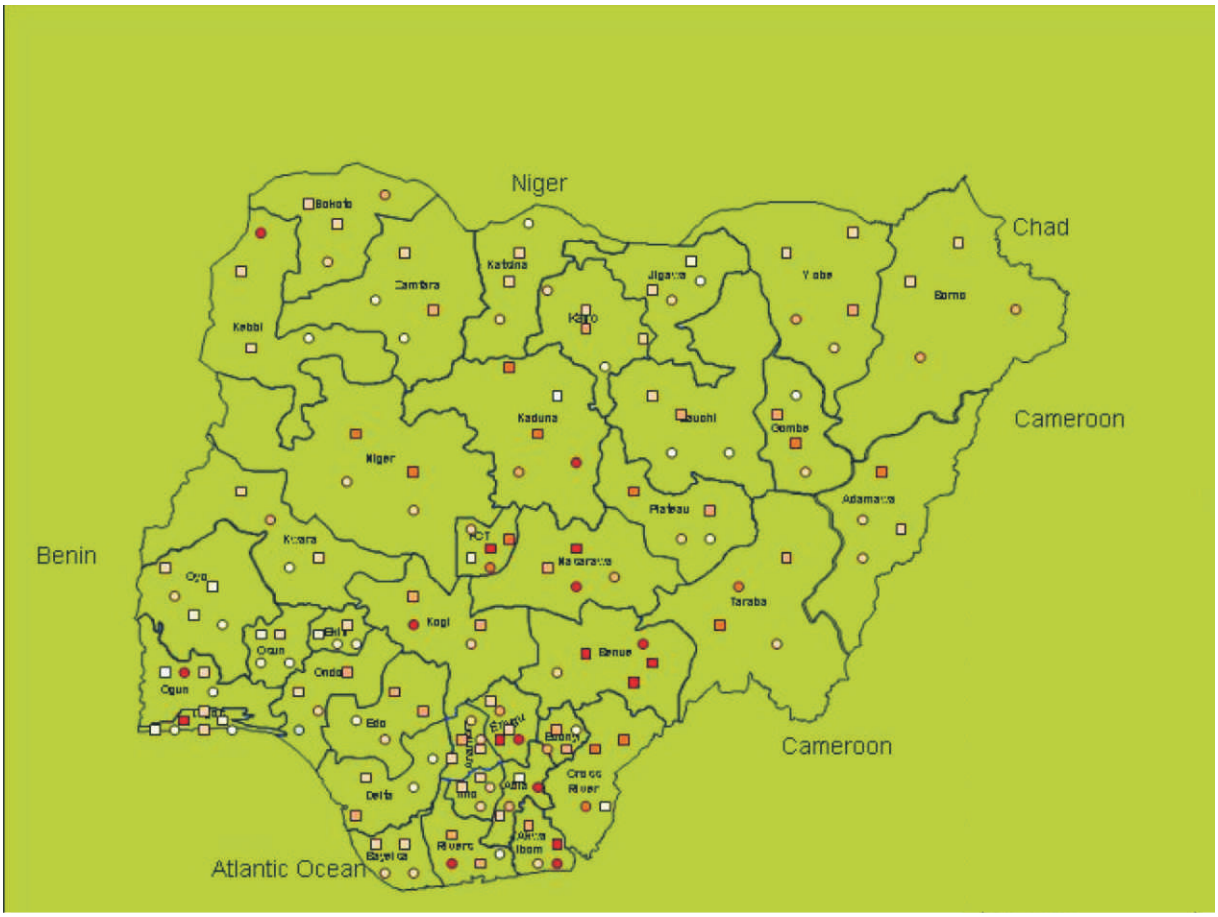
Figure 1: HIV Prevalence by Zone (HSS 2008)



4.3.1 HIV Prevalence by Site

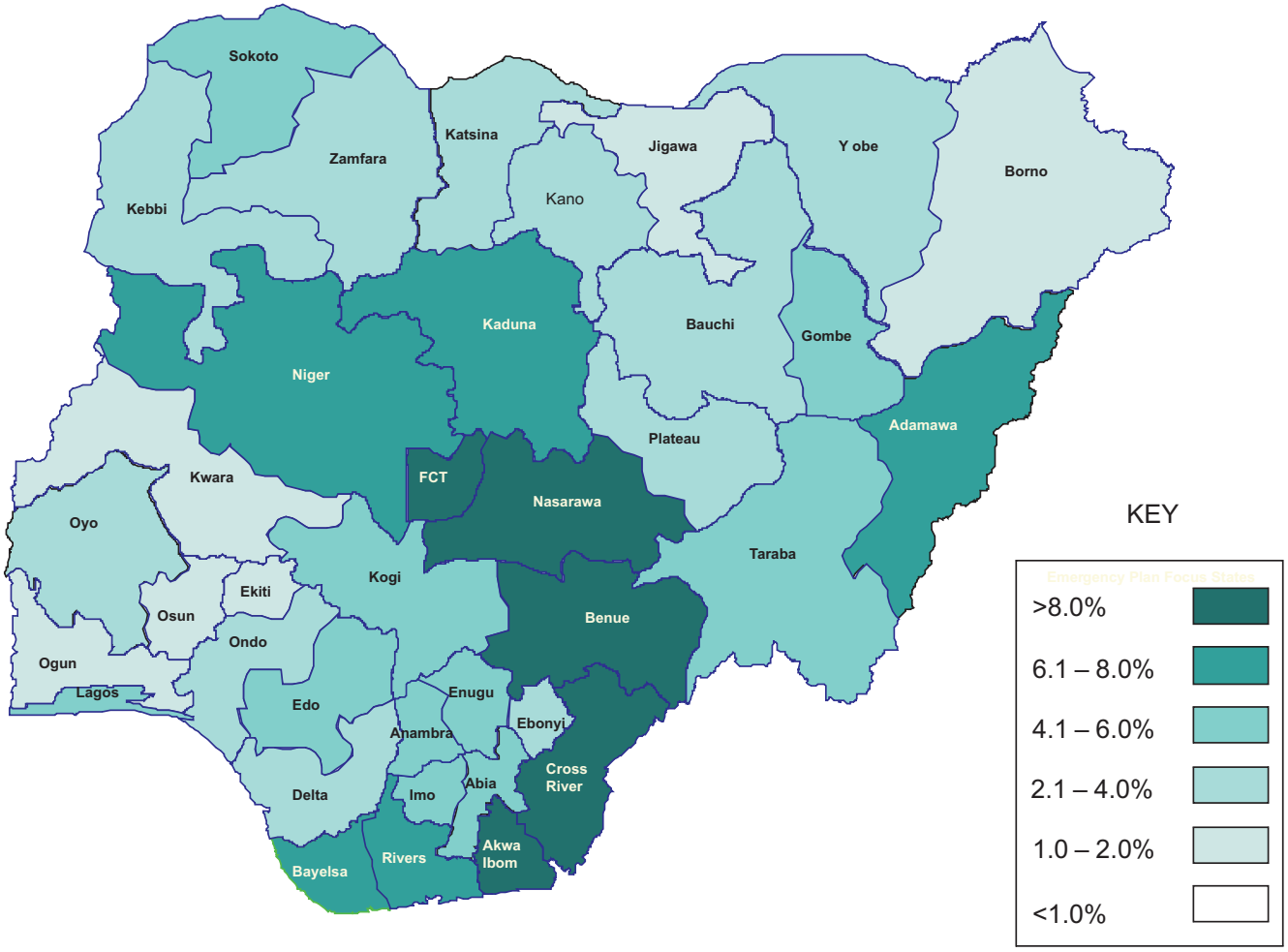
The rural HIV prevalence ranged from 0.0% in Ganawuri (Plateau), Taura (Jigawa), TudunWada (Kano) and Igbara (Ekiti) to 22.0% in Bwari (FCT). The highest urban prevalence was 19.5% in Lafia (Nasarawa) and the lowest was 0.3% in Ibadan (Oyo) and Rano (Kano) (Table II - VII).

Figure 2: Geographic distribution of Sentinel sites (HSS 2008)



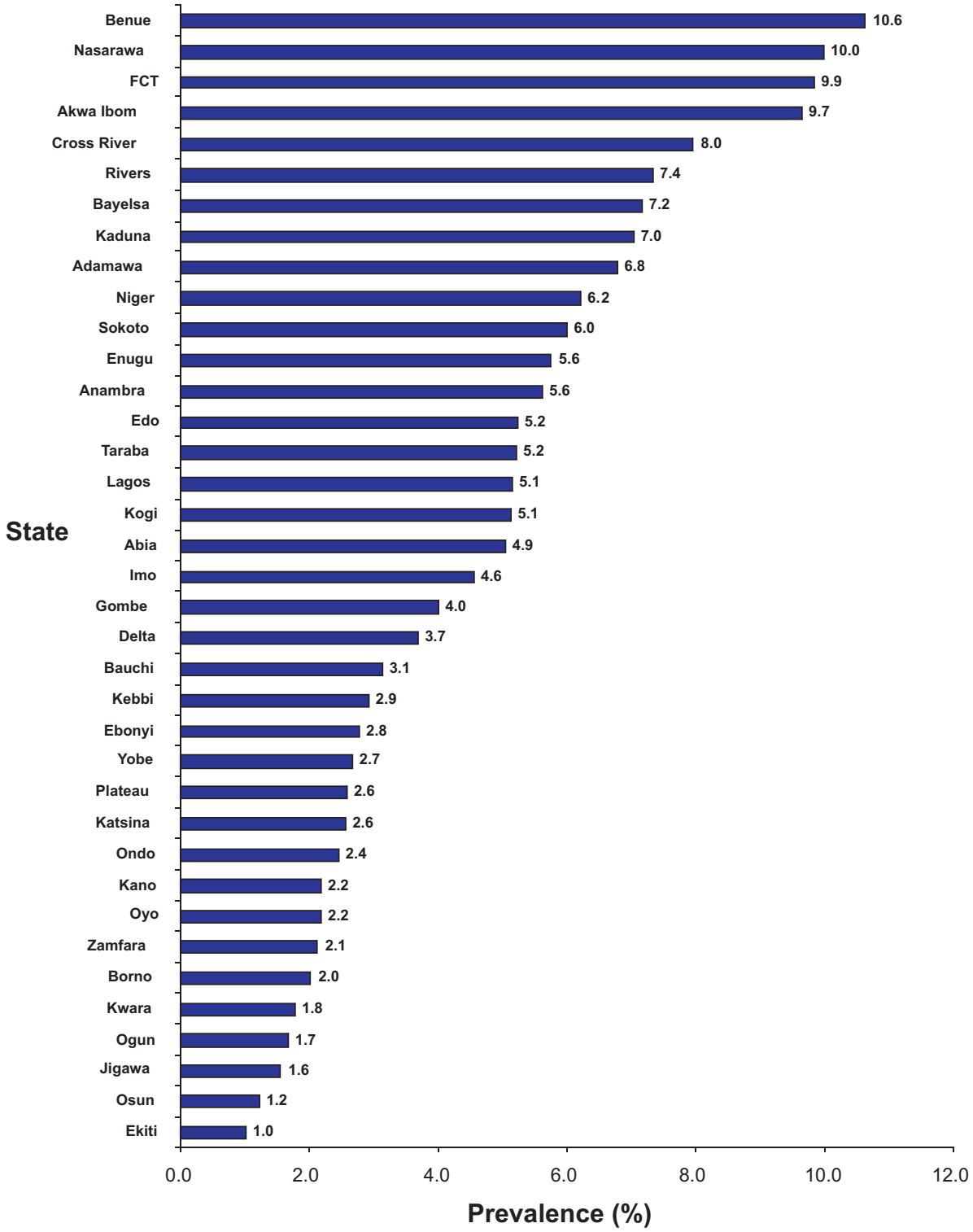
4.3.2 HIV Prevalence by State

Figure 3: Geographical distribution of HIV Prevalence by States (HSS 2008)



The State prevalence ranged from 1.0% in Ekiti to 10.6% in Benue. Seventeen (17) States and FCT had prevalence of 5.0% and above. The median prevalence was 4.6% in Imo State (Figures 3 & 4).

Figure 4: HIV Prevalence by State (HSS 2008)



4.3.3 HIV Prevalence by Zone, State and Site

Table II: HIV Prevalence by State, Site and Location, North Central Zone (HSS 2008)

State	Site	Site Status	Total Sample	Number Positive	Prevalence (%)	Confidence Interval
BENUE	IHUGH	Urban	296	48	16.2	12.2-20.9
	MAKURDI	Urban	298	25	8.4	5.5-12.1
	OTUKPO	Urban	309	24	7.8	5.0-11.3
	OKPOGA	Rural	150	8	5.3	2.3-10.2
	WANNUNE	Rural	149	23	15.4	10.0-22.2
	TOTAL		**1202**	**128**	**10.6**	**9.0-12.5**
FCT	GWAGWALADA	Urban	298	26	8.8	5.8-12.5
	NYANYA	Urban	299	14	4.7	2.6-7.7
	WUSE/GARKI	Urban	301	33	11.0	7.7-15.0
	BWARI	Rural	150	33	22.0	15.6-29.4
	KARSHI	Rural	149	12	8.1	4.2-13.6
	TOTAL		**1197**	**118**	**9.9**	**8.2-11.7**
KOGI	ANKPA	Urban	300	15	5.0	2.8-8.1
	LOKOJA	Urban	299	17	5.7	3.3-8.9
	CHERI MEGUMARI	Rural	148	8	5.4	2.4-10.4
	MASARA	Rural	149	6	4.0	1.5-8.5
	TOTAL		**896**	**46**	**5.1**	**3.8-6.8**
KWARA	ILORIN	Urban	299	4	1.3	0.4-3.4
	OFFA	Urban	299	7	2.3	0.9-4.8
	KAIAMA	Rural	149	2	1.3	0.2-4.8
	PATIGI	Rural	150	3	2.0	0.4-5.7
	TOTAL		**897**	**16**	**1.8**	**1.0-2.9**
NASARAWA	LAFIA	Urban	298	58	19.5	15.1-24.4
	N/EGGON	Urban	296	11	3.7	1.9-6.5
	DOMA	Rural	150	3	2.0	0.4-5.7
	GARAKU	Rural	148	17	11.5	6.8-17.7
	TOTAL		**892**	**89**	**10.0**	**8.1-12.1**
NIGER	MINNA	Urban	299	23	7.7	4.9-11.3
	WUSHISHI	Urban	300	20	6.7	4.1-10.1
	LEMU	Rural	151	4	2.6	0.7-6.6
	PAIKO	Rural	149	9	6.0	2.8-11.2
	TOTAL		**899**	**56**	**6.2**	**4.7-8.0**
PLATEAU	JOS	Urban	300	10	3.3	1.6-6.0
	SHENDAM	Urban	292	10	3.4	1.6-6.2
	GANAWURI	Rural	150	0	0	-
	PANYAM	Rural	150	3	2.0	0.4-5.7
	TOTAL		**892**	**23**	**2.6**	**1.6-3.8**
Median				**5.4**		
Median Urban				**6.2**		
Median Rural				**4.7**		

The median prevalence for the North Central zone was 5.4%. Benue had the highest prevalence (10.6%) while Kwara had the least (1.8%). The median urban site prevalence was 6.2% with a range of 1.3% in Ilorin (Kwara) to 19.5% in Lafia (Nasarawa). For the rural sites, the zonal median prevalence was 4.7%. Bwari (FCT) had the highest rural prevalence of 22% while Ganawuri (Plateau) had the least (0%). The State urban prevalence was generally higher than the rural except in FCT and Kwara where the reverse was the case (Figure 5 and Table II).

Figure 5: HIV Prevalence in States by Urban and Rural Areas, North Central Zone (HSS 2008)

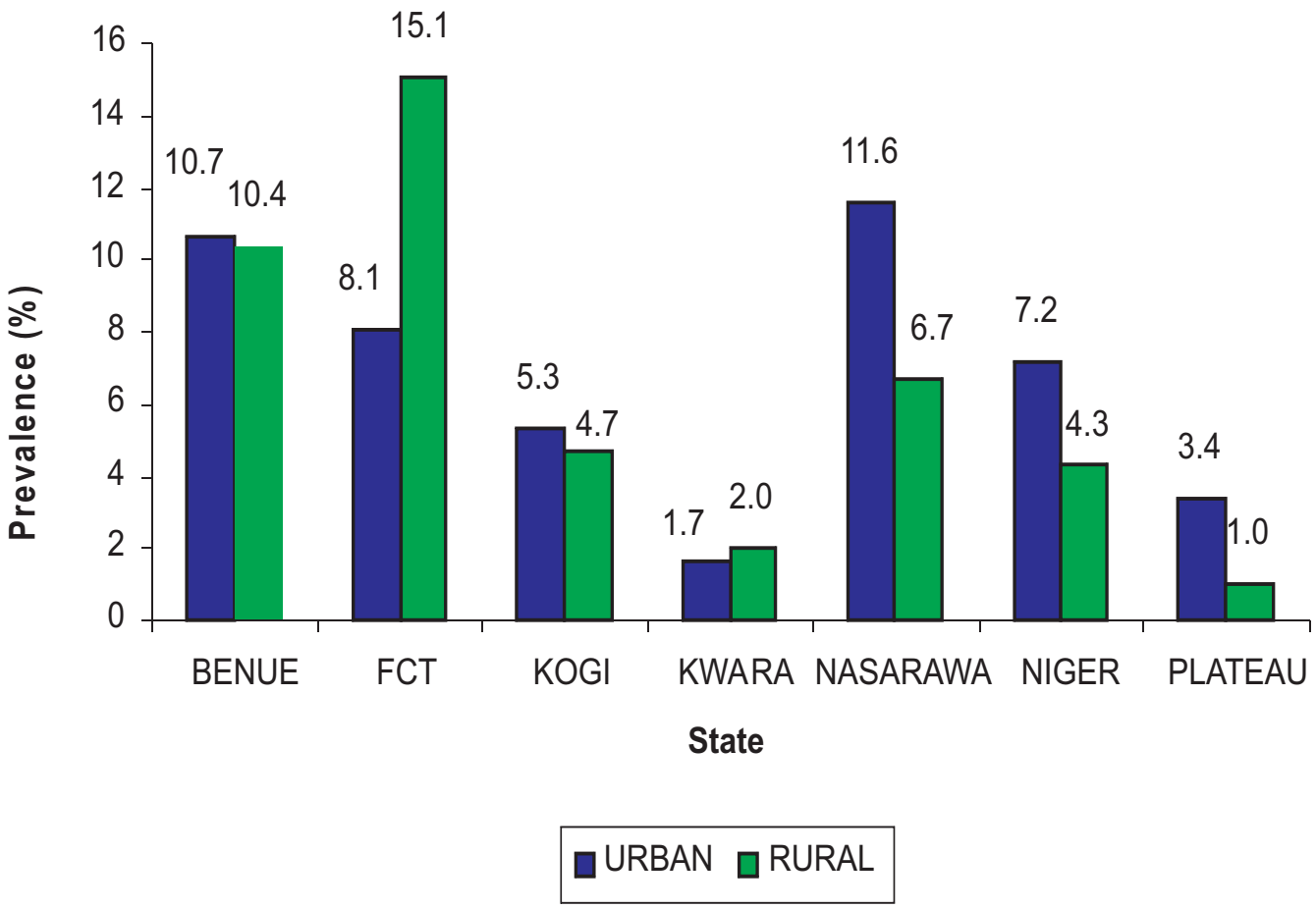


Table III: HIV Prevalence by State, Site and Location, North East Zone (HSS 2008)

State	Site	Site status	Total sample	Number Positive	Prevalence (%)	Confidence Interval
ADAMAWA	MUBI	Urban	300	16	5.3	3.1 – 8.5
	YOLA	Urban	300	30	10.0	6.8 – 14.0
	HONG	Rural	150	8	5.3	2.3 – 10.2
	MAYO BELWA	Rural	150	7	4.7	1.9 – 9.4
	TOTAL		**900**	**61**	**6.8**	**5.2 – 8.6**
BAUCHI	AZARE	Urban	296	13	4.4	2.4 – 7.4
	BAUCHI	Urban	300	12	4.0	2.1 – 6.9
	SHIRA YANA	Rural	145	1	0.7	0.0 – 3.8
	TORO	Rural	150	2	1.3	0.2 – 4.7
	TOTAL		**891**	**28**	**3.1**	**2.1 – 4.5**
BORNO	BIU	Urban	299	4	1.3	0.4 – 3.4
	MAIDUGURI	Urban	295	3	1.0	0.2 – 2.9
	KONDUGA	Rural	149	5	3.4	1.1 – 7.6
	NGALA	Rural	150	6	4.0	1.5 – 8.5
	TOTAL		**893**	**18**	**2.0**	**1.2 – 3.2**
GOMBE	GOMBE	Urban	300	12	4.0	2.1 – 6.9
	KALTUNGO	Urban	298	20	6.7	4.1 – 10.2
	KWAMI	Rural	150	2	1.3	0.2 – 4.7
	ZUMBUK	Rural	150	2	1.3	0.2 – 4.7
	TOTAL		**898**	**36**	**4.0**	**2.7 – 5.3**
TARABA	JALINGO	Urban	224	16	7.1	4.1 – 11.3
	ZING	Urban	301	14	4.7	2.6 – 7.7
	SUNKANI	Rural	150	7	4.7	1.9 – 9.4
	YAKOKO	Rural	149	6	4.0	1.5 – 8.6
	TOTAL		**824**	**43**	**5.2**	**3.8 – 7.0**
YOBE	DAMATURU	Urban	300	10	3.3	1.6 – 6.0
	GEIDAM	Urban	300	9	3.0	1.6 – 6.0
	POTISKUM	Urban	300	8	2.7	1.2 – 5.2
	BABANGIDA	Rural	150	4	2.7	0.7 – 6.7
	JAKUSKO	Rural	150	1	0.7	0.0 – 3.6
	TOTAL		**1,200**	**32**	**2.7**	**1.8 – 3.7**
Median					**4.0**	
Median Urban					**4.0**	
Median Rural					**3.1**	

In North East, the State prevalence ranged from 2.0% in Borno to 6.8% in Adamawa. The zonal median HIV prevalences in the urban and rural sites were 4.0% and 3.1% respectively. Prevalence in the urban sites ranged from 1.0% in Maiduguri to 10% in Yola while in the rural sites, it ranged from 0.7% in Shira (Bauchi) and Jakusko (Yobe) to 5.3% in Hong (Adamawa). The rural prevalence was lower in all the States except Borno (Table III and Figure 6).

Figure 6: HIV Prevalence in States by Urban and Rural Areas, North East Zone (HSS 2008)

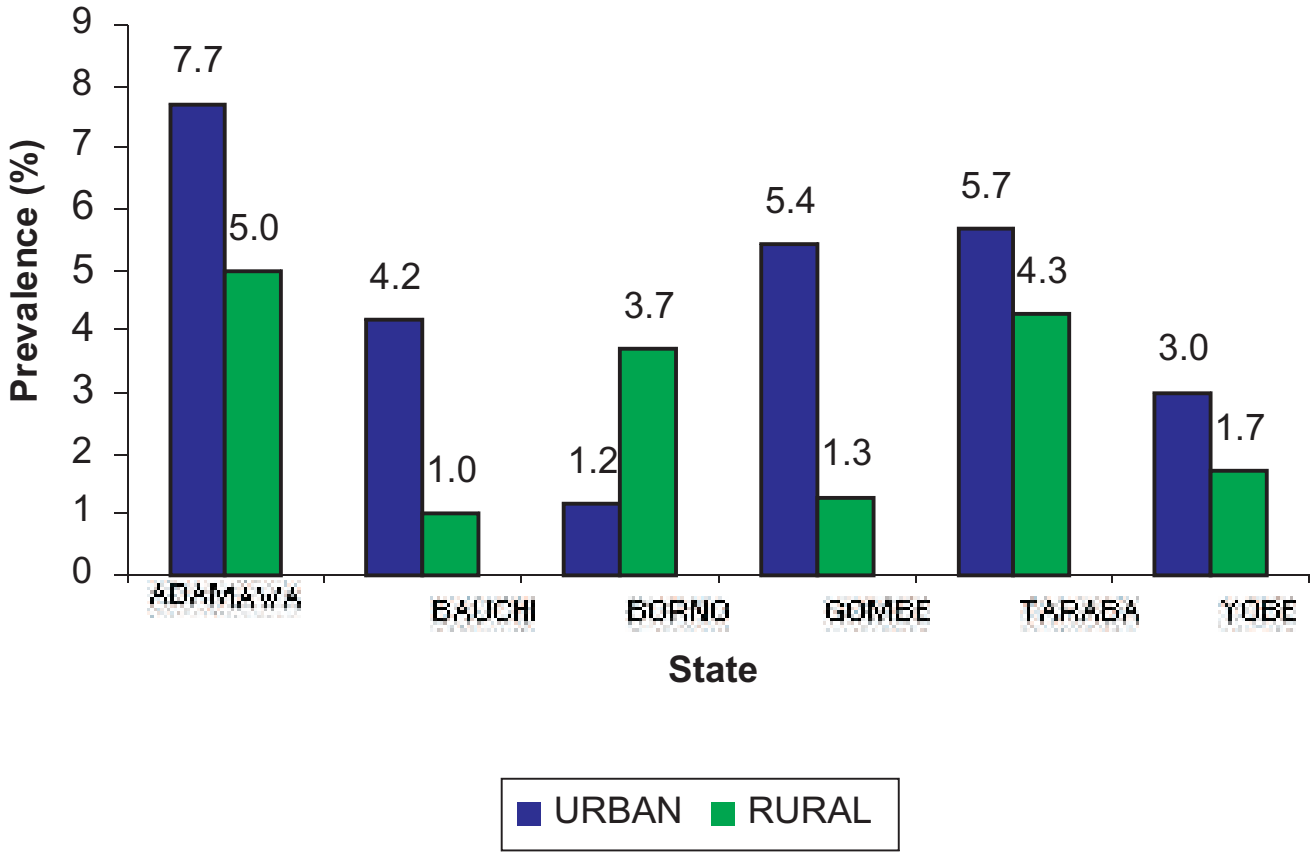


Table IV: HIV Prevalence by State, Site and Location, North West Zone (HSS 2008)

State	Site	Site Status	Total Sample	Number Positive	Prevalence	Confidence Interval
JIGAWA	DUTSE	URBAN	299	8	2.7	1.2-5.2
	HADEJIA	URBAN	300	5	1.7	0.5-3.8
	MALLAM MADORI	RURAL	150	1	0.7	0.0-3.6
	TAURA	RURAL	150	0	0	0
	TOTAL		**899**	**14**	**1.6**	**0.9-2.6**
KADUNA	KADUNA	URBAN	300	7	2.3	0.9-4.7
	KAFANCHAN	URBAN	300	53	17.7	3.5-22.5
	ZARIA	URBAN	297	10	3.4	1.6-6.1
	KWOI	RURAL	150	11	7.3	3.7-12.7
	SAMINAKA	RURAL	148	3	2	0.4-5.8
	TOTAL		**1195**	**84**	**7**	**5.6-8.6**
KANO	RANO	URBAN	297	1	0.3	0.0-1.9
	KANO MMSH	URBAN	300	8	2.7	1.2-5.2
	KANO AKTH	URBAN	300	14	4.7	2.6-7.7
	SHANONO	RURAL	150	3	2	0.4-5.7
	TUDUN WADA	RURAL	150	0	0	0
	TOTAL		**1197**	**26**	**2.2**	**1.4-3.2**
KATSINA	FUNTUA	URBAN	297	12	4	2.1-6.9
	KATSINA	URBAN	300	7	2.3	0.9-4.7
	BAURE	RURAL	150	1	0.7	0.0-3.6
	JIBIA	RURAL	147	3	2	0.4-5.8
	TOTAL		**894**	**23**	**2.6**	**1.6-3.8**
KEBBI	ARGUNUGUN	URBAN	297	7	2.4	0.9-4.8
	FATILAMI /BIRNIN KEBBI	URBAN	298	6	2	0.7-4.3
	ALIERO	RURAL	149	5	3.4	1.1-7.6
	SENCHI	RURAL	147	8	5.4	2.4-10.4
	TOTAL		**892**	**26**	**2.9**	**1.9-4.2**
SOKOTO	DOGONDAJI	URBAN	299	17	5.7	3.3-8.9
	SOKOTO	URBAN	285	6	2.1	0.8-4.5
	GWABADAWA	RURAL	149	5	3.4	1.1-7.7
	TAMBUWAL	RURAL	149	25	16.8	11.1-23.8
	TOTAL		**882**	**53**	**6**	**4.5-7.8**
ZAMFARA	GASAU	URBAN	300	7	2.3	0.9-4.7
	MAFARA	URBAN	300	9	3	1.4-5.6
	KOTORKOSHI	RURAL	147	2	1.4	0.2-4.8
	RUWADORUWA	RURAL	150	1	0.7	0.0-3.6
	TOTAL		**897**	**19**	**2.1**	**1.3-3.3**
Median					**2.4**	
Median Urban					**2.6**	
Median Rural					**2.0**	

The State HIV prevalence ranged from 1.6% in Jigawa to 7.0% in Kaduna with a zonal median of 2.4%. The HIV prevalence in the urban sites ranged from 0.3% in Rano (Kano) to 17.7% in Kafachan (Kaduna) with a median prevalence of 2.6%. In rural sites, prevalence ranged from 0% in Taura (Jigawa) and Tudun Wada (Kano) to 16.8% in Tambuwal (Sokoto) with a median of 2.0%. The rural HIV prevalence was higher than urban in Sokoto and Kebbi States (Table IV and Figure 7).

Figure 7: HIV Prevalence in States by Urban and Rural Areas, North West Zone (HSS 2008)

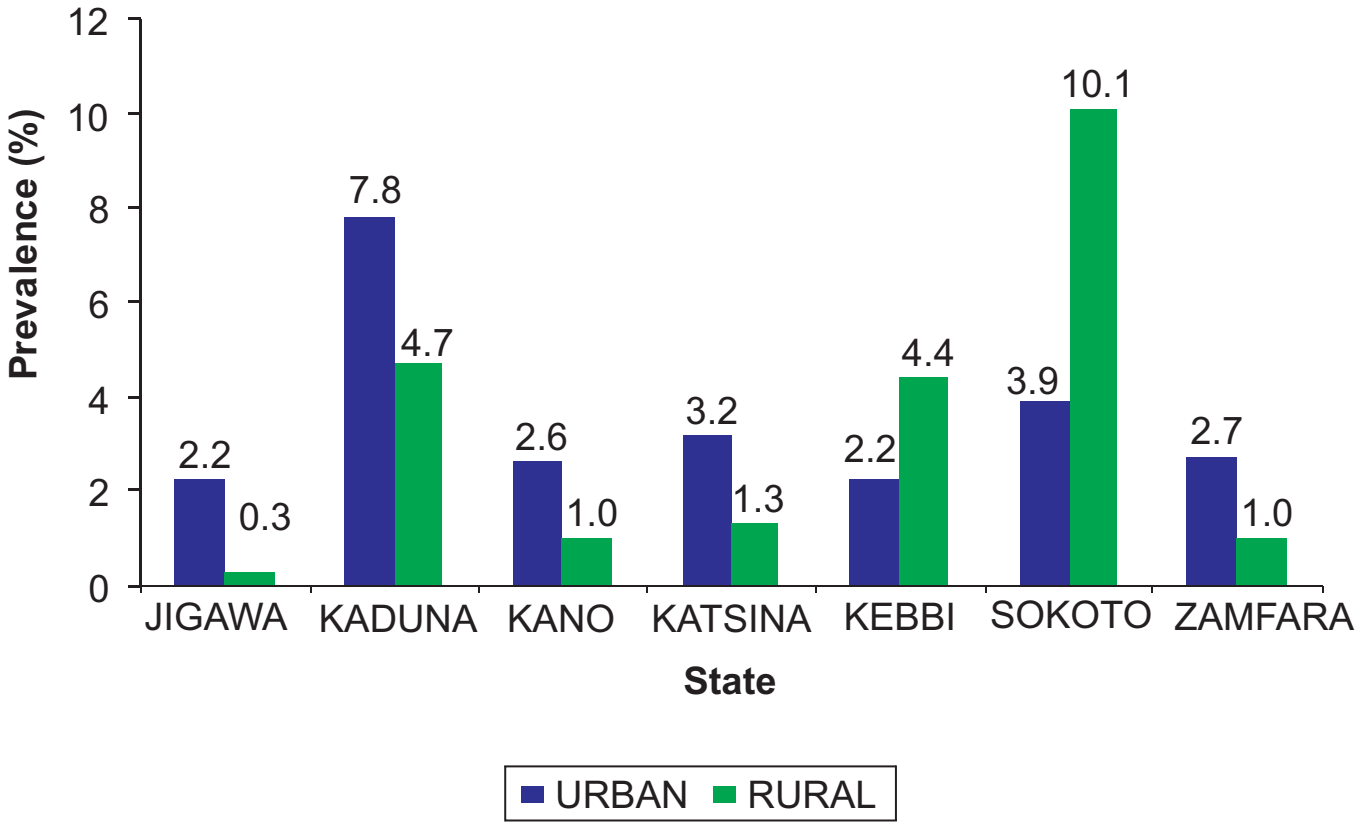


Table V: HIV Prevalence by State, Site and Location, South East Zone, (HSS 2008)

State	Site	Site Status	Total Sample	Number Positive	Prevalence (%)	Confidence Interval
ABIA	ABA	Urban	300	18	6.0	3.5 – 9.3
	UMUAHIA	Urban	299	17	5.7	3.3 – 6.9
	OHAFIA	Rural	150	6	4.0	1.5 – 8.5
	OKPUALA-NGWA	Rural	150	3	2.0	0.4 – 5.7
	TOTAL		**899**	**44**	**4.9**	**3.6 – 6.5**
ANAMBRA	AWKA	Urban	-	-	-	-
	EKWULOBIA	Urban	271	16	5.9	3.4 – 9.6
	ONITSHA	Urban	-	-	-	-
	ENUGWU-UKWU	Rural	149	11	7.4	3.7 – 12.8
	OGIDI	Rural	132	4	3.0	0.8 – 7.6
	TOTAL		**552**	**31**	**5.6**	**3.8 – 7.9**
EBONYI	ABAKALIKI	Urban	300	8	2.7	1.2 – 5.2
	AFIKPO	Urban	299	6	2.0	0.7 – 4.3
	ITIM UKWU	Rural	150	8	5.3	2.3 – 10.3
	NDUBIA	Rural	115	2	1.7	0.2 – 6.1
	TOTAL		**864**	**24**	**2.8**	**1.8 – 4.1**
ENUGU	ACHI	Urban	300	31	10.3	7.1 – 14.3
	NSUKKA	Urban	300	9	3.0	1.4 – 5.6
	ENUGU/PARK LANE	Urban	299	10	3.3	1.6 – 6.1
	ORBA	Rural	149	5	3.4	1.1 – 7.6
	UDI	Rural	150	14	9.3	5.2 – 15.2
	TOTAL		**1,198**	**69**	**5.6**	**4.5 – 7.2**
IMO	ORLU/AMAIFEKE	Urban	301	19	6.3	3.8 – 9.7
	OWERRI	Urban	300	15	5.0	2.8 – 8.1
	ABOH MBAISE	Rural	148	2	1.4	0.2 – 4.8
	AHIAZU	Rural	150	5	3.3	1.1 – 7.6
	TOTAL		**899**	**41**	**4.6**	**3.3 – 6.1**
Median					**3.7**	
Median Urban					**5.4**	
Median Rural					**3.4**	

The zonal prevalence was 3.7%. This ranged from 2.8% in Ebonyi to 5.6% in Anambra and Enugu States. The urban prevalence ranged from 2.0% in Afikpo (Ebonyi) to 10.3% in Achi (Enugu) with a median of 5.4% while the rural prevalence ranged from 1.4% in Aboh Mbaise (Imo) to 9.3% in Udi (Enugu) with a median of 3.4%. The State urban prevalence is generally higher than the rural except in Ebonyi and Enugu States where the prevalence is higher in the rural areas (Table V and Figure 8).

Figure 8: HIV Prevalence in States by Urban and Rural Areas, South East Zone (HSS 2008)

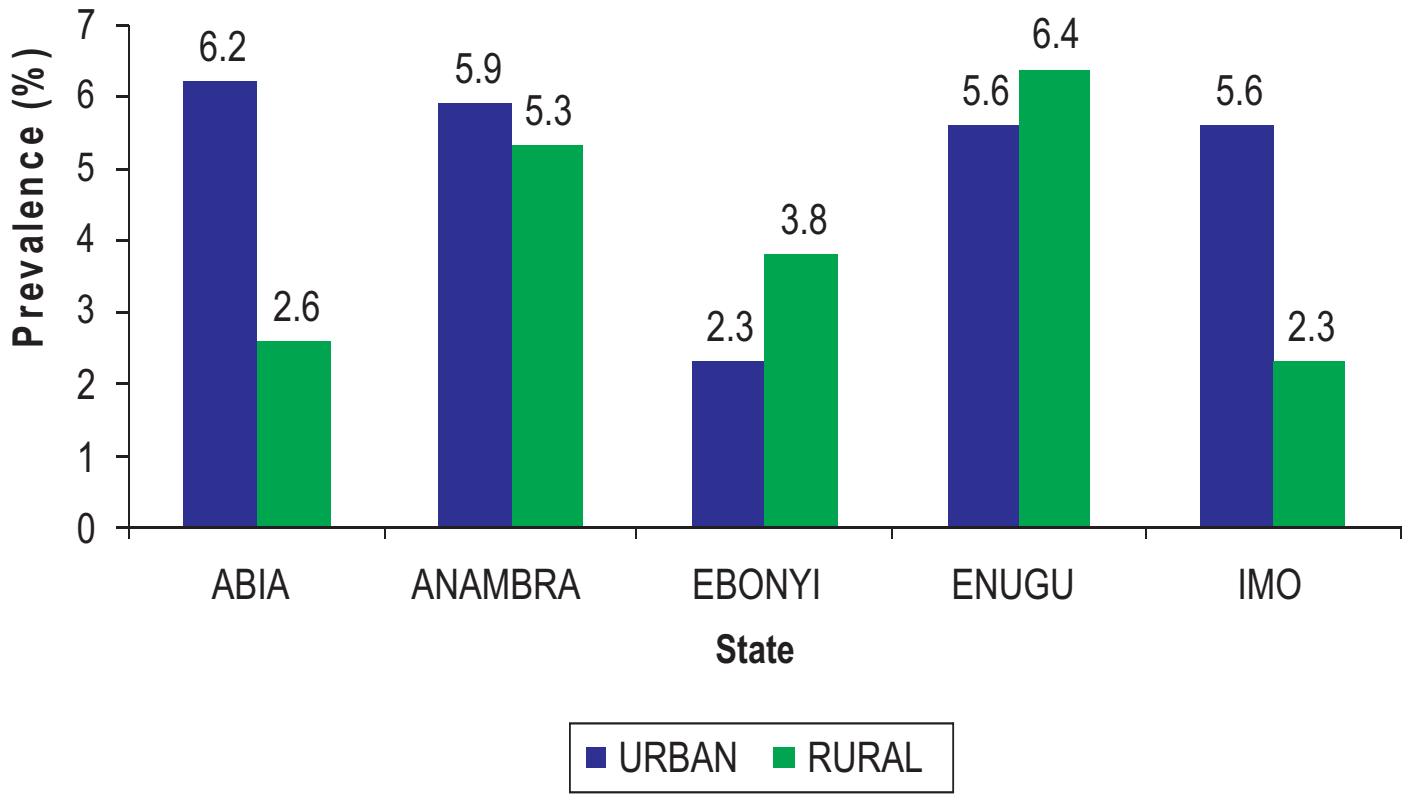


Table VI: HIV Prevalence by State, Site and Location, South South Zone (HSS 2008)

State	Site	Site Status	Total Sample	Number Positive	Prevalence (%)	Confidence Interval
AKWA IBOM	UYO	Urban	298	27	9.1	6.1 – 12.9
	URUA AKPAN	Urban	293	17	5.8	3.4 – 9.1
	IKONO	Rural	150	21	14.0	8.9 – 20.6
	IQUITA-ORON	Rural	150	21	14.0	8.9 – 20.6
Total			**891**	**86**	**9.7**	**7.8 – 11.8**
BAYELSA	SAGBAMA	Urban	298	26	8.9	5.8 – 12.5
	YENAGOA	Urban	309	22	7.1	4.5 – 10.6
	AMASSOMA	Rural	150	6	4.0	1.5 – 8.5
	BRASS	Rural	150	11	7.3	3.7 – 12.7
Total			**907**	**65**	**7.2**	**5.6 – 9.0**
CROSS RIVER	CALABAR	Urban	300	30	10.0	6.8-14.0
	IKOM	Urban	295	26	8.8	5.8-12.6
	AKAMKPA	Rural	148	12	8.1	4.2-13.7
	GAKEM	Rural	150	3	2.0	0.4-5.7
Total			**893**	**71**	**8.0**	**6.3-9.9**
DELTA	AGBOR	Urban	300	14	4.7	2.6-7.7
	WARRI	Urban	299	8	2.7	1.2-5.2
	OKPARA/ORUROKPE	Rural	150	5	3.3	1.1-7.6
	OWHELOGBO	Rural	150	6	4.0	1.5-8.5
Total			**899**	**33**	**3.7**	**2.5-5.1**
EDO	BENIN	Urban	299	16	5.4	3.1-8.5
	EKPOMA	Urban	299	20	6.7	4.1-10.1
	AGBEDE	Rural	149	5	3.4	1.1-7.7
	IRUEKPEN	Rural	150	6	4.0	1.5-8.5
Total			**897**	**47**	**5.2**	**3.9-6.9**
RIVERS	BONNY	Urban	290	25	8.4	5.7-12.4
	BORI	Urban	300	25	8.3	5.4-12.1
	PORT HARCOURT	Urban	300	21	7.0	4.4-10.5
	EBERI	Rural	150	4	2.7	0.7-6.7
	EDEOHA	Rural	150	13	8.7	4.7-14.4
Total			**1190**	**88**	**7.4**	**6.0-9.0**
Median				**7.0**		
Median Urban				**7.1**		
Median Rural				**4.0**		

The median HIV prevalence in the zone was 7.0%. The State HIV prevalence ranged from 3.7% in Delta to 9.7% in Akwa-Ibom. The prevalence in the urban sites ranged from 2.7% in Warri (Delta) to 10.0% in Calabar (Cross River) with median of 7.1% while the rural prevalence ranged from 2.0% in Gakem (Cross River) to 14.0% in Ikono and Iquita-Oron (Akwa Ibom) with a median of 4.0%. In Delta State, State urban and rural HIV prevalences were the same. Generally, the State rural prevalence was lower than the urban in the other states except Akwa Ibom State (Table VI and Figure 9).

Figure 9: HIV Prevalence in Urban and Rural Areas by States, South South Zone (HSS 2008)

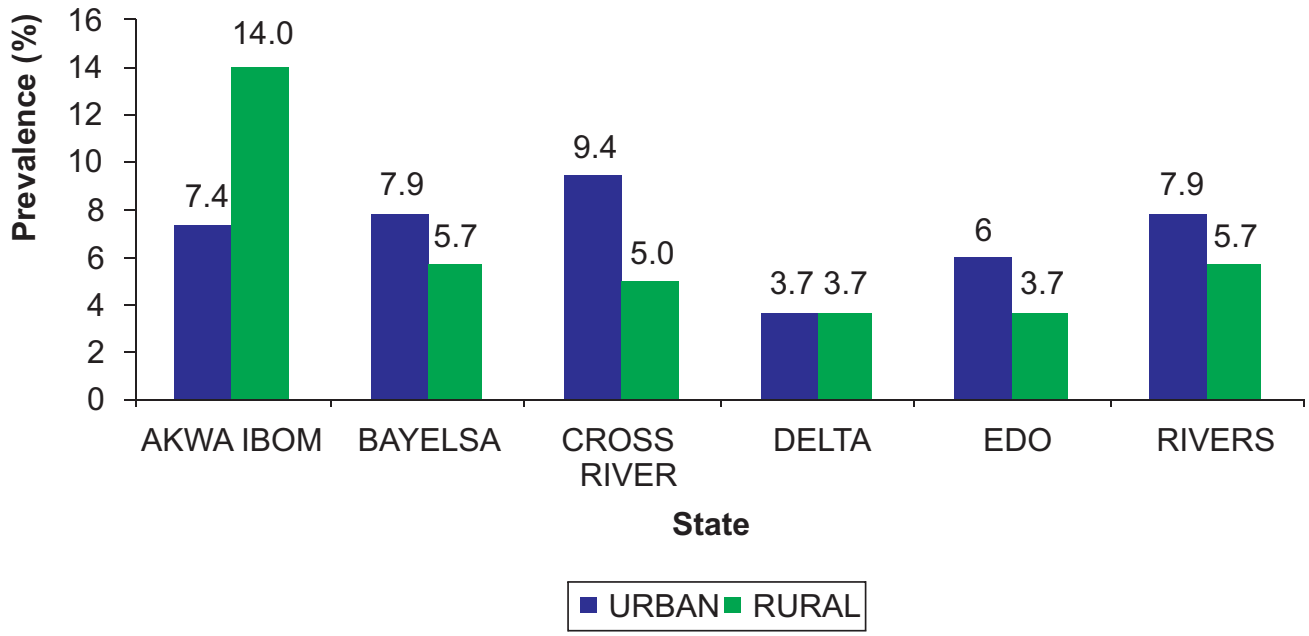
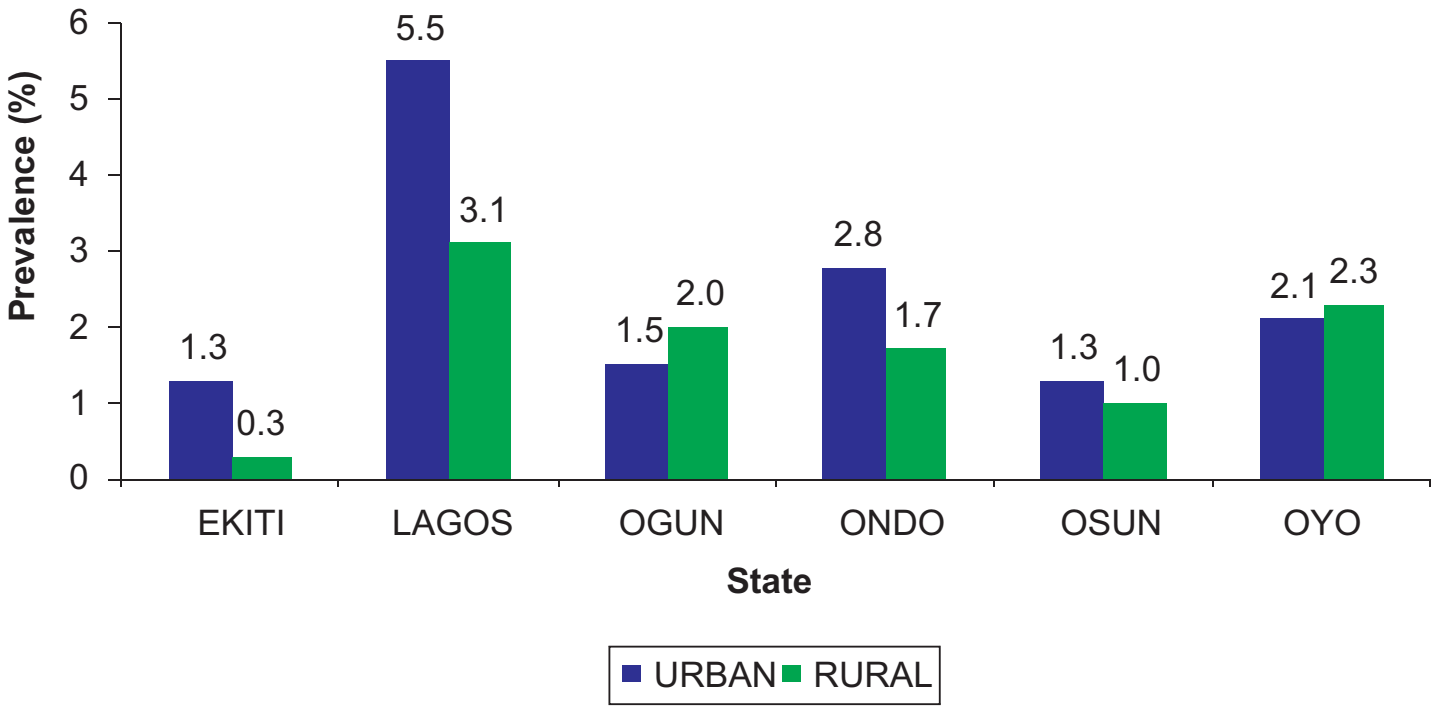


Table VII: HIV Prevalence by State, Site and Location, South West Zone (HSS 2008)

State	Site	Site Status	Total Sample	Number Positive	Prevalence (%)	Confidence Interval
EKITI	ADO EKITI	Urban	300	5	1.7	0.5-3.8
	IKOLE	Urban	300	3	1.0	0.2-2.9
	IGBARA	Rural	148	0	0	-
	IPAO	Rural	150	1	0.7	0.0 – 3.6
	TOTAL		**898**	**9**	**1.0**	**0.5 – 1.9**
LAGOS	BADAGRY	Urban	309	21	6.8	6.3 – 14.9
	EPE	Urban	310	18	5.8	3.5 – 9.0
	IKEJA	Urban	300	12	4.0	2.1 – 6.9
	LAGOS ISLAND	Urban	299	27	9.0	6.0 – 12.9
	SURULERE	Urban	296	5	1.7	0.6 – 3.9
	AGBOWA	Rural	150	4	2.7	0.7 – 6.7
	IJEDE	Rural	104	4	5.9	1.1 – 9.6
	TOTAL		**1768**	**91**	**5.1**	**4.2 – 6.3**
OGUN	ABEOKUTA	Urban	301	6	2.0	0.7 – 4.3
	IJEBU ODE	Urban	300	3	1.0	0.2 – 2.9
	AYETORO	Rural	149	2	1.3	0.2 – 4.8
	ISARA	Rural	150	4	2.7	0.7 – 6.7
	TOTAL		**900**	**15**	**1.7**	**0.9 – 2.7**
ONDO	AKURE	Urban	300	5	1.7	0.5 – 3.8
	ONDO	Urban	300	12	4.0	2.1 – 6.9
	ALADE	Rural	150	1	0.7	0.0 – 3.6
	IJU	Rural	150	4	2.7	0.7 – 6.7
	TOTAL		**900**	**22**	**2.4**	**1.5 – 3.7**
OSUN	ILESHA	Urban	300	6	2.0	0.7 – 4.3
	OSOGBO	Urban	302	2	0.7	0.1 – 2.4
	IBOKUN	Rural	150	2	1.3	0.2 – 4.7
	IRAGBERI	Rural	150	1	0.7	0.0 – 3.6
	TOTAL		**902**	**11**	**1.2**	**0.6 – 2.2**
OYO	IBADAN	Urban	300	1	0.3	0.0 – 1.8
	OGBOMOSHO	Urban	300	10	3.3	1.6 – 6.0
	SAKI	Urban	**299**	8	2.7	1.2 – 5.2
	ADOAWAYE	Rural	150	3	2.0	0.4 – 5.7
	LAGUN	Rural	150	4	2.7	0.7 – 6.7
	TOTAL		**1199**	**26**	**2.2**	**1.4 – 3.2**
Median				**2.0**		
Median Urban				**2.0**		
Median Rural				**1.7**		

The HIV prevalence in the zone was observed to be relatively low. The highest State prevalence was observed in Lagos (5.1%) and the lowest in Ekiti (1.0%). The urban prevalence showed a range of 0.3% in Ibadan (Oyo) to 9.0% in Lagos Island (Lagos) with a median of 2.0%. The rural prevalence ranged from 0.0% in Igbara (Ekiti) to 5.9% in Ijede (Lagos) with a median of 1.7%. The State urban prevalence was generally higher than rural except for Ogun and Oyo (Table VII and Figure 10).

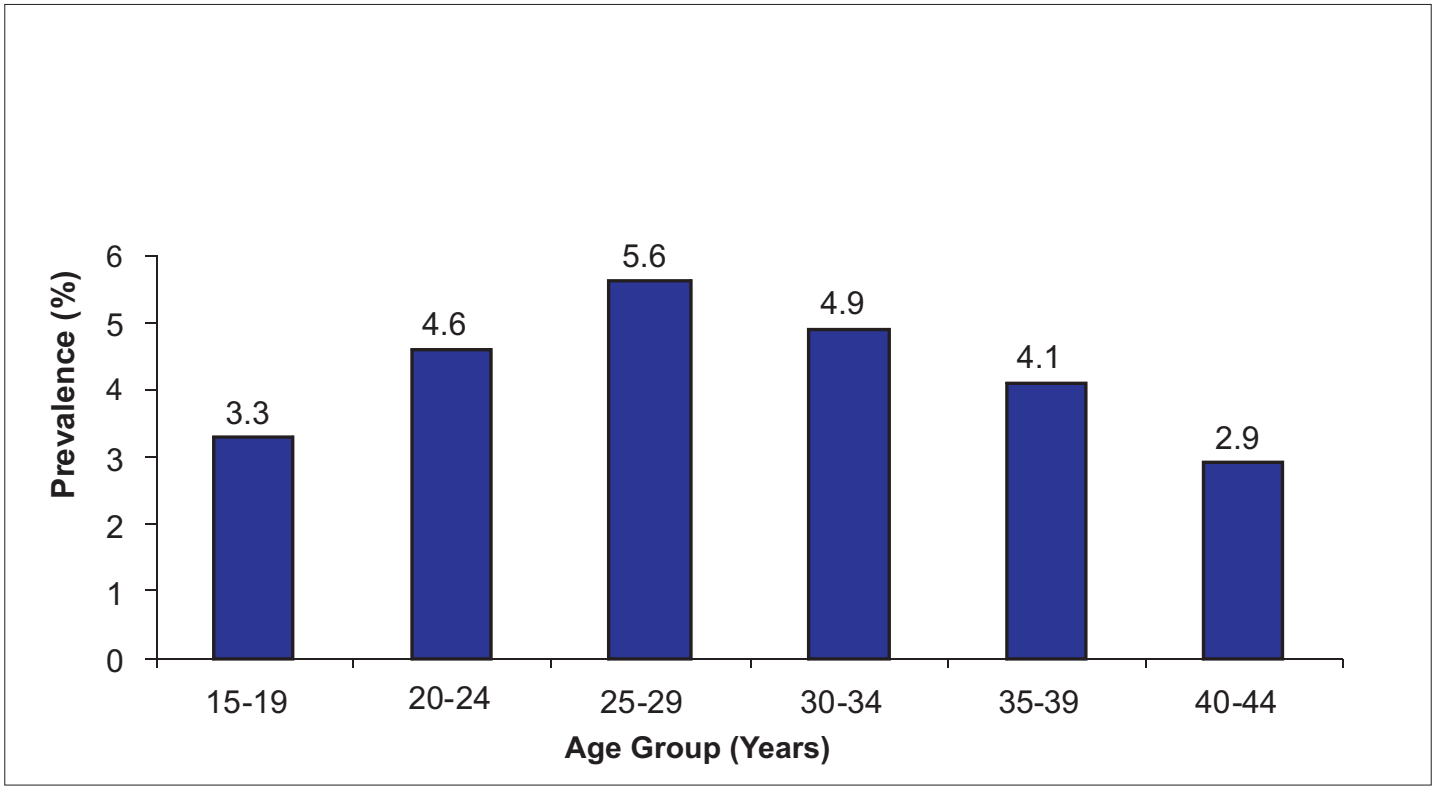
Figure 10: HIV Prevalence in States by Urban and Rural Areas, South West Zone (HSS 2008)



4.3.4 HIV Prevalence by Age Groups (Fig. 11)

HIV prevalence increased with age from 3.3% among the 15 19 years age group to 5.6% among the 25 29 years age group and thereafter decreased with age.

Figure 11: HIV Prevalence by Age Group (HSS 2008)



4.3.5 HIV Prevalence by Marital Status

HIV prevalence was lowest (4.7%) among married women but highest (6.5%) among others (divorced, separated and widowed).

Table VIII: HIV Prevalence by Marital Status (HSS 2008)

Marital Status	Sample Size	Number Positive	Prevalence (%)	Confidence Interval
Single	1447	85	5.9	4.7-7.2
Married	34445	1616	4.7	4.4-4.9
Others	213	14	6.5	3.6-10.8
Total	36107	1715	4.8	4.5-5.0

Missing data where excluded from analysis

4.3.6 HIV Prevalence by Educational Status

HIV prevalence was lowest (3.3%) among women with Qu'ranic education only and highest among those with secondary education (5.8%).

Table IX: HIV Prevalence by Educational Status (HSS 2008)

Educational Status	Sample Size	Number Positive	Prevalence (%)	Confidence Interval
None	**3525**	**137**	**3.9**	**3.3-4.6**
Qu'ranic only	**5314**	**176**	**3.3**	**2.8-3.8**
Primary	**8054**	**410**	**5.1**	**4.6-5.6**
Secondary	**12691**	**736**	**5.8**	**5.4-6.2**
Higher	**6515**	**258**	**4.0**	**3.5-4.4**
Total	**36104**	**1717**	**4.8**	**4.5-5.0**

Missing data where excluded from analysis

4.3.7 HIV Prevalence by Gravidity and Parity (Table X)

There was no much difference in HIV prevalence between women with one pregnancy (4.6%) and those with 2 or more (4.8%). With respect to parity, the highest prevalence of 5.7% was found among women with one previous delivery and the lowest among those with 2 or more deliveries.

Table X: HIV Prevalence by Gravidity and Parity (HSS 2008)

Gravidity Status	Sample Size	Number Positive	Prevalence (%)	Confidence Interval
1	9871	450	4.6	4.7-5.0
2 or more	26264	1269	4.8	4.6-5.1
Total	**36135**	**1719**	**4.8**	**4.5-5.0**
Parity				
0	10567	512	4.8	4.4-5.3
1	7196	412	5.7	5.2-6.3
2 or more	18372	795	4.3	4.0-4.6
Total	**36135**	**1719**	**4.8**	**4.5-5.0**

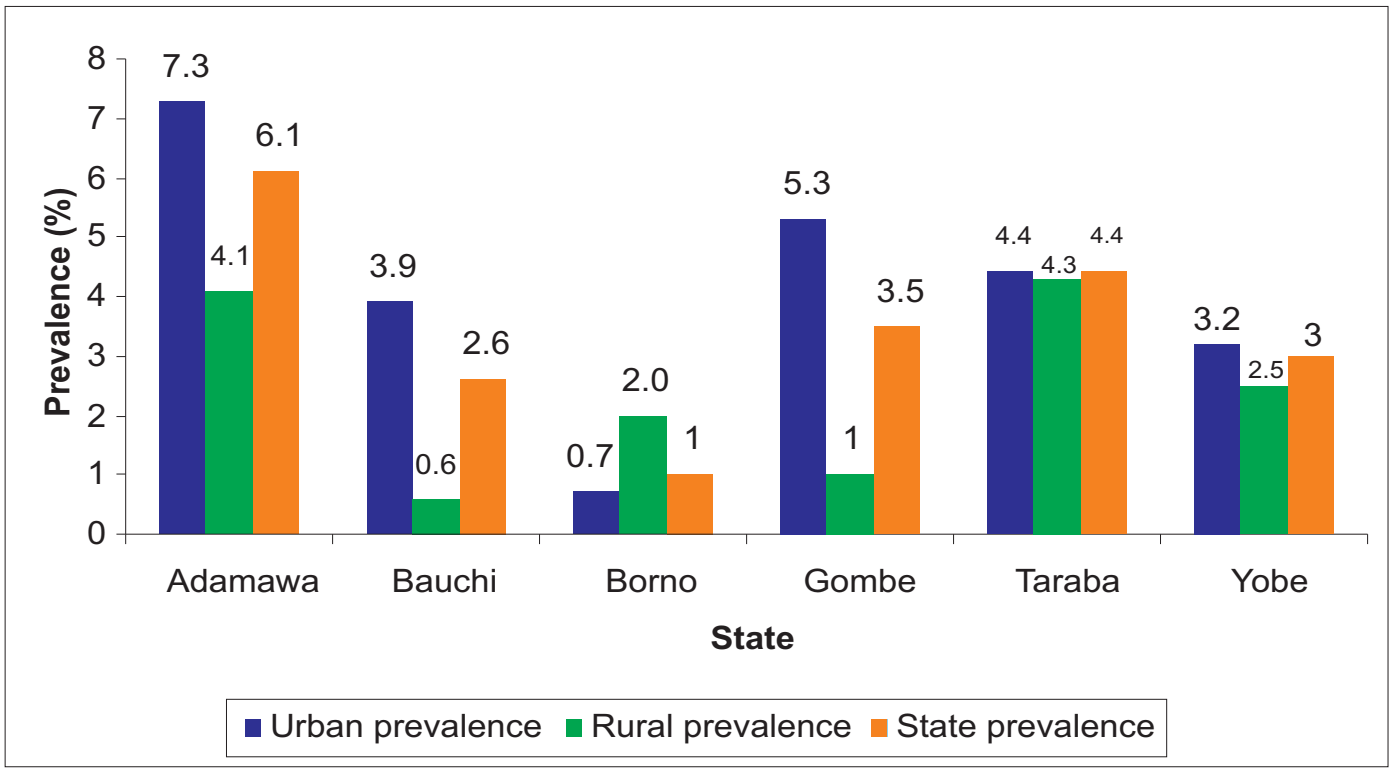
Missing data where excluded from analysis

4.3.8 HIV Prevalence among young pregnant women (15-24 years)

Prevalence trend among youths aged 15-24 years is an index of new infections. In view of this, analysis was conducted among this age group. The national prevalence among the group was 4.2%. This varies from 0.4% in Osun State to 12% in Ebonyi State.

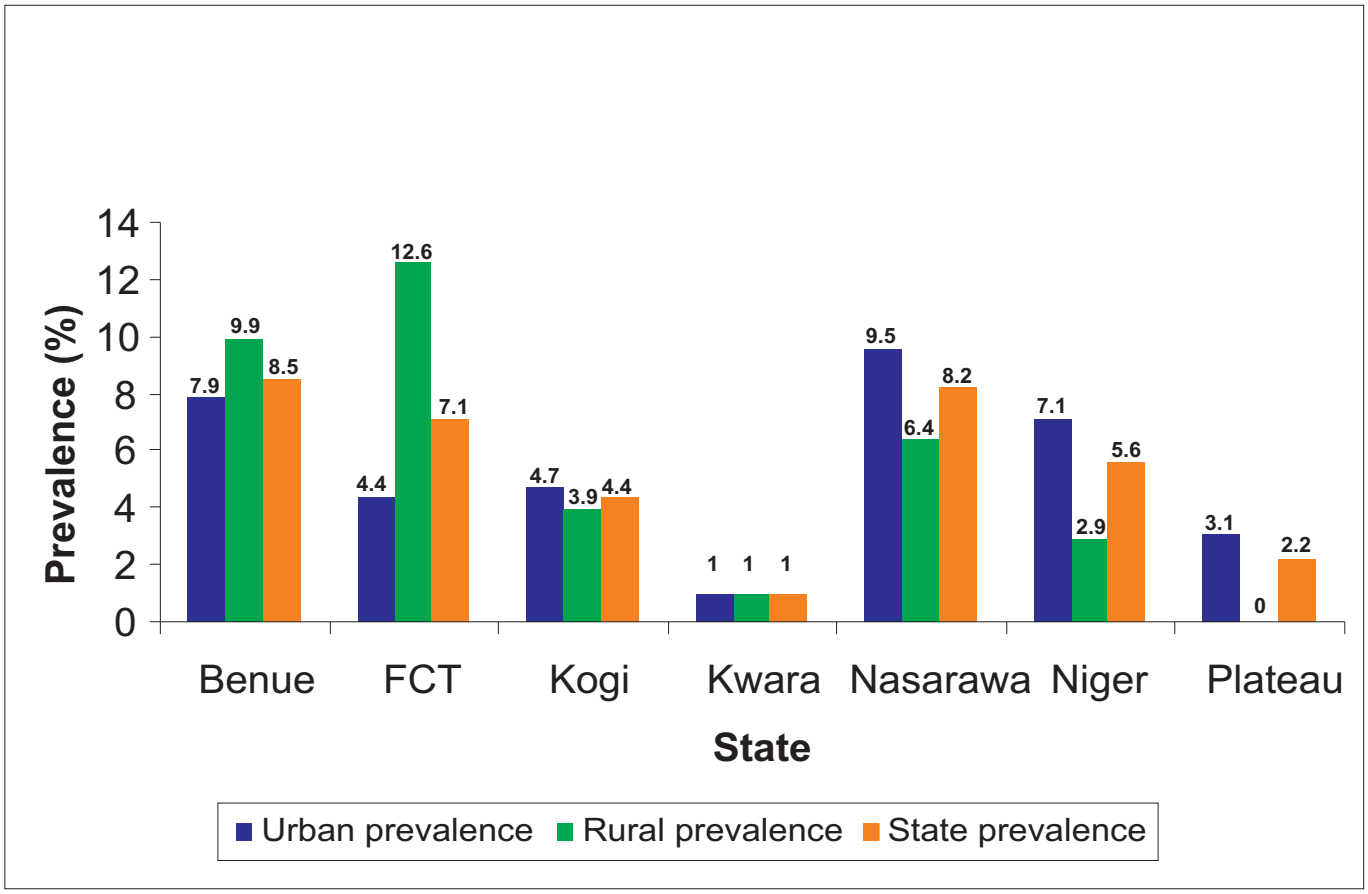
In terms of urban and rural distribution, the highest State urban prevalence was recorded in Ebonyi State (15.0%) and the least (0.0%) in Ekiti State; Akwa-Ibom State had the highest State rural prevalence of (13.8%) while Plateau and Osun States each had the least (0.0%) (Figures 13, 15, 16).

Figure 12: HIV Prevalence among Women Aged 15-24 Years by Location, North East Zone (HSS 2008)



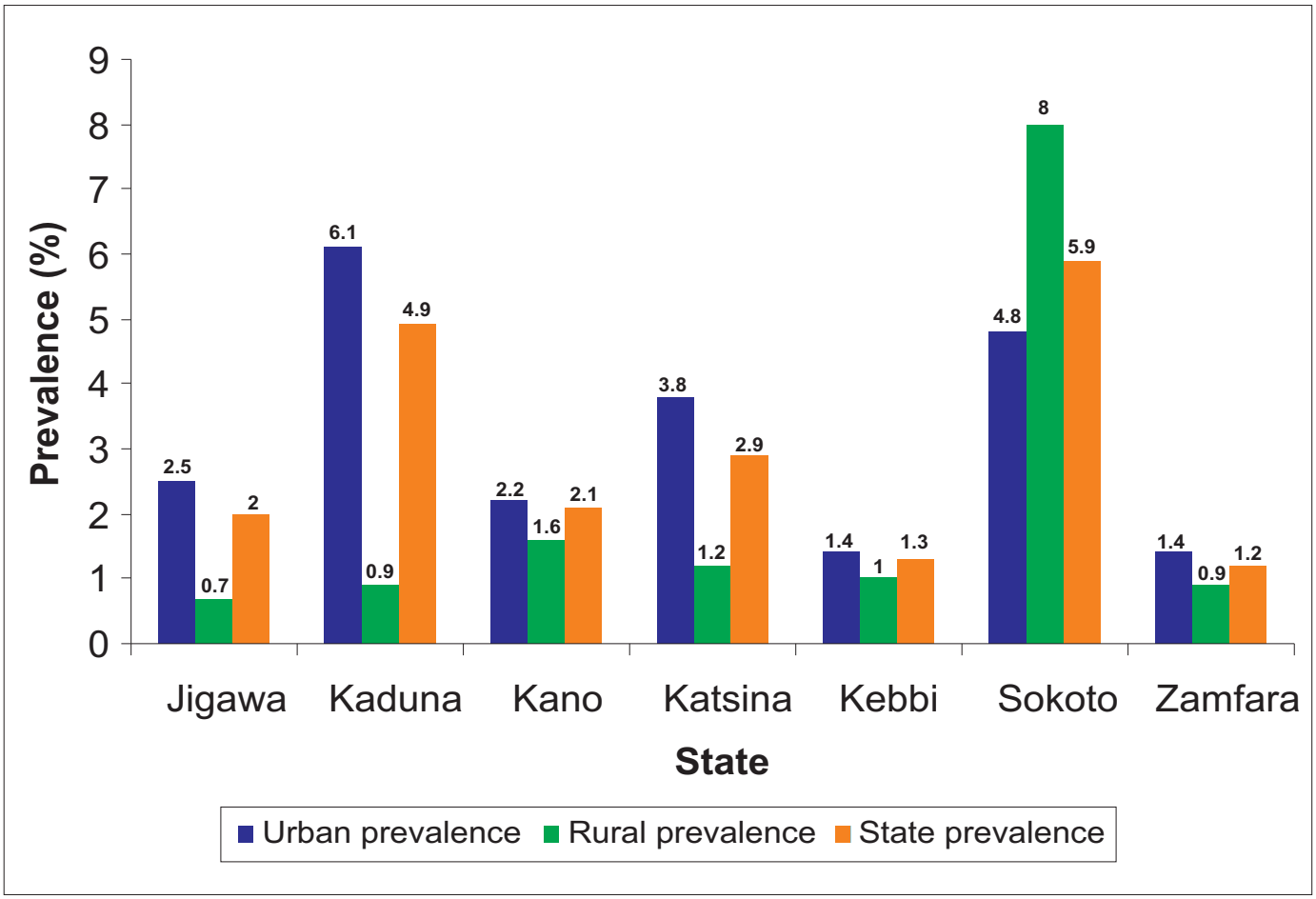
The HIV prevalence in the zone was generally higher in the urban areas than the rural in all the States except Borno State where the rural prevalence was almost three times the urban prevalence. The urban and rural prevalences were almost the same in Taraba State (Figure 12).

Figure 13: HIV Prevalence among Women Aged 15-24 Years by Location, North Central Zone (HSS 2008)



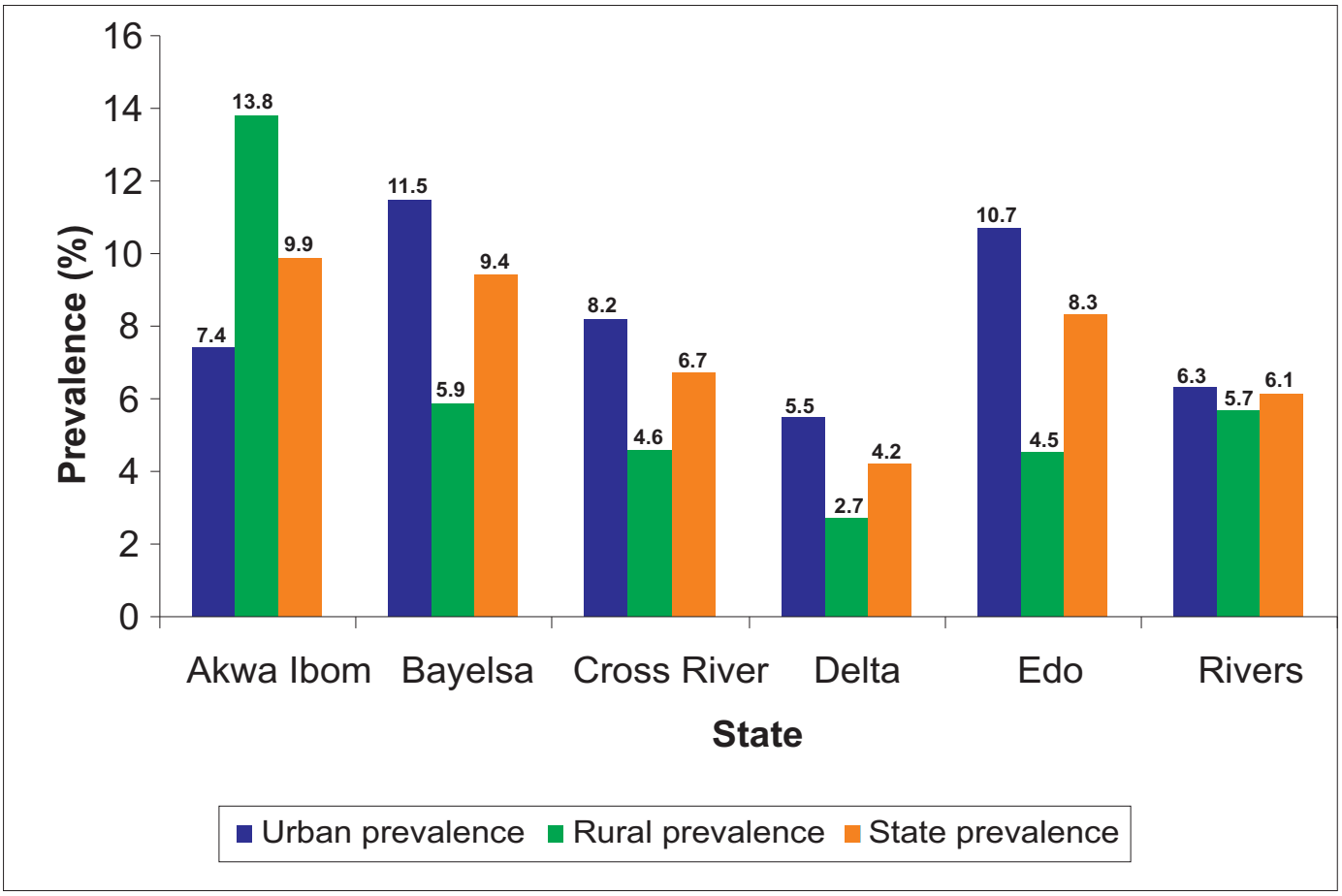
The HIV prevalence among 15 - 24 years in the NC zone is depicted in Figure 13. The urban HIV prevalence was generally higher than rural in all the States except Benue and FCT. The rural prevalence in FCT was about three times higher than the urban prevalence.

Figure 14: HIV Prevalence among Women Aged 15-24 Years by Location, North West Zone (HSS 2008)



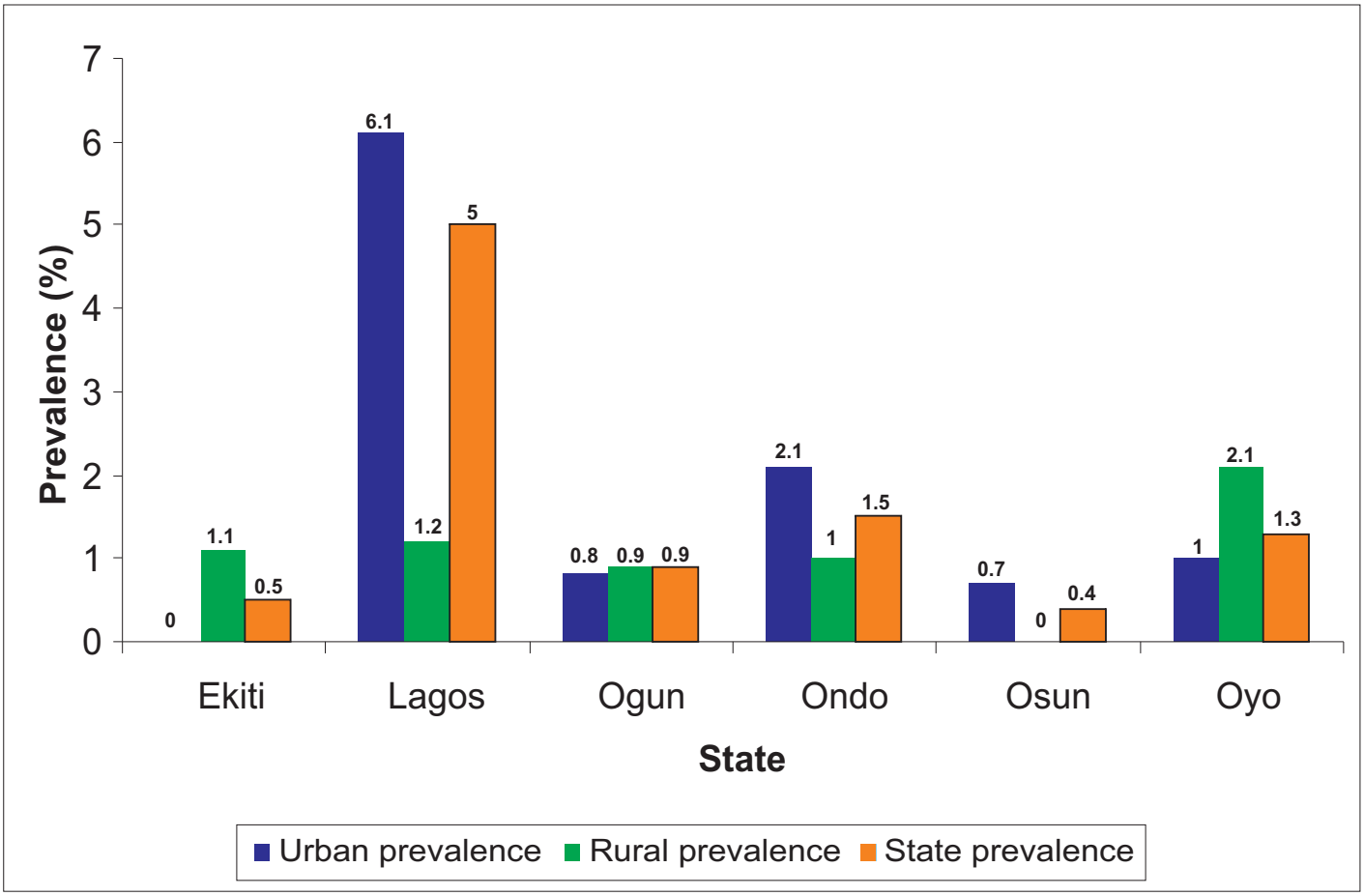
The HIV prevalence in the urban areas was higher than the rural areas in all the States in the NW zone except Sokoto State (Figure 14).

Figure 15: HIV Prevalence among Women Aged 15-24 Years by Location, South South Zone (HSS 2008)



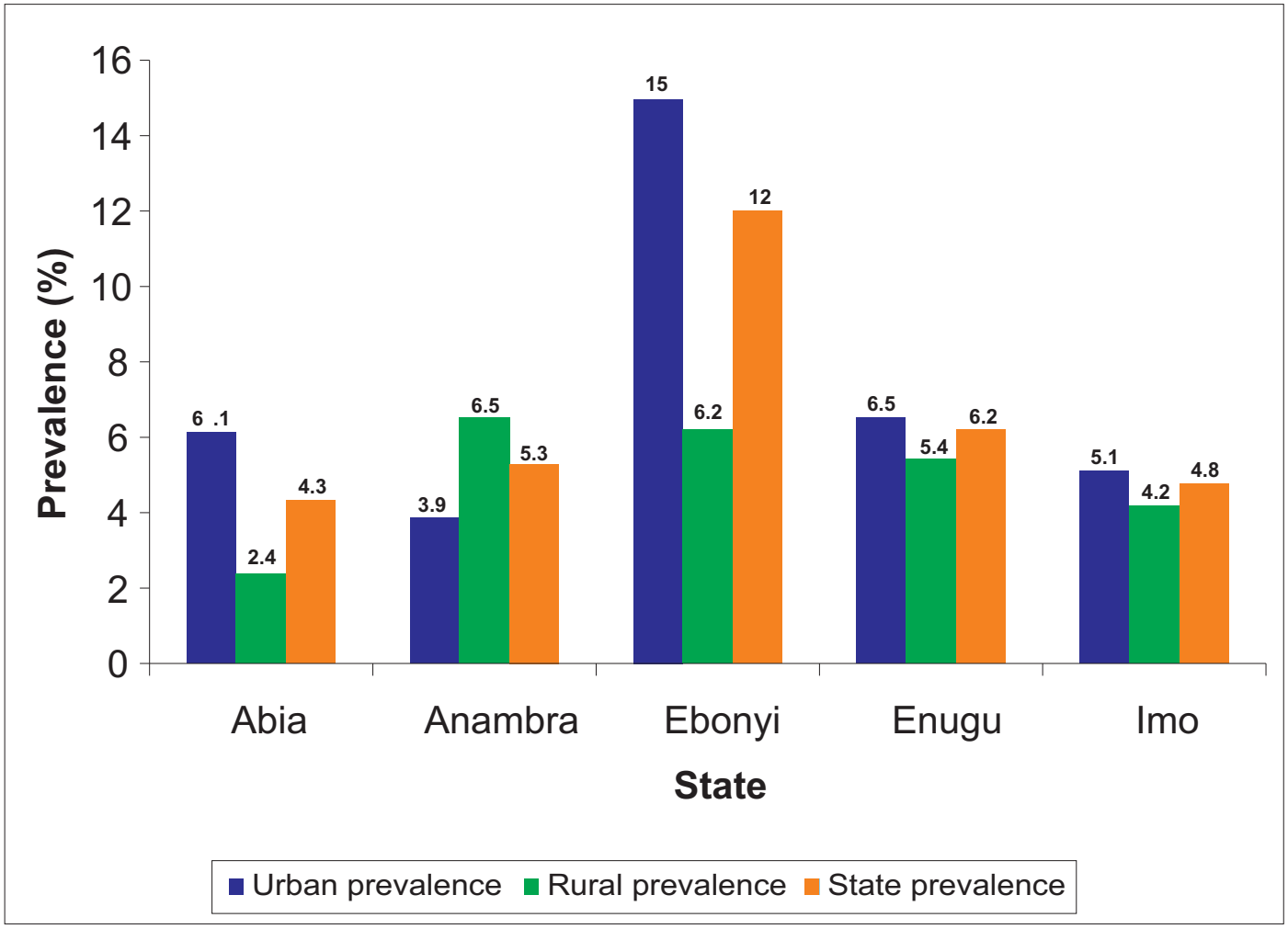
In the South South zone, the urban HIV prevalence was generally higher than the rural in all the States except Akwa Ibom State. The rural prevalence in Akwa-Ibom (13.8%) almost doubled the urban (7.4%) (Figure 15).

Figure 16: HIV Prevalence among Women Aged 15-24 Years by Location, South West Zone (HSS 2008)



In the South West zone, the HIV prevalence was higher in the urban than the rural areas in Lagos, Ondo and Osun States whereas in Ekiti, Ogun and Oyo States, the HIV prevalence was higher in the rural areas than the urban (Figure 16).

Figure 17: HIV Prevalence among Women Aged 15-24 Years by Location, South East Zone (HSS 2008)



In the South East zone, the urban HIV prevalence was generally higher than the rural except in Anambra State (Figure 17).

4.4 Trend Analysis

Analysis was done to show the national HIV trend over the years; trend analysis of HIV prevalence by sites and States was also carried out. The trends showed defined consistent patterns. Similar analysis was done for data among the youths aged 15-24 years from 2001 to 2008.

Figure 18: National HIV Prevalence Trend 1991 - 2008 (HSS 2008)

Figure 18 shows the trend of HIV prevalence in Nigeria from 1991 to 2008 as reported in the HIV sentinel sero-surveillance cycles. There was a steady increase in prevalence from 1.8% in 1991 to 5.8% in 2001 before a decline to 4.4% in 2005. The result for 2008 showed a slight increase to 4.6%.

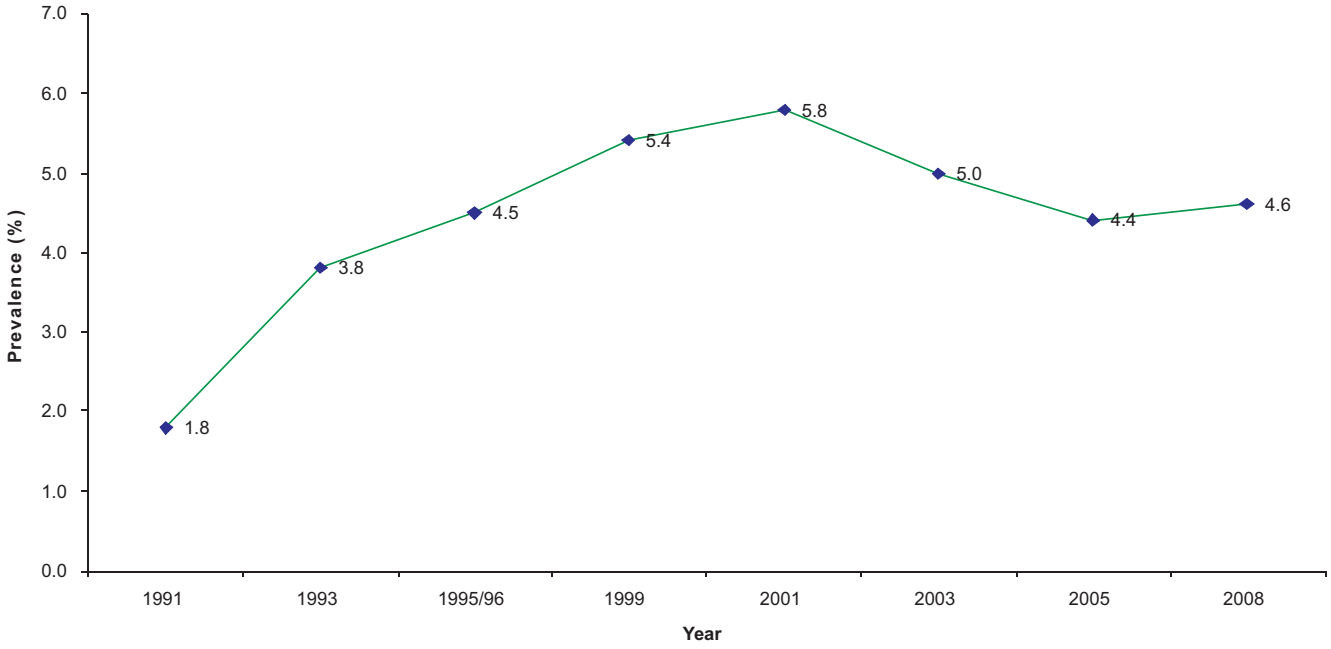


Figure 19 shows that the HIV prevalence among women aged 15 - 24 years declined steadily from 6.0% in 2001 to 4.2% in 2008

Figure 19: National HIV Prevalence Trend Among Women Aged 15 - 24 Years from 2001- 2008

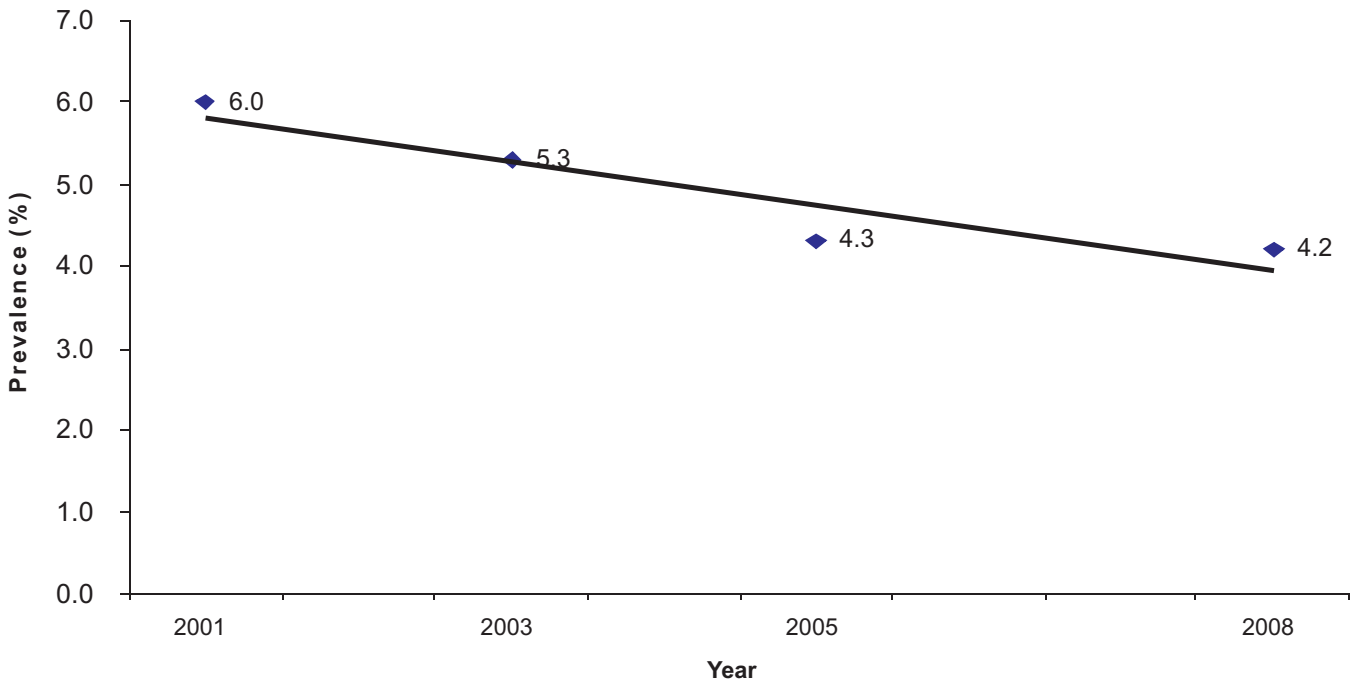
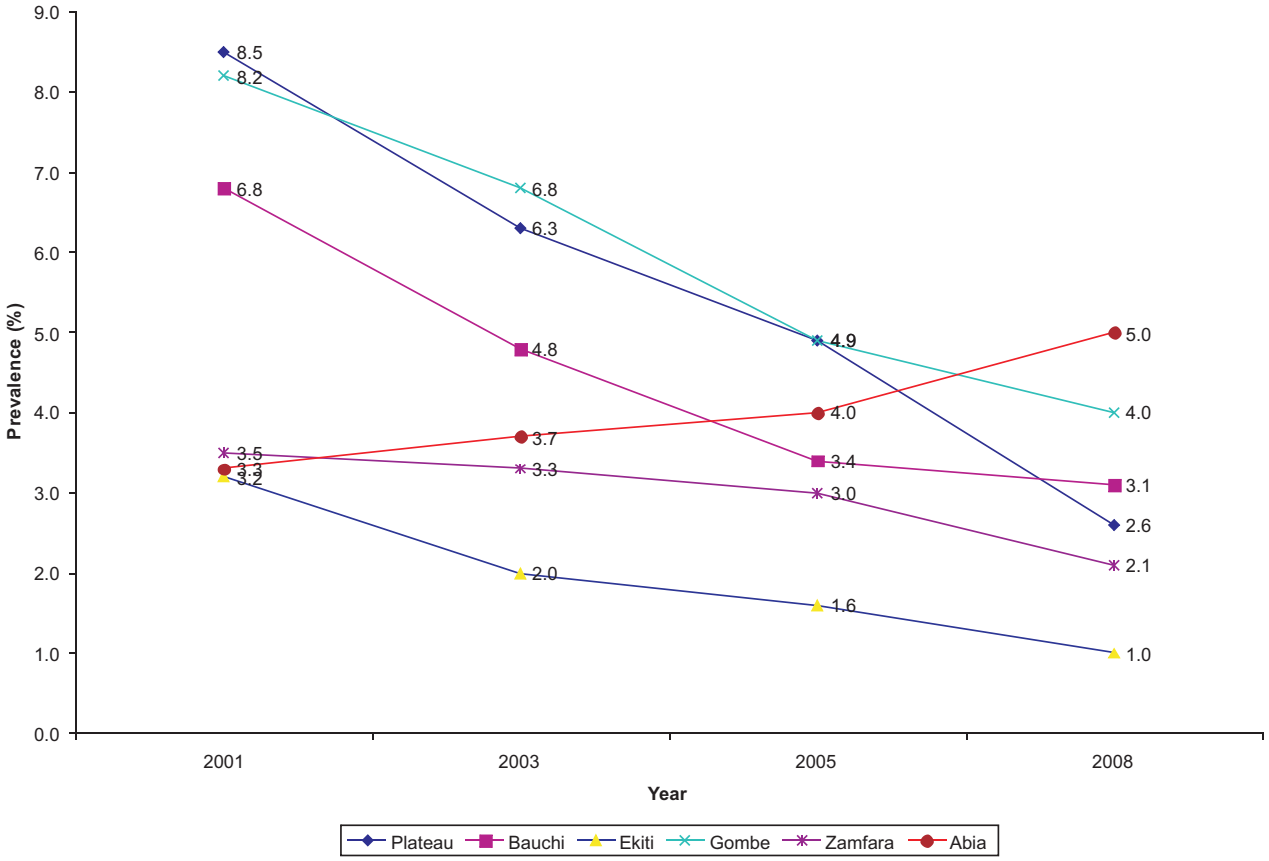


Table XI: HIV Prevalence Trends by States from 1991 to 2008 (HSS 2008)

State	1991/92	1993/94	1995/96	1999	2001	2003	2005	2008
Adamawa	0.3	1.3	5.3	5.0	4.5	7.6	4.2	6.8
Anambra	0.4	2.4	5.3	6.0	6.5	3.8	4.2	5.6
Benue	1.6	4.7	2.3	16.8	13.5	9.3	10.0	10.6
Borno	4.4	6.4	1.0	4.5	4.5	3.2	3.6	2.0
Cross River	0.0	4.1	1.4	5.8	8.0	12.0	6.1	8.0
Delta	0.8	5.1	2.3	4.2	5.8	5.0	3.7	3.7
Edo	0.0	1.8	3.0	5.9	5.7	4.3	4.6	5.2
Enugu	1.3	3.7	10.2	4.7	5.2	4.9	6.5	5.8
Kaduna	0.9	4.6	7.5	11.6	5.6	6.0	5.6	7.0
Kano	0.0	0.4	2.5	4.3	3.8	4.1	3.4	2.2
Kwara	0.4	2.4	1.7	3.2	4.3	2.7	2.8	1.8
Lagos	1.9	6.8	---	6.7	3.5	4.7	3.3	5.1
Osun	0.0	1.4	1.6	3.7	4.3	1.2	2.0	1.2
Oyo	0.1	0.2	0.4	3.5	4.2	3.9	1.8	2.2
Plateau	6.2	8.2	11.0	6.1	8.5	6.3	4.9	2.6
Sokoto	1.8	1.6	---	2.7	2.8	4.5	3.2	6.0
Abia	ND	ND	ND	3.0	3.3	3.7	4.0	5.0
Akwa Ibom	ND	ND	ND	12.5	10.7	7.2	8.0	9.7
Bauchi	ND	ND	ND	3.0	6.8	4.8	3.4	3.1
Bayelsa	ND	ND	ND	4.3	7.2	4.0	3.8	7.2
Ebonyi	ND	ND	ND	9.3	6.2	4.5	4.5	2.8
Ekiti	ND	ND	ND	2.2	3.2	2.0	1.6	1.0
Gombe	ND	ND	ND	4.7	8.2	6.8	4.9	4.0
Imo	ND	ND	ND	7.8	4.3	3.1	3.9	4.6
Jigawa	ND	ND	1.7	1.7	1.8	2.0	1.8	1.6
Katsina	ND	ND	ND	2.3	3.5	2.8	2.7	2.6
Kebbi	ND	ND	ND	3.7	4.0	2.5	4.0	2.9
Kogi	ND	ND	2.3	5.2	5.7	5.7	5.5	5.1
Nasarawa	ND	ND	ND	10.8	8.1	6.5	6.7	10.0
Niger	ND	ND	ND	6.7	4.5	7.0	5.3	6.2
Ogun	ND	ND	0.1	2.5	3.5	1.5	3.6	1.7
Ondo	ND	ND	ND	2.9	6.7	2.3	3.2	2.4
Rivers	ND	ND	1.0	3.3	7.7	6.6	5.4	7.3
Taraba	ND	ND	6.0	5.5	6.2	6.0	6.1	5.2
Yobe	ND	ND	ND	1.9	3.5	3.8	3.7	2.7
Zamfara	ND	ND	ND	2.7	3.5	3.3	3.0	2.1
FCT	ND	ND	ND	7.2	10.2	8.4	6.3	9.9

ND: Not Done

Figure 20: HIV Prevalence Trends in States that showed a defined consistent pattern from 2001 - 2008



The trends showed that there was a definite pattern of decline in HIV prevalence in five States (Plateau, Bauchi, Ekiti, Gombe and Zamfara) between 2001 and 2008. In Abia State, the prevalence has been on a steady increase from 3.3% in 2001 to 5.0% in 2008 (Table XI and Figure 20).

Table XII: HIV prevalence trends in sites participating in the survey from 2001 to 2008

		2001	2003	2005	2008
STATE	**SITE**	Prevalence (%)	Prevalence (%)	Prevalence (%)	Prevalence (%)
ABIA	UMUAHIA	2.7	4.7	2.0	5.8
	ABA	4.0	2.7	2.3	6.0
ANAMBRA	AWKA	6.7	4.3	5.0	-
	ONITSHA	6.0	4.0	4.0	-
	EKWULOBIA	6.8	2.9	3.7	5.9
EBONYI	ABAKALIKI	6.7	4.6	5.3	2.7
	AFIKPO	5.7	4.3	5.0	2.0
ENUGU	ENUGU PARKLANE	4.7	2.0	3.0	3.3
	ACHI	13.6	11.9	12.7	10.3
IMO	OWERRI	4.0	2.0	4.0	5.0
EKITI	ADO EKITI	2.3	1.7	2.3	1.7
	IKOLE EKITI	4.0	2.3	1.0	1.0
LAGOS	IKEJA	1.3	7.7	1.3	4.0
	LAGOS ISLAND	2.0	1.7	9.3	9.0
	SURULERE	3.1	2.7	3.6	1.7
	BADAGRY	5.6	6.3	1.9	6.8
	EPE	6.9	4.2	2.4	5.8
OGUN	ABEOKUTA	2.9	0.7	0.7	2.0
	IJEBU - ODE	4.0	2.3	4.0	1.0
ONDO	AKURE	6.3	2.0	4.3	1.7
	ONDO	7.0	2.3	3.3	4.0
OSUN	OSOGBO	3.0	0.7	1.3	0.7
	ILESA	5.7	1.7	3.7	2.0
OYO	IBADAN	3.3	1.7	1.0	0.3
	SAKI	4.7	6.4	3.3	2.7
	OGBOMOSHO	4.7	3.7	1.3	3.3
JIGAWA	DUTSE	2.3	2.3	2.0	2.7
	HADEJIA	1.3	1.7	2.3	1.7
KADUNA	KADUNA	4.0	6.0	7.0	2.3
	ZARIA	3.3	2.1	1.0	3.4
	KAFANCHAN	9.3	9.7	7.0	17.7
KANO	KANO MMSH	3.7	5.7	2.7	2.7
	KANO AKTH	3.3	4.3	4.3	4.7
	RANO	4.3	2.3	3.7	0.3
KATSINA	KATSINA	3.7	3.4	3.3	2.3
	FUNTUA	3.3	2.3	2.7	4.0
KEBBI	BIRNIN KEBBI	3.3	2.3		
	ARGUNGU	4.7	2.7	3.3	2.4
SOKOTO	SOKOTO	3.0	7.7	2.7	2.1
	DOGON DAJI	2.7	1.3	3.3	5.7
ZAMFARA	GUSAU	5.0	3.0	5.0	2.3
	TALATA – MARAFA	2.0	3.7	2.7	3.0
ADAMAWA	YOLA	5.7	7.4	6.7	10.0
	MUBI	3.3	7.7	2.3	5.3

Table XII: HIV prevalence trends in sites consistently participating in the survey from 2001 to 2008 cont'd

		2001	2003	2005	2008
State	Site	Prevalence (%)	Prevalence (%)	Prevalence (%)	Prevalence (%)
BAUCHI	BAUCHI	6.7	4.0	5.7	4.0
	AZARE	6.9	5.7	3.3	4.4
BORNO	MAIDUGURI	4.3	3.7	3.7	1.0
	BIU	4.7	2.7	2.3	1.3
GOMBE	GOMBE	4.0	7.3	6.3	4.0
	KALTUNGO	12.3	6.3	6.0	6.7
TARABA	JALINGO	6.7	6.3	5.7	7.1
	ZING	5.7	5.8	7.3	4.7
YOBE	DAMATURU	5.0	4.3	3.0	3.3
	GEIDAM	1.0	6.6	4.7	3.0
BENUE	MAKURDI	14.4	9.7	13.0	8.4
	OTUKPO	11.0	7.7	9.0	7.8
	IHUGH	15.0	10.7	11.4	16.2
FCT	GARKI/WUSE	11.0	10.3	1.5	11.0
	GWAGWALADA	5.3	5.8	11.7	8.8
	NYANYA	14.3	9.2	6.7	4.7
KOGI	LOKOJA	3.7	7.0	4.3	5.7
	ANKPA	7.7	4.4	5.7	5.0
KWARA	ILORIN	3.7	3.0	2.3	1.3
	OFFA	5.2	2.3	3.0	2.3
NASARAWA	LAFIA	10.7	8.9	9.2	19.5
	N/EGGON	5.3	3.7	4.3	3.7
NIGER	MINNA	5.7	6.4	6.7	7.7
	WUSHISHI	3.3	7.7	6.7	6.7
PLATEAU	JOS	11.3	7.7	5.0	3.3
	SHENDAM	5.7	5.0	7.7	3.4
AKWA IBOM	UYO	13.0	6.4	5.7	9.1
	ESSIEN-UDIM/URUA AKPAN	8.3	8.0	9.0	5.8
BAYELSA	YENOGOA	7.5	5.0	4.0	7.1
	SAGBAMA	6.7	3.0	3.3	8.9
CROSS RIVER	CALABAR	8.3	12.7	6.3	10.0
	IKOM	7.7	11.3	7.0	8.8
DELTA	WARRI	2.3	4.0	5.0	2.7
	AGBOR	9.3	6.0	4.0	4.7
EDO	BENIN CITY	4.3	4.0	5.7	5.4
	EKPOMA	7.0	4.7	5.0	6.7
RIVERS	PORT HARCOURT	7.0	3.7	5.1	7.0
	BONNY	8.2	8.3	6.0	8.4
	BORI	7.9	7.7	5.7	8.3
	Median	**5.2**	**4.3**	**4.0**	**4.2**
	Range	**1.0 - 15**	**2.3 – 12.7**	**2.3 – 13.0**	**0.3 – 19.5**

4.5 HIV estimates and projections (Table XIII)

The estimates and projections using Estimation and Projection (EPP) and the Spectrum Group of Models showed that the national HIV prevalence in the adult population is 3.46%. This is in keeping with previous ANC surveys which showed a stabilizing epidemic. The prevalence of 3.46% should however be considered as occurring in a rapidly growing population where a significant level of anti-retroviral therapy and some Prevention of Mother to Child Transmission services are being provided. The number of persons living with HIV (PLWHA) in Nigeria by the end of 2008 is estimated to be 2.87 million.

About 330,000 new infections occurred in 2008. At the same time, it is estimated that the number of persons requiring ART has significantly risen to about 812,001; this is partly due to the increased survival rate of PLWHA and the growing population. These figures are expected to rise in the future due to the same reasons.

Table XIII: HIV Estimates and Projections

HIV Estimates and Projections	2008	2009	2010
HIV population			
Number of People living with HIV/AIDS	2.87 million	2.98 million	3.11 million
HIV Prevalence (15-49 years)	3.46%	3.51%	3.57%
New HIV infections in a year			
Total	329,984	336,379	339,016
Males	146,137	149,095	150,351
Females	183,847	187,284	188,665
ART Programme			
Total requiring ART (adults > 15 yrs)	711,696	754,375	807,166
Total requiring ART (children < 15yrs)	100,305	103,080	103,684
All requiring ART	812,001	857,455	910,850
Annual AIDS Death			
Total AIDS Deaths in a year	198,198	192,000	181,774
Males	88,742	86,178	81,728
Females	109,456	105,822	100,046
Children (< 15yrs) orphaned due to AIDS			
Number of children orphaned due to AIDS	2,120,032	2,175,760	2,196,838
HIV positive pregnant women			
Number of HIV positive pregnant women	234,929	239,433	243,730

4.6 Comparisons of HIV Prevalence between general ANC attendees and PMTCT acceptors.

Figure 21 and Table XIV show the HIV prevalences in ANC sites offering PMTCT services compared with those from PMTCT programme at the same sites during the 2008 ANC sentinel survey. Not all the ANC sites from the 36 States and FCT had PMTCT programmes. The ANC sites with PMTCT services whose data from PMTCT programme were not appropriately collected/not collected were disregarded. Also, emphasis was not paid on having equal number of ANC sites (with PMTCT) per the State presented but rather on any ANC site (with PMTCT) with completed and accurate PMTCT programme data.

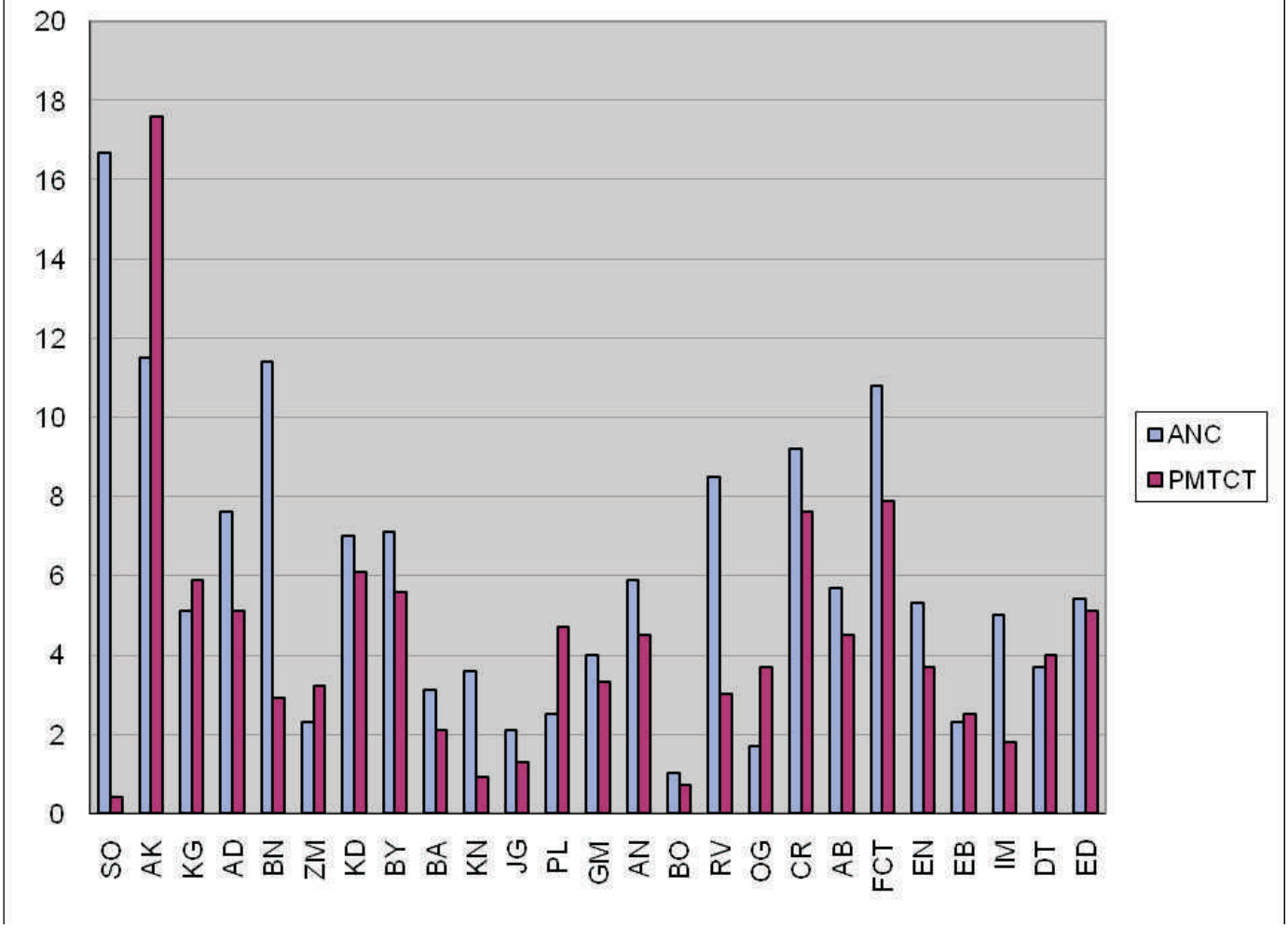
The survey showed an overall HIV prevalence of 6.0%% from the sampled ANC sites with PMTCT programme compared with 4.8% from the PMTCT programme data from the same sites. However, in 64% of the ANC sites offering PMTCT, there were no significant differences in HIV prevalence among the general ANC attendees and those who accepted PMTCT Services.

Table XIV: Comparisons of HIV Prevalence between ANC and PMTCT Programme

	ANC sites			PMTCT programme			
STATE	No. tested	No Pos	Prevalence	No. tested	No. Pos	Prevalence	P-value
Sokoto	149	25	16.8	224	1	0.4	0*
Akwa-Ibom	598	69	11.5	1707	302	17.7	0.002*
Kogi	896	46	5.1	1069	64	6.0	0.438
Adamawa	600	46	7.7	620	32	5.2	0.094
Benue	1052	120	11.4	308	9	2.9	0*
Zamfara	300	7	2.3	683	22	3.2	0.461
Kaduna	1195	84	7.0	1185	72	6.1	0.379
Bayelsa	907	65	7.2	854	48	5.6	0.215
Bauchi	891	28	3.1	2148	46	2.1	0.112
Kano	600	22	3.7	3087	27	0.9	0*
Jigawa	599	13	2.2	2099	27	1.3	0.121
Plateau	892	23	2.6	688	32	4.7	0.032*
Gombe	898	36	4.0	837	28	3.3	0.48
Anambra	271	16	5.9	220	10	4.5	0.526
Borno	300	3	1.0	300	2	0.7	0.656
Rivers	590	50	8.5	600	18	3.0	0*
Ogun	751	13	1.7	1248	46	3.7	0.015*
Cross River	743	68	9.2	923	70	7.6	0.288
Abia	299	17	5.7	311	14	4.5	0.527
FCT	1097	118	10.8	2403	189	7.9	0.011*
Enugu	449	24	5.3	465	17	3.7	0.238
Ebonyi	599	14	2.3	984	25	2.5	0.805
Imo	300	15	5.0	320	6	1.9	0.038*
Delta	599	22	3.7	600	24	4.0	0.777
Edo	299	16	5.4	1088	56	5.1	0.894
Total	**15874**	**960**	**6.0**	**24971**	**1187**	**4.8**	

***Significant difference between the general ANC prevalence and PMTCT acceptors at same site.**

Figure 21:Comparison of HIV prevalence among PMTCT acceptors and general ANC attendees during 2008 ANC sentinel survey by state



CHAPTER FIVE

5.0 DISCUSSION, CONCLUSION AND RECOMMENDATION

5.1 Discussion

The HIV/AIDS pandemic constitutes one of the greatest health and developmental challenges of our time. The result of the 2008 HIV sentinel surveillance using pregnant women attending antenatal clinics has further confirmed the magnitude of the problem in Nigeria. The epidemic has affected all the geopolitical zones, states and locations of the country with wide disparities.

The National HIV prevalence among women attending antenatal clinics in Nigeria in 2008 was found to be 4.6%. The prevalence ranged from 1.0% in Ekiti to 10.6% in Benue State. All the States of the Federation and FCT were affected by the epidemic with none recording less than 1.0% prevalence. Seventeen (17) States and FCT had prevalence of 5.0% and above implying that, at least one out of every 20 pregnant women in these States and FCT were living with the virus. The situation was even more worrisome in seven (7) of these States and FCT where the prevalence was 7.0% and above; four (4) of which were from the South South geo-political zone while two (2) and FCT were from the North Central and one (1) from the North West zone. The epidemic situation in these states may probably be explained by the social economic status of the people, the oil exploration and cultural practices in the areas.

The survey has further confirmed higher urban prevalence than rural in most States. However, in nine (9) States, the rural prevalence was higher than the urban. The rural prevalence almost tripled that of the urban in Sokoto and Borno States while it almost doubled in Akwa-Ibom and Kebbi States and FCT. In Delta State, however, the State rural prevalence equaled the urban prevalence.It is envisaged that balanced intervention strategies in both urban and rural locations in the country would narrow the gap.

In 23 of the 158 urban and rural sites used in this survey, the prevalence was almost twice that of the national figure (4.6%). Bwari in FCT had the highest site prevalence of 22.0% while the least site prevalence (0.0%) was recorded in Igbara Odo (Ekiti State), Ganawuri (Plateau State), Taura (Jigawa State) and Tudun Wada (Kano State). In six sentinel sites (Lafia, Kafanchan, Ihugh, Wannune, Bwari and Tanbuwa), prevalence was greater than 15.0%. There is a need for more focused research in order to identify the factors which might be responsible for the high prevalences as the results may help to guide appropriate interventions.

In terms of the HIV distribution by age, this survey revealed that women aged 25-29 years (with prevalence of 5.6%) were mostly affected; this age group was followed by 30-34 years age group with 4.9% and 20-24 years age group with 4.6%. The HIV prevalence of 4.2% among women aged 15-24 years was relatively low. This is the normal distribution pattern usually reported in generalized epidemics.

Concerning the marital status of the study population, a higher prevalence among singles than married was observed. This finding compared favourably with other results from Nigeria (NARHS 2007) and other parts of the world. In terms of the level of education, prevalence was high among those with primary and secondary education and least among those with only Qur'anic education . This pattern was also observed in 2005. Definite interventions should be designed to target people with primary and secondary level education especially using mass media messages that they will be responsive to. The extent of adoption and implementation of HIV and AIDS education curricula should be assessed and strengthened in order to reduce the prevalence among the population who are within the school system.

The National prevalence trend was observed to have steadily increased from 1.8% in 1991 through 4.5% in 1995/96 to a peak at 5.8% in 2001 before declining to 4.4% in 2005. From 2005 to 2008 however, the prevalence appeared to have slightly increased to 4.6%. Examining the trend from 2001 to 2008 among women aged 15-24years (which is considered as an index of new infections), the prevalence among this group steadily decreased from 6.0% in 2001 to 4.2% in 2008. These two trends could probably be due to improvement in survival rate among PLWHAs and the positive effects of the interventions among the youths. The increased access to ART from the scale-up programmes could be a major contributor to the improved survival rate.

The HIV and AIDS epidemic has been recognized to affect every facet of life and every sector of the economy and social well being of the community and individuals. At the current level of prevalence of 4.6%, the country will be having a total of 2.87 million PLWHA by the end of 2008. The total number of PLWHA requiring ARV treatment at the current level of prevalence is estimated at 812,001 (adult: 711,696, children under 15 years: 100,305). This poses an enormous strain on the country's health care resources. Presently, only about 231,079 people are accessing ART which translates into a gap of about 580,922

The estimated total annual AIDS deaths of 198,198 people and 2.12 million children orphaned by the disease are already exerting excessive burden on the families and communities who may eventually give up such responsibilities. Consequently, these orphans may not achieve their full potentials and therefore become delinquent.

5.2 Conclusion

The 2008 ANC Sentinel survey has produced a new prevalence rate of 4.6%; this is an increase from the 4.4% obtained from the 2005 survey, indicating that HIV epidemic has remained a major public health problem throughout Nigeria. The National prevalence trend did not maintain the earlier drops observed and the social impacts as indicated by the estimates and projections are serious. The prevalence figures from PMTCT services compared well (i.e. no significant difference) with ANC in 64% of the sites that offered both services. While this result is encouraging, the level of conformity is not sufficient enough. Thus, the PMTCT programme data cannot be a good substitute for the ANC survey at this stage.

In overall, there is therefore an imperative need for the sustained strengthening and expansion of the national response by all stakeholders.

5.3 Recommendations:

1. The national response to the HIV and AIDS epidemic must be strengthened and expanded to ensure a balance of interventions between urban and rural areas, as well as in intervention strategies Prevention, Care and impact mitigation. Special attention must be paid to those areas with consistent rise in trend.
2. Definite intervention should be designed to target people with primary and secondary level education especially using mass media messages that they will be responsive to.
3. The extent of adoption and implementation of HIV/AIDS education curricula should be assessed and strengthened in order to reduce the prevalence among the population who are within the school system.
4. Emphasis should continue to focus on the youth to ensure a sustained downward trend in new infections.
5. There should be increased efforts to expand quality comprehensive HIV and AIDS prevention, treatment, care and support services.
6. In view of the large number of AIDS orphans with its attendant burden, comprehensive care and support programmes should be packaged and adequately delivered on a sustainable basis.
7. Focused research in sites/states with consistently low and high prevalences would facilitate

the identification of possible factors which might require appropriate intervention strategies.

8. State-level analysis and utilization of ANC data should be encouraged. This will also expose important variations, as observed or yet to be observed by the surveys.
9. A continous improvement in coverage and quality of services of PMTCT at the ANC sites as well as continous comparison of data from the two programmes is higly recommended.
10 A technical review of all the available national survey reports on HIV and AIDS with a view to producing a holistic strategic information document for a better focused national response to the epidemic should be undertaken as a matter of urgency.
11. NASCP should be strengthened financially in order to play a substantial role and take on more responsibilities than ever in the conduct of subsequent surveys; this is desirable in order to minimize the problems which were encountered during the last survey as well as ensuring regular biennial conduct of the survey. Furthermore, the capacity of the health system should be strengthened in the design and implementation.

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APPENDIX I: PERSONAL DATA FORM

STATE:..... SITE (URBAN/RURAL) .....

LGA:.....

HOSPITAL:.....

DATE:.....

ID (use preprinted label	Age in years	Marital status: single = 1 Married = 2 Divorced/ separated = 3 Widowed = 4	Level of education None = 1 Quaranic only = 2 Primary = 3 Secondary = 4 Above secondary = 5	Gravidity (total no of pregnancies including this one	Parity (total no births 28 wks and above)	Was the woman referred Yes = 1 No = 2	Reason for referred? PMTCT = 1 Others = 2 NA = 3	Was the woman offered HIV testing for PMTCT Yes = 1 No = 2	Did the woman accept HIV testing for PMTCT Yes = 3 No = 2 NA = 3	Other name

APPENDIX II: LABORATORY DATA FORM

STATE NAME:……..LGA……..SITE (URBAN/RURAL)…….

NAME OF HEALTH FACILITY: ……

Determine **Stat-Pak**

Non reactive specimens: NEG **Lot #: ……. Lot #:……**

Reactive specimens: POS **Exp. Date:…… Exp. Date:……..**

Date of Specimen Collective……

Survey ID (use pre-printed label)	HIV test result (Determine)	HIV test result (Stat – Pak)

HIV Tests performed by: …… (Name/Signature of Laboratorian)

Phone Number(s): ……

Date Tests were performed: ……

APPENDIX III : Site Supervision Checklist (I)

AT THE ANC CLINIC

State name: _____ Site name: _____ Urban site ( ) Rural site ( )

Supervisor's name: _____ Date: _____ ANC booking day? Yes ( ) N0 ( )

(FOR ANY NEGATIVE ANSWER, PLEASE DESCRIBE CORRECTIVE ACTIONS TAKEN DURING SUPERVISION)

Recruitment (Please count since the beginning of surveillance activities)

No. eligible pregnant women visiting ANC: ___

No. pregnant women recruited: _____

No. pregnant women tested for RPR: _____

No. women recruited on last ANC day: _____

Recruitment consecutive: Yes ( ) No ( ) (Explain)

ANC Doctor in charge present: Yes ( ) No ( ) (Explain)

ANC Nurse present: Yes ( ) No ( ) (Explain)

Laboratorian present: Yes ( ) No ( ) (Explain)

(Please, verify the authenticity of Personnel Presented during your visit)

Data collection form (number of pregnant women listed): ___

No. filled row without label: ___

Site Supervision Checklist (II)

EQUIPMENT /STORAGE AND SITES LABORATORY ACTIVITIES(PLEASE, VERIFY)

Are Vacutainers being used in Blood Collection? Yes ( ) No ( ). (Explain)

Are Blood specimens stored in the Tube Rack contained in the Cold box containing Ice Packs? Yes ( ) No ( ). (Explain)

Is the blood in the EDTA tubes transported to the lab in cold Box? Yes ( ) No ( ). Explain

Enough blood collected? Yes ( ) No ( ). (Explain) Indicate volume collected_____

Are PPEs being used? Yes ( ) No ( ) Explain

Cryovials containing plasma stored in fridge? Yes ( ) No ( ) (Explain)

Total number of plasma specimens collected at the time of visit: _____

Two Cryovials of 1ml Plasma collected per Client: Yes ( ) No ( ) (Explain)

Number of cryovials without label: _____

Unlink anonymous procedures for HIV sentinel survey specimen correct?( )Yes( )No (Explain)
Are Vacutainers being used in Blood Collection? Yes ( ) No ( ). (Explain)

TPHA test kits stored in fridge? Yes ( ) No ( ) (Explain)

RPR test kits stored in fridge? Yes ( ) No ( ) (Explain)

Is refrigerator cold (please check)? Yes ( ) No ( ) (Explain)

Site Supervision Checklist (III)

Syphilis test performed during supervisory visit? Yes ( ) No ( ) (Explain)

Is the Syphilis Testing Algorithm being followed? Yes ( ) No ( ) (Explain)

Is Job Aid/SOP being used during testing process? (Sighted?) Yes ( ) No ( ) Explain

Rotator used for syphilis (RPR) test? Yes ( ) No ( ) (Explain)

Enough test kits in stock? Yes ( ) No ( ) (Explain)

Enough consumables in stock? Yes ( ) No ( ) (Explain)

Are sharp containers being used? Yes ( ) No ( ) (Explain)

Is lab waste disposed appropriately? Yes ( ) No ( ) (Explain)

How often are specimens transported to the state lab? _____

Are specimens transported to the state lab in Cold box? Yes ( ) No ( )(Explain)

Is Syphilis quality control conducted weekly? Yes ( ) No ( ) (Explain)

Are Syphilis Controls conducted before actual Sample Testing? Yes ( ) No ( ). Explain
Are Test Results recorded directly into the Survey worksheet? Yes ( ) No ( ) Explain

Are Records kept safe and confidential? Yes ( ) No ( ) Explain

Are Freezer/Refrigerator Temperatures checked and recorded? Yes ( ) No ( ) Explain

Site Lab. staff name: _____ Signature/Date: _____

State Laboratory Supervision Checklist (I)

State name: _____ Name of Laboratory: _____

Supervisor's name: _____ Date: _____

State Survey Laboratory Scientist present: Yes ( ) No ( ) (Explain)

Assistant State Survey Laboratory Scientist present: Yes ( ) No ( ) (Explain)
(Please, verify the authenticity of Personnel Presented during your visit)

Cryovials containing plasma stored in fridge or freezer? Yes ( ) No ( ) (Explain)

Any Cryovial labeled QC for each Client's specimen and stored Frozen in the Freezer? Yes ( ) No ( ). Explain

Is there a corresponding Client's specimen in another cryovial stored in the fridge for testing at state level or stored in freezer after State level HIV testing on it?
Yes ( ) No ( ). Explain

Stat Pak HIV test kits stored in fridge? Yes ( ) No ( ) (Explain)

Determine HIV test kits stored in fridge? Yes ( ) No ( ) (Explain)

Is refrigerator/freezer cold (please check)? Yes ( ) No ( ) (Explain)

Enough consumables in stock? Yes ( ) No ( ) (Explain)

Enough test kits in stock? Yes ( ) No ( ) (Explain)

Is lab waste disposed appropriately? Yes ( ) No ( ) (Explain)

How often are specimens transported to the state lab? _____

State Laboratory Supervision Checklist (II)

Are specimens transported to the state lab in Cold box? Yes ( ) No ( ) (Explain)

Is the HIV Testing Algorithm being followed? Yes ( ) No ( ) (Explain)

Determine HIV rapid test performed during supervisory visit? Yes ( ) No ( ) (Explain)

Stat Pak HIV rapid test performed during supervisory visit? Yes ( ) No ( ) (Explain)

Is HIV quality control conducted weekly? Yes ( ) No ( ) (Explain)

Are HIV Controls conducted before actual Sample Testing? Yes ( ) No ( ). Explain

Are Test Results recorded directly into the Survey worksheet? Yes ( ) No ( ) Explain

Are PPEs being used? Yes ( ) No ( ) Explain

Is Job Aid being used during testing process? (Sighted?) Yes ( ) No ( ) Explain

Are Records kept safe and confidential? Yes ( ) No ( ) Explain

Are Freezer/Refrigerator Temperatures checked and recorded? Yes ( ) No ( ) Explain

State laboratory staff' name_____ Signature_____

APPENDIX IV: ANC 2008 SURVEY DEGREE OF CONCORDANCE BETWEEN STATE RESULTS AND QUALITY CONTROL TESTING

S/N	STATE	TOTAL SAMPLE	NO OF DISCORDANT	PERCENTAGE (%)
1.	Abia	141	0	100.0
2.	Adamawa	144	10	93.1
3.	Akwa Ibom	165	12	92.1
4.	Anambra	264	8	97.0
5.	Bauchi	122	1	99.2
6.	Benue	270	3	98.9
7.	Borno	116	1	99.3
8.	Bayelsa	159	0	100.0
9.	Cross River	171	2	98.8
10	Delta	126	1	99.2
11.	Ebonyi	128	0	100.0
12.	Edo	153	0	100.0
13.	Ekiti	107	0	100.0
14.	Enugu	194	0	100.0
15.	Zamfara	126	1	99.2
16.	FCT	236	9	96.2
17.	Gombe	136	2	98.5
18.	Imo	141	0	100.0
19.	Jigawa	105	2	98.1
20.	Kebbi	109	5	95.3
21.	Kwara	119	1	99.2
22.	Lagos	275	3	98.9
23.	Niger	145	0	100.0
24.	Nassarawa	183	6	96.8
25.	Ondo	123	0	100.0
26.	Ogun	118	0	100.0
27.	Osun	114	0	100.0
28.	Oyo	158	0	100.0
29.	Plateau	117	3	97.4
30.	Rivers	218	1	99.5
31.	Taraba	147	6	95.9
32.	Yobe	150	1	99.3
33.	Kaduna	211	1	99.5
34.	Kogi	141	2	98.6
35.	Kano	141	2	98.6
36.	Katsina	113	2	98.2
37.	Sokoto	146	1	99.3
	TOTAL	**5,732**	**86**	**98.5**

APPENDIX V: LIST OF SENTINEL SITES

SOUTH EAST

STATE	STATE CODE	SITE	SITE STATUS
ABIA	AB	UMUAHIA	URBAN
		ABA	URBAN
		OHAFIA	RURAL
		OKPUALA-NGWA	RURAL
SUB TOTAL			4
ANAMBRA	AN	AWKA	URBAN
		EKWULOBIA	URBAN
		ONITSHA	URBAN
		ENUGWU-UKWU	RURAL
		OGIDI	RURAL
SUB TOTAL			5
EBONYI	EB	ABAKALIKI	URBAN
		AFIKPO	URBAN
		ITI UKWU	RURAL
		NDUBIA	RURAL
SUB TOTAL			4
ENUGU	EN	PARK LANE	URBAN
		NSUKKA	URBAN
		ACHI	URBAN
		ORBA	RURAL
		UDI	RURAL
SUB TOTAL			5
IMO	IM	OWERRI	URBAN
		AMAIFEKE	URBAN
		ABOH MBAISE	RURAL
		AHIAZU	RURAL
SUB TOTAL			4
TOTAL NUMBER OF SITES IN SOUTH EAST			**22**

SOUTH WEST

STATE	STATE CODE	SITE	SITE STATUS
EKITI	EK	ADO-EKITI	URBAN
		IKOLE	URBAN
		IGBARA-ODO	RURAL
		IPAO	RURAL
SUB TOTAL			4
LAGOS	LA	IKEJA	URBAN
		BADAGRY	URBAN
		EPE	URBAN
		LAGOS ISLAND	URBAN
		SURULERE	URBAN
		AGBOWA	RURAL
		IJEDE	RURAL
SUB TOTAL			7
OGUN	OG	ABEOKUTA	URBAN
		IJEBU-ODE	URBAN
		AYETORO	RURAL
		ISARA	RURAL
SUB TOTAL			4
ONDO	OD	AKURE	URBAN
		ONDO	URBAN
		ALADE	RURAL
		IJU	RURAL
SUB TOTAL			4
OSUN	OS	OSOGBO	URBAN
		ILESA	URBAN
		IBOKUN	RURAL
		IRAGBERE	RURAL
SUB TOTAL			4
OYO	OY	IBADAN	URBAN
		OGBOMOSO	URBAN
		SAKI	URBAN
		ADO-AWAYE	RURAL
		LAGUN	RURAL
SUB TOTAL			5
TOTAL NUMBER OF SITES IN SOUT WEST			**28**

SOUTH SOUTH

STATE	STATE CODE	SITE	SITE STATUS
AKWAIBOM	AK	UYO	URBAN
		URUA AKPAN	URBAN
		IKONO	RURAL
		IQUITA-ORON	RURAL
SUB TOTAL			4
BAYELSA	BY	YENAGOA	URBAN
		SAGBAMA	URBAN
		AMASSOMA	RURAL
		BRASS	RURAL
SUB TOTAL			4
CROSS RIVER	CR	CALABAR	URBAN
		IKOM	URBAN
		AKAMKPA	RURAL
		GAKEM	RURAL
SUB TOTAL			4
DELTA	DT	AGBOR	URBAN
		WARRI	URBAN
		OGHARA	RURAL
		OWHELOGBO	RURAL
SUB TOTAL			4
EDO	ED	BENIN CITY	URBAN
		EKPOMA	URBAN
		AGBEDE	RURAL
		IRUEKPEN	RURAL
SUB TOTAL			4
RIVERS	RV	PORT HARCOURT	URBAN
		BORI	URBAN
		BONNY	URBAN
		EBERI	RURAL
		EDEOHA	RURAL
SUB TOTAL			5
TOTAL NUMBER OF SITES IN SOUTH – SOUTH			**26**

NORTH WEST

STATE	STATE CODE	SITE	SITE STATUS
JIGAWA	JG	DUTSE	URBAN
		HADEJIA	URBAN
		MALLAM MADORI	RURAL
		TAURA	RURAL
SUB TOTAL			4
KADUNA	KD	KADUNA	URBAN
		KAFANCHAN	URBAN
		ZARIA	URBAN
		KWOI	RURAL
		SAMINAKA	RURAL
SUB TOTAL			5
KANO	KN	KANO MMSH	URBAN
		KANO AKTH	URBAN
		RANO	URBAN
		SHANONO	RURAL
		KANO	RURAL
SUB TOTAL			5
KATSINA	KT	KATSINA	URBAN
		FUNTUA	URBAN
		BAURE	RURAL
		JIBIA	RURAL
SUB TOTAL			4
KEBBI	KB	ARGUNGU	URBAN
		FATI LAMI	URBAN
		ALIERO	RURAL
		SENCHI	RURAL
SUB TOTAL			4
SOKOTO	SO	SOKOTO	URBAN
		DOGON DAJI	URBAN
		GWADABAWA	RURAL
		TAMBUWAL	RURAL
SUB TOTAL			4
ZAMFARA	ZA	GUSAU	URBAN
		MAFARA	URBAN
		KOTORKOSHI	RURAL
		RUWA DORUWA	RURAL
SUB TOTAL			4
TOTAL NUMBER OF SITES IN NORTH WEST			**30**

NORTH EAST

STATE	STATE CODE	SITE	SITE STATUS
ADAMAWA	AD	YOLA	URBAN
		MUBI	URBAN
		HONG	RURAL
		MAYO BALWA	RURAL
SUB TOTAL			4
BAUCHI	BA	BAUCHI	URBAN
		AZARE	URBAN
		SHIRA YANA	RURAL
		TORO	RURAL
SUB TOTAL			4
BORNO	BO	MAIDUGURI	URBAN
		BIU	URBAN
		KONDUGA	RURAL
		NGALA	RURAL
SUB TOTAL			4
GOMBE	GM	GOMBE	URBAN
		KALTUNGO	URBAN
		KWAMI	RURAL
		ZAMBUK	RURAL
SUB TOTAL			4
TARABA	TR	JALINGO	URBAN
		ZING	URBAN
		SUNKANI	RURAL
		YAKOKO	RURAL
SUB TOTAL			4
YOBE	YB	DAMATURU	URBAN
		GEIDAM	URBAN
		POTISKUM	URBAN
		BABANGIDA	RURAL
		JAKUSKO	RURAL
SUB TOTAL			5
TOTAL NUMBER OF SITES IN NORTH EAST			**25**

NORTH CENTRAL

STATE	STATE CODE	SITE	SITE STATUS
BENUE	BN	MAKURDI	URBAN
		OTUKPO	URBAN
		IHUGH	URBAN
		OKPOGA	RURAL
		WANNUNE	RURAL
SUB TOTAL			5
FCT	FC	GWAGWALADA	URBAN
		NYANYA	URBAN
		WUSE	URBAN
		BWARI	RURAL
		KARSHI	RURAL
SUB TOTAL			5
KOGI	KG	LOKOJA FMC	URBAN
		ANKPA	URBAN
		CHERI MEGUMARI	RURAL
		MASARA	RURAL
SUB TOTAL			4
KWARA	KW	ILORIN	URBAN
		OFFA	URBAN
		KAIMA	RURAL
		PATIGI	RURAL
SUB TOTAL			4
NASARAWA	NS	LAFIA	URBAN
		N/EGBON	URBAN
		DOMA	RURAL
		GARAKU	RURAL
SUB TOTAL			4
NIGER	NG	MINNA	URBAN
		WUSHISHI	URBAN
		LEMU	RURAL
		PAIKO	RURAL
SUB TOTAL			4
PLATEAU	PL	JOS	URBAN
		SHENDAM	URBAN
		GANAWURI	RURAL
		PANYAM	RURAL
SUB TOTAL			4
TOTAL NUMBER OF SIT ES IN NORTH CENTRAL			**30**
TOTAL NUMBER OF SENTINEL SITES IN SIX ZONES			**160**

APPENDIX VI: LIST OF CONTRIBUTORS

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Miss Noum Maryann C.	Nurse	General Hospital, Brass
Dr. B.O Awotundun	ANC Doctor	General Hospital, Amassoma
Zige Foubiri	Nurse	General Hospital, Amassoma
Mr. A yebanengiyefa Dienagha	Laboratory Scientist	General Hospital, Amassoma

BENUE STATE

Name	Designation	Organization
G. A. Wende	State AIDS Prog. Coordinator	Ministry of Health, Makurdi
F. A. Audu	State Laboratory Scientist	Federal Medical Centre, Makurdi
Dr. S. O. Ochejele	Medical Officer	General Hospital, Otukpo
Nancy A. Ikpa	Nurse	General Hospital, Otukpo
Christiana Lahigblu	Nurse	General Hospital, Otukpo
Adeyemo Austine Olufemi	Laboratory Scientist	General Hospital, Otukpo
Dr. J. U. Kwaghtsace	Medical Officer	FSP Clinic, Makurdi
Agnes Kwaghizer	Nurse	FSP Clinic, Makurdi
Hanny Kyenge	Nurse	FSP Clinic, Makurdi
Nguwasen Yatar	Laboratory Scientist	FSP Clinic, Makurdi
Dr. Onah Cypriane	Medical Officer	St. Thomas Hospital, Ihugh
Christiana Ewaoche	Nurse	St. Thomas Hospital, Ihugh
Sister Benedicta Namaka	Nurse	St. Thomas Hospital, Ihugh
Duile Zoachim Idowu	Laboratory Scientist	St, Thomas Hospital, Ihugh
Dr. P. O. Ekedegba	Medical Officer	General Hospital, Okpoga
Christiana Agada	Nurse	General Hospital, Okpoga
Maria Ajobi	Nurse	General Hospital, Okpoga
Udeh Leonard	Laboratory Scientist	General Hospital, Okpoga
Dr. Roland E. Ogeh	Medical Officer / Head of ANC	General Hospital, Wanngne
Cecilia A. Sokpo	Nurse	General Hospital, Wanngne
Jessie T. Gbabe	Nurse	General Hospital, Wanngne
Akighir John	Laboratory Scientist	General Hospital, Wanngne

BORNO STATE

Name	Designation	Contact Address
Dr. Ibrahim A. Kidah	SAPC	State Ministry of Health
Dr. Whyte O. K	State Lab Scientist	State Specialist Hospital, Maiduguri
Dr. Joseph Musa	Medical Officer	State Specialist Hospital, Maiduguri
Ahmed A. Musa	Laboratory Scientist	State Specialist Hospital, Maiduguri
Indo Umar Shaffie	Nurse	State Specialist Hospital, Maiduguri
Kubili K. Bwala	Nurse	State Specialist Hospital, Maiduguri
Dr. Mohammed Yunusa	Medical Officer	General Hospital, Biu
Shehu Mohammed	Laboratory Scientist	General Hospital, Biu
Jummai I. Mohammed	Nurse	General Hospital, Biu
Fati M. Gobir	Nurse	General Hospital, Biu
Dr. Issa Ismail Ozi	Medical Officer / Head ANC	General Hospital, Konduga
James Andrew	Laboratory Scientist	General Hospital, Konduga
Charity B. G	Nurse	General Hospital, Konduga
Naomi Yuhana	Nurse	General Hospital, Konduga
Onuoha A. Chidubem	Medical Officer	General Hospital, Ngala
Baba Gana Modu	Laboratory Scientist	General Hospital, Ngala
Kafi W. Chiroma	Nurse	General Hospital, Ngala
Isa Mohammed	Nurse	General Hospital, Ngala

CROSS RIVER STATE

Name	Designation	Organization
Dr. Virginia O. Inaa	State AIDS Prog. Coordinator	State Ministry of Health, Calabar
Nkang Magdaline O.	State Laboratory Scientist	General Hospital, Calabar
Dr.(Mrs) E. Iwara	Medical Officer	General Hospital, Calabar
Eni John Eko	Laboratory Scientist	General Hospital, Calabar
Comfort Ita Essien	Nurse	General Hospital, Calabar
Nkoyo Oyo Oku-Ita	Nurse	General Hospital, Calabar
Odey Kenneth	Nurse/ANC Doctor	Holy Family Hospital, Ikom
Jakor Peter.	Laboratory Scientist	Holy Family Hospital, Ikom
Nelly E. Oru	Nurse	Holy Family Hospital, Ikom
Owan Joy Amba	Nurse	Holy Family Hospital, Ikom
Ajie Peter Ofue	Head of ANC.	General Hospital, Akamkpa
Patricia Asuquo	Nurse	General Hospital, Akamkpa
Jacob O. Atangudo	Laboratory Scientist	General Hospital, Akamkpa
Dorathy Ushie .	Nurse	General Hospital, Akamkpa
Emuru Julis Aide	Nurse / Head of Unit	General Hospital, Gakem
Felicia N. Ogon	Nurse	General Hospital, Gakem
Ushie Fred Odey	Laboratory Scientist	General Hospital, Gakem
Francisca Achoda	Nurse	General Hospital, Gakem

DELTA STATE

Name	Designation	Organization
Dr. C.O Okunguni	State AIDS Prog. Coordinator	State Ministry of Health, Asaba
Obere O. John	State Laboratory Scientist	Central Hospital Warri
Dr. A. C. Ojumah	Medical Officer	Government Hospital, Owhelogbo
Achugue B.O. O	Nurse	Government Hospital, Owhelogbo
Oshoture M.O	Nurse	Government Hospital, Owhelogbo
Mr. S. Ekokotu	Laboratory Scientist	Government Hospital, Owhelogbo
Dr. Nnoli Stanley	Medical Officer	Central Hospital, Agbor
Ohen B. Pedro	Laboratory Scientist	General Hospital, Agbor
Mrs. J. Juwe	Nurse	General Hospital, Agbor
Mrs. B.O Akokotu	Nurse	General Hospital, Agbor
Dr.Oghale Ogba	Medical Officer	Central Hospital, Warri
Ejiro Osasa	Laboratory Scientist	Central Hospital, Warri
Gladys Osume	Nurse	Central Hospital, Warri
Juan Jackson	Nurse	Central Hospital, Warri
Aduh Ufuoma	Medical Officer	Okpara Inland PHC
Ikhile Blessing Ebum	Nurse	Okpara Inland PHC
Ozigbo Bridget Imarenakwa	Nurse	Okpara Inland PHC
Amaihunwa C. Kinsley	Laboratory Scientist	Okpara Inland PHC

EBONYI STATE

Name	Designation	Organization
Dr. Peter Elom	State AIDS Prog. Coordinator	State Ministry of Health
Raymond Anya	State Laboratory Scientist	State Ministry of Health
Dr. Collins A. Kalu	Medical officer	Ebonyi State UTH, Abakaliki
N. H. Nwachukwu	Nurse	Ebonyi State UTH, Abakaliki
F. A. Egwu	Nurse	Ebonyi State UTH, Abakaliki
Ozochi Jane	Laboratory Scientist	Ebonyi State UTH, Abakaliki
Kulajolu Temitope	Medical Officer	Mater Hospital, Afikpo
Theresa Akpelu	Nurse	Mater Hospital, Afikpo
Virginia Ugwu	Nurse	Mater Hospital, Afikpo
Mba Amaechi	Laboratory Scientist	Mater Hospital, Afikpo
Inegbedion Clement	Medical Officer / Head of ANC	St. Vicent's Hospital, Ndubia Izzi
Ezejimodor Perpetua	Nurse	St. Vicent's Hospital, Ndubia Izzi
Nwokocha Agnes	Nurse	St. Vicent's Hospital, Ndubi a Izzi
Uauru Friday	Laboratory Scientist	St. Vicent's Hospital, Ndubia Izzi
Dr. Edemadide Ovie Jeffrey	Medical Officer / Head of ANC	Itim Ukwu General Hospital
Uga Rose	Nurse	Itim Ukwu General Hospital
Chukwu Joy, I	Nurse	Itim Ukwu General Hospital
Oti Egwu, J	Laboratory Scientist	Itim Ukwu General Hospital

EDO STATE

Name	Designation	Organization
Mrs. A. C. Agbadua	State AIDS Prog. Coordinator	State Ministry of Health
Mrs. Ayanlere M.K	State Laboratory Scientist	State Ministry of Health
Dr. F. E. Otuomaghe	Medical Officer	Central Hospital, Benin-City
Doris Airuedhionmon	Laboratory Scientist	State Ministry of Health
Mrs. I. P. Okundia	Nurse	Central Hospital, Benin-City
Mrs. E. E. Asogun	Nurse	Central Hospital, Benin-City
Dr. Ohenhen Victor	Medical Officer	General Hospital, Ekpoma
Mr. Friday E. Iyamu	Laboratory Scientist	General Hospital, Ekpoma
Adenomoh C.O	Nurse	General Hospital, Ekpoma
Oshoke P.Ochuko	Nurse	General Hospital, Ekpoma
Dr. Obuhi	Medical Officer	General Hospital, iruekepem
Ekpeh Rosemary	Laboratory Scientist	General Hospital, Iruekepem
Aidoloje C.K. Mrs.	Nurse	General Hospital, iruekepem
Osumoh L.R.	Nurse	General Hospital, iruekepem
Dr. Bello Rhema Eruanga	ANC Medical Doctor	General Hospital, Agbede
Oseodion Jehonathan	Laboratory Assistant	General Hospital, Agbede
Mrs. Edith Aliu	ANC Nurse	General Hospital, Agbede
Mrs F.F. Obende	ANC Nurse	General Hospital, Agbede

EKITI STATE

Name	Designation	Organization
Mrs. E. O. Oluwasola	State AIDS Prog. Coordinator	Ministry of Health, Ado-Ekiti
Mrs. Ojo Abiodun, A	State Laboratory Scientist	Ministry of Health, Ado-Ekiti
Dr. O. R. Adepoye	Medical Officer	State Specialist Hospital Ado-Ekiti
Mrs. M. A. Adesina	Nurse	State Specialist Hospital, Ado-Ekiti
Mrs. M. A. Ibukun	Nurse	State Specialist Hospital, Ado-Ekiti
Olugbenga Daramola	Laboratory Scientist	State Specialist Hospital, Ado-Ekiti
Mr. A. Adetunji	State Epidemiologist	Ministry of Health, Ado-Ekiti
Dr. Egele Chukwuemeka, S.	Medical Officer	State Specialist Hospital, Ikole Ekiti
Mrs. A. D. Adegbuyi	Nurse	State Specialist Hospital, Ikole Ekiti
O. S. Akanbi	Nurse	State Specialist Hospital, ikole-Ekiti
E. O. Olabiyi	Laboratory Scientist	state Hospital, Ikole Ekiti
Mrs. F. I. Afere	Medical Officer / Head of ANC	CHC, Igbara Odo
Mrs. O. A. Oluwole	Nurse	CHC, Igbara Odo
Mrs. F. O. Awosusi	Nurse	CHC, Igbara Odo
Famoni O. Peter	Laboratory Scientist	CHC Igbara Odo
C.K. Ajilo	Medical Officer / Head of ANC	B.H.C. Ipao
R. Omogola	Nurse	B.H.C. Ipao
Idowu Toyin	Nurse	B.H.C. Ipao
Esan Ayokunle	Laboratory Scientist	B.H.C Ipao

ENUGU STATE

Name	Designation	Organization
Dr. Igweagu Chukwuma	State AIDS Prog. Coordinator	Ministry of Health, Enugu
Osum Emmanuel, E.	State laboratory Scientist	ESUT Teaching Hospital, Park Lane
Akpa Cecilia Ndidi	Nurse	ESUT Teaching Hospital, Park Lane
F. N. Okite	Nurse	ESUT Teaching Hospital, Park Lane
Obiora Cyril, E.	Laboratory Scientist	ESUT Teaching Hoapital, Park Lane
Dr. Agu Augustine, U.	Medical Officer	Achi Joint Hospital, Achi Oji River
Oshi Onyehachi	Nurse	Achi Joint Hospital, Achi Oji River
Aneke H. O. (JP)	Laboratory Scientist	Achi Joint Hospital, Achi Oji River
Nebechi Augustina	Nurse	Good Shepherded Hospital Maternity
	Nurse	Good Shepherded Hospital Maternity
	Laboratory Scientist	Good Shepherded Hospital Maternity
Dr. J. I. Okafor	Medical officer / Head of ANC	District Hospital, Udi
A. Onuecheta	Nurse	District Hospital, Udi
Oguama Maria	Nurse	District Hospital, Udi
Ani Simon, A.	Laboratory Scientist	District hospital, Udi
Dr. C. E. Namani	Medical Officer / Head of ANC	MPHCC, Orba
F. N. Odoh	Nurse	MPHCC, Orba
A.E. Ugwu	Laboratory Scientist	MPHCC, Orba

FCT

Name	Designation	Organization
Dr. Yakubu Mohammed	State AIDS Prog. Coordinator	HIV/AIDS Control Unit, Area 11, Abuja
Lydia D. Maddo	Asst State AIDS Prog. Coordinator	HIV/AIDS Control Unit, Area 11, Abuja
Okafor Anayo Anthony	State Laboratory Scientist	HIV/AIDS Control unit, Area 11, Abuja
Dr. Mohokwu Azuka Victor	Medical Officer	Wuse General Hospital
Nnadozie Helen, C.	Nurse	Wuse General Hospital
Larai Hamidu	Nurse	Wuse general Hospital
Fajimi Olubunmi, V.	Laboratory Scientist	Wuse General Hospital
Dr. B. Ayeni	Medical Officer	Maitama General Hospital
Esther Fagbohun	Nurse	Maitama General Hospital
Rabiat Musa, E.	Nurse	Maitama General Hospital
M. S. Ibrahim	Laboratory Scientist	Maitama General Hospital

GOMBE STATE

Name	Designation	Organization
Dr. Ibrahim Hassan	State AIDS Prog. Coordinator	Ministry of Health Head quarters
Lilian Maina	State Laboratory Scientist	Ministry of Health Head quarters
Dr. Johnson Dilla	Medical Officer	State Specialist Hospital
Mary T. E. Juji	Nurse	State Specialist Hospital
Catherine Jeremiah Dillos	Nurse	State Specialist Hospital
Aishatu Usman Danburam	Laboratory Scientist	State Specialist Hospital
Dr. Mathew Joseph	Medical Officer	General hospital, Kaltungo
Abiyatu E. Umar	Nurse	General Hospital, Kaltungo
Raula Timothy	Nurse	General Hospital, Kaltungo
Garba Jade Dutse	Laboratory Scientist	General Hospital, Kaltungo
Dr. Lawan Bala	Medical Officer	General Hospital, Zambuk
Egiah mele	Nurse	General Hospital, Zambuk
Halima Umaru	Nurse	General Hospital, Zambuk
Boyi Dunas	Laboratory Scientist	General Hospital, Zambuk
Dr. Aliko Abdu	Medical Officer	M.P.H.C. Kwami LGA
Hauwa Ibrahim Zanna	Nurse	M.P.H.C. Kwami, LGA
Halima Abdullahi	Nurse	M.P.H.C. Kwami, LGA
Abdukadri Mohammed Lili	Laboratory Scientist	M.P.H.C. Kwami, LGA

IMO STATE

Name	Designation	Organization
Dr. Anyanwu, E.O.	State AIDS Prog. Coordinator	Ministry of Health, Owerri
Sir A. E. Nkwocha	State Laboratory Scientist	General Hospital, Owerri
Dr. Okafor Charles, C.	Medical Officer	General Hospital, Owerri
Mrs. Adimmaou Martha	Nurse	General Hospital, Owerri
Mrs. Uzoeto Theresa, C.	Nurse	General Hospital, Owerri
Mrs. Nkwo Chinyere	Laboratory Scientist	General Hospital, Owerri
Dr. Omende Kelechi	Medical Officer	General Hospital, Orlu
Akuta Margaret	Nurse	General Hospital, Orlu
Elenwoke Eudora	Nurse	General Hospital, Orlu
Ukaegbu Mary, O.	Laboratory Scientist	General Hospital, Orlu
Dr. G. N. Nwambara	Medical officer / Head of ANC	General Hospital, Ahiazu Mbaise
Iwuh Eileen Chinyere	Nurse	General Hospital, Ahiazu Mbaise
Anaele Elizabeth	Nurse	General hospital, Ahiazu Mbaise
Adeyemo Aromoke	Laboratory Scientist	General Hospital, Ahiazu Mbaise
Dr. P. U. Ojinkeya	Medical Officer / Head of ANC	General Hospital, Aboh Mbaise
Umunna Pauline	Nurse	General Hospital, Aboh Mbaise
Ojimadu Adanma, N	Nurse	General hospital, Aboh Mbaise
Orji Callistus, N	Laboratory Scientist	General Hospital, Aboh Mbaise

JIGAWA STATE

Name	Designation	Organization
Magaji Abdulhamid	State AIDS Prog. Coordinator	MOH & Social Welfare, Dutse
Lawan S. yakubu	State Laboratory Scientist	MOH & Social Welfare, Dutse
Dr. Z. Maryam Muhammad	Medical Officer	Dutse General Hospital
Amina Manu	Nurse	Dutse General Hospital
Fatima L. Abdulkadir	Nurse	Dutse General Hospital
Saifullah Aminu	Laboratory Scientist	Dutse General Hospital
Dr. Akase Lorhen Ephram	Medical Officer	Hsfrjis General Hospital
Fatima Jibril	Nurse	Hadejia General Hospital
Maryam Usman	Nurse	Hadejia General Hospital
Shitu Babangida, G.	LABORATORY Scientist	Hadejia General Hospital
Dr. Ojih Olanrewaju	Medical Officer	PHC Control, Mallam Maduji, Jigawa
Rabi Mohammed	Nurse	Malam Maduji PHC
Maryam	Nurse	Malam Maduji PHC
Ashiru Mohammed	Laboratory Scientist	Malam Maduji PHC
Aliyu Sule	Medical Officer	Taura PHC
Rabiu Yahaya	Nurse	Taura PHC
Monica Eze	Nurse	Taura PHC
Ibrahim Shehu	Laboratory Scientist	Taura PHC

KADUNA STATE

Name	Designation	Organization
Salihu A. Hunkinji	State AIDS Prog. Coordinator	Ministry of Health
Mele Solomon	State Laboratory Scientist	Ministry of Health
Dr. Adze Joel	Medical Officer	Barau Dikko Specialist Hospital
Hajara S. Zakariya	Nurse	Barau Dikko Specialist Hospital
Rifikatu Daniel	Nurse	Barau Dikko Specialist Hospital
Christopher Emmanuel	Laboratory Scientist	Barau Dikko Specialist Hospital
Dr. A. M. Ahmad	Medical Officer	Hajiya Gambo Suwaba, GH, Zaria
Aminu U.	Nurse	Hajiya Gambo Suwaba, GH, Zaria
Maryam Ibrahim	Nurse	Hajiya Gambo Sawaba, GH, Zaria
Musa idris Chori	Laboratory Scientist	Hajiya Gambo Sawaba, GH, Zaria
Dr. IIiya Buba	Medical officer	General Hospital, kafancha
Rhoda Bchedet	Nurse	General Hospital, Kafancha
Hauwa Kurai	Nurse	General Hospital, Kafancha
Banda Jim, M	Laboratory Scientist	General Hospital, Kafancha
Dr. Pama Peter Nedun	Medical Officer	General Hospital, Kwoi
Janet Sim Habila	Nurse	General Hospital, Kwoi
Kure S. Abigail	Nurse	General Hospital, Kwoi
Augustine Ahmadu	Laboratory Scientist	General Hospital, Kwoi
Dr. Habra Kajo	Medical Officer	General Hospital, Bunu
Christiana Bature	Nurse	General Hospital, S/Naka
Maryam Damina	Nurse	General Hospital, S/Naka
Mercy Elisha	Laboratory Scientist	General Hospital, S/Naka

KANO STATE

Name	Designation	Organization
Dr. Ashiru Rajab	State AIDS Prog. Coordinator	State Ministry of Health, Kano
Sani Abdu Fegge	State Laboratory Scientist	State Ministry of Health
Mairo Ahmed	Nurse	M.M.S.H, Kano
Madiddah M. Rwalli	Nurse	M.M.S.H., Kano
Sadisu Musa, N	Laboratory Scientist	M.M.S.H., Kano
Dr. Adamu M. Lawan	Medical officer	Rano General Hospital
Rakiya Garba	Nurse	Rano General Hospital
Halima M. Maccido	Nurse	Rano General Hospital
Auwalu Gambo	Laboratory Scientist	Rano General Hospital
Dr. Aliyu Labaran, D	Medical Officer	Aminu Kano Teaching Hospital
Aisha H. usman	Nurse	Aminu Kano Teaching Hospital
Aisha H. Mohd	Nurse	Aminu Kano Teaching Hospital
Sarki Adamu Musa	Laboratory Scientist	Aminu Kano Teaching Hospital
Abubakar A. Abdul	Medical Officer	General Hospital T/W
Mariya Aliyu	Nurse	General Hospital T/W
Agula Rosemary	Nurse	General Hospital, T/W
Usman Aliyu Daneji	Laboratory Scientist	General hospital, T/W
Lamido T. Sanusi	Medical Officer	Shanono General Hospital
Hauwa Jibrin	Nurse	Shanono General Hospital
Aisha Jakada	Nurse	Shanono General Hospital
Jubril Yakasa Hussan	Laboratory Scientist	Shanono General Hospital

KATSINA STATE

Name	Designation	Organization
Dr. Ismaila Buhari	State AIDS Prog. Coordinator	State Ministry of Health
Abdulrasheed Ibrahim Dama	State Laboratory Scientist	General Hospital, Katsina
Zainab U. Turaki	Nurse	General Hospital, Katsina
Raliya Umar	Nurse	General Hospital, Katsina
Ibrahim M. Kaita	Laboratory Scientist	General Hospital, Katsina
Dr. Ado Maaruf	Medical Officer	General hospital, Funtua
Junmai Lawal, B.	Nurse	General hospital, Funtua
Aisha Umar, S	Nurse	General Hospital, Funtua
Yusuf Ado	Laboratory Scientist	General Hospital, Funtua
Dr. Lawal A. Rabeh	Medical Officer	General Hospital, Baure
Aisha Sade	Nurse	General Hospital, Baure
Aisha Adamu	Nurse	General Hospital, Baure
Adamu J. Abubakar	Laboratory Scientist	General Hospital, Baure
Zainab Sulaiman	Nurse	General Hospital, Jibia
Abdullahi Ahmeed	Laboratory Scientist	General Hospital, Jibia

KEBBI STATE

Name	Designation	Organization
Dr. Shehu Abubakar Kaigo	State AIDS Prog. Coordinator	Ministry of Health, Birnin Kebbi
Ahmed Umar, B.	State Laboratory Scientist	S. Y. Memorial Hospital, Birnin Kebbi
Dr. M. A. Mohd	Medical Officer	Sir Yahaya Memorial Hospital
Kulu S. Masama	Nurse	Sir Yahaya Memorial Hospital
Hajo Abdul	Nurse	Sir Yahaya Memorial Hospital
Tunga B.Umar	Laboratory Scientist	Sir Yahaya Memorial Hospital
Dr. M. O. Onyile	Medical Officer	General Hospital, Argungu
Amina Ibrahim Musa	Nurse	General Hospital, Argungu
Amina Saidu	Nurse	General Hospital, Argungu
Kabiru Haruna Yeldu	Laboratory Scientist	General Hospital, Argungu
Dr. Aliyu Abdullahi	Medical Officer	General Hospital, Aliero
Ama Salihu	Nurse	General Hospital, Aliero
Fatima Yusuf	Nurse	General Hospital, Aliero
Musa Marafa	Laboratory Scientist	General Hospital, Aliero
Dr. Jeo Daza	Medical Officer	BS Medical Memorial Centre, Senchi
Jummai Ibrahim	Nurse	BS Medical Memorial Centre, Senchi
A Adamu	Nurse	BS Medical Memorial Centre, Senchi
Dudu Nasamu	Laboratory Scientist	BS Medical Memorial Centre, Senchi

KOGI STATE

Name	Designation	Organization
Mrs Confort Abu	State AIDS Prog. Coordinator	State Ministry of Health, Lokoja
Mrs. Itodo Grace	State Laboratory Scientist	Federal Medical Centre, Lokoja
Amakom Angela	Site Laboratory Scientist	Federal Medical Centre, Lokoja
Rosemary Wambebe	Nurse	Federal Medical centre, Lokoja
Margaret Awom	Nurse	Federal Medical Centre, Lokoja
Dr. Zubair Kabiru	Medical Officer	Federal Medical Centre, Lokoja
Dr. Ebiloma Y.A	Medical Officer	General Hospital Ankpa
Mrs. Sarah Atawoli	Nurse	General Hospital, Ankpa
Mrs Marry Attah	Nurse	General Hospital, Ankpa
Attah Onoja. I	Site Laboratory Scientist	General Hospital, Ankpa
D. Tumala	Medical Officer	HQ CAR MRS
Lucy Odufu	Nurse	HQ CAR MRS
Adomu M. Florence	Site Lab. Scientist	HQ CAR MRS
Ann B. O	Nurse	HQ CAR MRS
Mrs. M.M Leslie	Head of ANC	PHCC Ang. Masara, Lokoja
Fatima Awwalu Salihu	Nurse	PHCC Ang. Masara, Lokoja
Asmau Ladan	Nurse	PHCC Ang. Masara, Lokoja
A. Rabiat	Laboratory scientist	PHCC Ang. Masara, Lokoja

KWARA STATE

Name	Designation	Organization
Hajia S.O Lawal	State AIDS Prog. Coordinator	State Ministry of Health, Ilorin
Mr. J. F. Olarenwaju	State Laboratory Scientist	State Ministry of Health, Ilorin
Dr. Shorun O. C	Medical Officer	Children Specialist Hospital, Ilorin
Peter A. Bamidele	Site Laboratory Scientist	Children Specialist Hospital, Ilorin
Mrs. K. V. Olarenwaju	Nurse	Children Specialist Hospital, Ilorin
Mrs. G. Y. Abdullahi	Nurse	Children Specialist Hospital, Ilorin
Dr. Angidi S.O	Medical Officer	Specialist Hospital, Offa
Mr. A. R. Aliu	Laboratory Scientist	Specialist Hospital, Offa
A.O Opaleke	Nurse	Specialist Hospital, Offa
R.F. Shittu	Nurse	Specialist Hospital, Offa
Dr. K. Adewumi	Medical Officer	General Hospital, Kaiama
Folorunsho O.L	Site Laboratory Scientist	General Hospital, Kaiama
Mrs. B. T. Babalola	Nurse	General Hospital, Kaiama
Hajia H. Babatunde	Nurse	General Hospital, Kaiama
Dr. I.O Popoola	Medical Officer	General Hospital, Patigi
Afolabi L.A	Site Laboratory Scientist	General Hospital, Patigi
V. T. Gideon	Nurse	General Hospital, Patigi
Mercy C. Eke	Nurse	General Hospital, Patigi

LAGOS STATE

Name	Designation	Organization
Dr. Tolu Arowolo	State AIDS Prog. Coordinator	Lagos State Ministry of Health, Ikeja
Jenrola Olanrewaju	State Laboratory Scientist	Lagos State Ministry of Health, ikeja
Dr. O. A. Orebela	Medical Officer	General Hospital, Epe
Balogun Grace	Nurse	General Hospital, Epe
Mrs. Hassan Funmi	Nurse	General Hospital, Epe
Mr. M. O. Toweho	Laboratory Scientist	General Hospital, Epe
Amaa Olaniyan, A. F	State Epidemiologist	Lagos State Ministry of Health, ikeja
Dr. Akinlade Banedict A.	Medical Officer	General Hospital, Badagry
Mrs. Kayode Lucia Olufunke	Nurse	General Hospital, Badagry
Aina Iyebo Saidat	Nurse	General Hospital, Badagry
Mrs. Newton Yomi Juliana	Laboratory Scientist	General Hospital, Badagry
Dr. Jimo Nimat A	Medical Officer	Lagos Island Maternity Hospital
Mrs. Oluwafunmilayo Ojo	Nurse	Lagos Island Maternity Hospital
Mrs. R. Kemi Etti-O-Diamond	Nurse	Lagos Island Maternity Hospital
Chima Agwu Ogwuo	Laboratory Scientise	Lagos Island Maternity Hospital
Dr. K. O. Olodeoku	Medical Officer /Head ANC	LASUTH, Ikeja
Mrs. V. M. Fambegbe	Nurse	LASUTH, Ikeja
Mrs. O. I. Lawal	Nurse	LASUTH, Ikeja
Mrs. A. A. Shakunle	Laboratory Scientist	LASUTH, Ikeja
Dr. O. A. Oshunsina	Medical Officer / Head ANC	General Hospital, Surulere
Mrs. B. O. Lawal	Nurse	General Hospital, Surulere
B. K. Creppy	Nurse	General Hospital, Surulere
Mrs. Olusoga O. Mosunmola	Laboratory Scientist	General Hospital, Surulere
Dr. Balogun-Oluwa O. O.	Medical Officer / Head ANC	Ijede Health Centre
Osisanya Abiola, F	Chief Nursing Officer	Ijede Health Centre
Esan Ruth Oluseyi	Nurse	Ijede Health Centre
Adeyemi A. Oluranti	Laboratory Scientist	Ijede Health centre
Dr. O. O. Sholanke	Medical Officer / Head ANC	General Hospital, Agbowa
N. Nimota Ebunoluwa	Nurse	General Hospital, Agbowa
Kusagba M. Victoria	Nurse	General Hospital, Agbowa
Miss O. L. Alliu	Laboratory Scientist	General Hospital, Agbowa

NASARAWA STATE

Name	Designation	Organization
Khadijhat Mohammed	Asst State AIDS Prog. Coordinator	Ministry of Health, Lafia
Kyari S.H	State Laboratory Scientist	Ministry of Health, Lafia
S. H. Kyari	Laboratory Scientist	Specialist Hospital, Lafia
Tarhemba Richard Shachia	Medical Officer	Dalihatu Araf Specialist Hospital, Lafia
Rhoda Agbawu, A.	Nurse	Dalihatu Araf Specialist Hospital, Lafia
Rachel E. Audu	Nurse	Dalihatu Araf Specialist Hospital, Lafia
James A. K	Laboratory scientist	Dalihatu Araf Specialist Hospital, Lafia
Ajala Abdulfatai F.A	Laboratory Scientist	General Hospital Nasarawa, Eggon
Ruth Gado	Chief Nursing Officer	General Hospital Nasarawa, Eggon
Margaret M. Odeh	Chief Nursing Officer	General Hospital Nasarawa, Eggon
Dr. Orji F. N	Medical Officer	General Hospital Garaku
Philip C. P	Laboratory Scientist	General Hospital Garaku
Charity S. Dogo	Nurse	General Hospital Garaku
Safiya Ahmed	Nurse	General Hospital Garaku
Dr. Nzute M.O	Medical Officer	Doma General Hospital
Rosha G.M	Laboratory Scientist	Doma General Hospital
Juliana I. A	Nurse	Doma General Hospital
Mrs. Akwashiki. O	Nurse	Doma General Hospital

NIGER STATE

Name	Designation	Organization
Mairiga Shehu	State AIDS Prog. Coordinator	State Ministry of Health, Minna
Adamu Baba	State Laboratory Scientist	State Agency HIV/AIDS Control
Dr. Ibrahim Idris	Medical Officerp	Innawuro Aishatu Babangida Hospital
Mrs. Hauwa Ibrahim	Nurse	Innawuro Aishatu Babangida Hospital
Halima Atiku	Nurse	Innawuro Aishatu Babangida Hospital
Nwokeke Ndubuisi, V	Laboratory Scientist	Innawuro Aishatu Babangida Hospital
Dr. C. A. Mbah	Medical Officer	General Hospital, Minna
Aminat G. Abdulkadir	Nurse	General Hospital, Minna
Fatima M. Idris	Nurse	General Hospital, Minna
Moha A. Galadima	Laboratory Scientist	General Hospital, Minna
Dr. S. O. Oyemakinde	Medical Officer / Head of ANC	Basic Model clinic, Paiko
Jummai M. Barde	Nurse	Basic Model Clinic, Paiko
Grace A. Echioda	Nurse	Basic Model Clinic, Paiko
A.A. Dangana	Laboratory Scientist	Basic Model Clinia, Paiko
Paul B. Ndazhir	Medical officer / head of ANC	Rurai hospital, Lemu
Fatima I. Mumo	Nurse	Rurai Hospital, Lemu
Winified, S.	Nurse	Rurai Hospital, Lemu
Nasiru Abubakar	Laboratory Scientist	Rurai Hospital, Lemu

OGUN STATE

Name	Designation	Organization
Dr. E. A. Ogunsola	State AIDS Prog. Coordinator	Ministry of Health, Abeokuta
Mr. M. O. Ogunkola	State Laboratory Scientist	Ministry of Health, Abeokuta
Dr. G. V. Nathaniel	Medical Officer	State Hospital, Ijebu-Ode
Mrs. Musah K. Toyin	Nurse	State Hospital, ijebu-Ode
Mrs. B. M. Adewale	Nurse	State Hospital, ijebu-Ode
Abba Paul Ogor	Laboratory Scientist	State Hospital, ijebu-Ode
Dr. O. F. Bamisebi	State Epidemiologist	Ministry of Health, Abeokuta
Dr. Onabadejo	Medical Officer	State Hospital, Ijaye, Abeokuta
Mrs. Awodele B. Bamidele	Nurse	State Hospital, Ijaye, Abeokuta
Mrs. Adeleye Esther A.	Nurse	State Hospital, Ijaya, Abeokuta
Akintunde Comfort O.	Laboratory Scientist	State Hospital, Ijaye, Abeokuta
Dr. O. B. Adeniyi	Medical Officer / Head of ANC	General Hospital, Ayetoro
Mrs. B. O. Somefun	Chief Matron	General Hospital, Ayetoro
Mrs. V. A. Adesina	Matron II	General Hospital, Ayetoro
R. T. Akinlalu	Laboratory Scientist	General Hospital, Ayetoro
Dr. Z. O. Ayoola	Medical Officer / Head of ANC	General Hospital, isara
Mrs. Ogun Mercy, O. O	Nurse	General Hospital, Isara
Miss O. O. Oriola	Nurse	General Hospital, Isara
J. K. Amoo	Laboratory Scientist	General Hospital, Isara

ONDO STATE

Name	Designation	Organization
Dr. A. A. Adegbulu	State AIDS Prog. Coordinator	State Ministry of Health
Mr. Oloye Kola	State Laboratory Scientist	State Ministry of Health
Dr. S. O. Fagbemi	Medical Officer	State Specialist Hospital, Akure
Mrs. B. O. Olaleye	Chief Nurse	State Specialist Hospital, Akure
Mrs. L. G. Falodun	Assistant Nurse	State Specialist Hospital, Akure
Mr. S. Fagbite	Laboratory Scientist	State Specialist Hospital, Akure
Dr. A. O. Adiji	Medical Officer	State Specialist Hospital, Ondo
Mrs. M. A. Ogundipe	Chief Nurse	State Specialist Hospital, Ondo
Mrs. C. K. Edu	Assistant Nurse	State Specialist Hospital, Ondo
Mrs. O. A. ologunowa	Laboratory Scientist	State Specialist Hospital, Ondo
Mrs. B. O. Sule	Chief Nurse	Basic Health Centre, Iju
Mrs. O. W. Osore	Assistant Nurse	Basic Health Centre, Iju
Mrs. B. J. Oladoyin	Laboratory Scientist	Basic Health Centre, iju
Dr. A. L. Akintan	Medical Officer	Idanre
Mrs. M. A. Akinnadeju	Assistant Nurse	Idanre
Mrs. F. B. Abiona	Laboratory Scientist	Idanre

OSUN STATE

Name	Designation	Organization
Dr. A. Y. Orolakin	State AIDS Prog. Coordinator	Ministry of Health, Osogbo
Mrs. A. A. Akinbolade	State Laboratory Scientist	State Hospital, Osogbo
Dr. Adeleke Najemdeen Ajao	Medical Officer	State Hospital, Osogbo
L.O. Kehinde	Chief Nursing Officer	State Hospital, Osogbo
M.A. Awoyemi	Assistant Chief Nursing Officer	State Hospital, Osogbo
T.A. Olawuyi	CLMS Officer	State Hospital, Osogbo
Dr. A. A. Oni	Medical officer	State Hospital, Ilesa
C.M. Olaniyi	Nurse	State Hospital, Ilesa
S.A. Oyinlola	Nurse	State Hospital, Ilesa
L. I. Kolawole	Laboratory Scientist	State Hospital, Ilesa
Dr. A. Asifa	Medical Officer / Head of ANC	Comp. Health Centre, Iragberi
T. O. Orisalola	Nurse	Comp. health Centre, Iragberi
S . O. Onifade	Nurse	Comp. Health Centre, Iragberi
E. F. Fadokun	Laboratory Scientist	Comp. Health Centre, iragberi
Dr. O. P. Famakinwa	Medical Officer / Head of ANC	Comp. Health Centre, Ibokun
Mrs. O. O. Babatunde	Nurse	Comp. Health Centre, Ibokun
Mrs. B.M. Saloam	Nurse	Comp. Health Centre, Ibokun
Eso Jacob Olawale	Laboratory Scientist	Comp. Health center, ibokun

OYO STATE

Name	Designation	Organization
Dr. Oliyoke Akintunde	State AIDS Prog. Coordinator	State Ministry of Health, Ibadan
Mr. A. A. Osuntade	State Laboratory Scientist	Central Medical Diagnostic Centre
Dr. Udoekwere Edu Ime	Medical Officer	State Hospital, Saki West
Mrs. M. Babalola	Nurse	State Hospital, Saki, West
Mrs. Ewetola Esther Bolaji	Nurse	State Hospital, Saki
Mrs. Ruth Aadetola Oladeji	Laboratory Scientist	State Hospital, Saki
Dr. O. Fabode	State Epidemiologist	State Ministry of Health, Ibadan
Dr. Salau I. Owolabi	Medical Officer	State Hospital, Ogbomoso
Mrs. A. O. Oguniran	Nurse	State Hospital, Ogbomoso
Mrs. J. A. Agbeluyi	Nurse	State Hospital, Ogbomoso
Mahmuo H. Olowo	Laboratory Scientist	State Hospital, Ogbomoso
Dr. Adeyanju Alaruru Oluseji	Medical Officer	Adeoyo Maternity Hospital, Ibadan
Akinsola Margret Olubunmi	Nurse	Adeoyo Maternity Hospital, Ibadan
Babatunde Dorcas Oluranti	Nurse	Adeoyo Maternity Hospital, Ibadan
Ajao Bolatito Yenju	Laboratory Scientist	Adeoyo Maternity Hospital, Ibadan
Dr. Salm Ridwan Ayodeji	Medical Officer / Head ANC	General Hospital, Lagun
Mrs. Feyisayo O. Amosun	Nurse	General Hospital, Lagun
Miss Ajoke Lawal	Nurse	General Hospital, Lagun
Mrs. Ogunrimi Dorcas Bosede	Laboratory Scientist	General Hospital, Lagun
Dr. O. A. Olawale	Medical Officer / Head ANC	General Hospital Ado Awaye, Oyo
Mrs. Oladele Esther Bola	Nurse	General Hospital Ado Awaye, Oyo
Mrs. Adeoti Latifat Romoke	Nurse	General Hospital Ado Awaye, Oyo
Mr. Oladokun John Oluranti	Laboratory Scientist	General Hospital Ado Awaye, Oyo

PLATEAU STATE

Name	Designation	Organization
Dakas Moses	State AIDS Prog. Coordinator	State Ministry of Health, Jos
Dimas Damshak	State Laboratory Scientist	Plateau State Specialist Hospital, Jos
Daniel Chay	CCHO	PHC Ganawuri Riyom LGA
Song M. Ngyuk	Nurse	PHC Ganawuri Riyom LGA
Danchung Pam Godaz	Laboratory Scientist	PHC Ganawuri Riyom LGA
Dr. Matawai	Medical Officer	Plateau State Specialist Hospital, Jos
Chundung G. Coje	Nurse	Plateau State Specialist Hospital, Jos
Josphine Jwarile	Nurse	Plateau State Specialist Hospital, Jos
Joel Ali Daboer	Laboratory Scientist	Plateau State Specialist Hospital, Jos
Dr. Dablet	Medical officer / Head ANC	General Hospital, Shedam
Rebecca M. Lonzem	Nurse	General Hospital, Shedam
Maimuna M. Shallong	Nurse	General Hospital, Shedam
Anthony A. Kwarshit	Laboratory Scientist	General Hospital, Shedam
Dr. Adah U. Gabriel	Medical Officer / Head ANC	COCIN PHC, Panyam
Helen Z. Auta	Nurse	COCIN PHC Panyam
Martha S. Bewaising	Nurse	COCIN PHC, Panyam
Pam Joseph	Laboratory Scientist	CONIN PHC, Panyam

RIVERS STATE

Name	Designation	Organization
David Fubara	State AIDS Prog. Coordinator	State Ministry of Health
Mr. Reginald Jaja	State laboratory Scientist	Braithwaite Memorial Hospital
Dr. Douglas A. Pepple	Consultant in-charge	General Hospital, Bonny
Mr. Dineye Jaja E.	Laboratory Scientist	General Hospital, Bonny
Mrs. Gift C. I. Banigo	Chief Nursing Officer	General Hospital, Bonny
Mrs. Bridget Brown	Chief Nursing Officer	General Hospital, Bonny
Dr. Babep F.S	Medical Officer	BMSH, Port-Harcourt
Mr. Negbee Godwin	Laboratory Scientist	BMSH, Port-Harcourt
Papaba D. Dagogo-Brown	Nurse	BMSH, Port-Harcourt
Rosana Isokariari	Nurse	BMSH, Port-Harcourt
Dr. Mbaba A. N	Medical Officer	General Hospital Bori
Damabel Sylvester Koote	Laboratory Scientist	General Hospital Bori
Nwikpo Dorcas D.	Chief Nursing Officer	General Hospital Bori
Mrs. Joy W. Walker	Chief Nursing Officer	General Hospital Bori
Dr. Kwosah N.J	Head of ANC clinic	General Hospital Eberi-Omuma True
Nwigoa S.	Laboratory Scientist	General Hospital Eberi-Omuma
Mrs. T. L. Dikko	Principal Nursing Officer	General Hospital Eberi-Omuma
Nwinyodee Christiana	Nursing Officer	General Hospital Eberi-Omuma
Dr. A. Okujiagu	Consultant in-Charge	Health Centre, Ahoada (Ede-Oha) True
Mr. Cheta B. Ogide	Laboratory Scientist	Health Centre, Ahoada (Ede-Oha)
Mrs. Biibile Boyle	Chief Nursing Officer	Health Centre, Ahoada (Ede-Oha)
Angela Benson	Nursing Officer	Health Centre, Ahoada (Ede-Oha)

SOKOTO STATE

Name	Designation	Organization
Haliru Yusuf	State AIDS Prog. Coordinator	State Ministry of Health, Sokoto
Umar Bello Alkammawa	State laboratory Scientist	Ministry of Health, Sokoto
Dr. Cherima J. Yakubu	Medical Officer	General Hospital Dogon Daji
Jamila Molid	Nurse	General Hospital, Dogon Daji
Omotola Oyinlola	Nurse	General Hospital, Dogon Daji
Nura Aliyu A.	Laboratory Scientist	General Hospital, Dogon Daji
Dr. bello Lawal	Medical Officer	Specialist Hospital, Sokoto
Inno Abubakar	Nurse	Specialist Hospital, Sokoto
Haj. Mufiat Dikko	Nurse	Specialist Hospital, Sokoto
Sani Y. Mohammed	Laboratory Scientist	Specialist Hospital, Sokoto
Dr. Oyegun Osagie	Medical Officer	PHC Gwadabawa, Sokoto
Idiatu A. Azeez	Nurse	PHC Gwadabawa, Sokoto
Izahra'umu	Nurse	PHC Gwadabawa, Sokoto
Umar Muhid	Laboratory Scientist	PHC Gwadabawa, Sokoto
Dr. Usman Jibrin	Medical Officer	General Hospital, Tambuwal
Comfort Andrew	Nurse	General Hospital, Tambuwal
Hamma Abubakar	Nurse	General Hospital, Tambuwal
Bawa Ahmad	Laboratory Scientist	General Hospital, Tambawal

TARABA STATE

Name	Designation	Organization
Dr. Micah Musa Madaki	State AIDS Prog. Coordinator	Ministry of Health, Jalingo
Amamra tawum	State Laboratory Scientist	Ministry of Health, Jalingo
Dr. Abe N. Agbu	Medical Officer	General Hospital, Zing
Dinah Anure	Nurse	General Hospital, Zing
Abigail Obidah	Nurse	General Hospital, Sing
R. Tanko Urese	Laboratory Scisntist	General Hospital, Zing
Dr. Roengmoen D. Dashe	Medical Officer	State Specialist Hospital, Jalingo
Laraba Bridget Audu	Nurse	State Specialist Hospital, Jalingo
Alhaji Isa Sambo	Nurse	State Specialist Hospital, Jalingo
Mrs. Elizabeth Joshua	Laboratory Scientist	State Specialist Hospital, Jalingo
Dr. Nyubanga Ba'ade Daudu	Medical Officer	1st Referral Hospital Sunkani
Baraya Christian Stephen	Nurse	1st Referral Hospital, Sunkani
Wakeji B. Yaks	Nurse	1st Referral Hospital, Sunkani
B. Nicodeamus Bishi	Laboratory Scientist	1st Referral Hospital, Sunkani
Dr. Alfred Jijingi	Medical Officer	St. Monica's Health Centre, Yakoko
Monica Awu	Nurse	St. Monica's Health Centre, Yakoko
Veronica Lasire	Nurse	St. Monica's Health Centre, Yakoko
Augustine Garba	Laboratory Scientist	St. Monica's Health Centre, Yakoko

YOBE STATE

Name	Designation	Organization
Dr. Margaret Gituwa Amshi	State AIDS Prog. Coordinator	Ministry of Health, Damaturu
Alhaji Dauda Alikime	State Laboratory Scientist	Ministry of Health, Damaturu
Dr. Dunawuluwa M. Muna	Medical Officer	General Hospital, Potiskum
Yagawa K. Shettima	Nurse	General Hospital, Potiskum
Hauwa Ibrahim	Nurse	General Hospital, Potiskum
Bukur Mallam Burah	Laboratory Scientist	General Hospital, Potiskum
Dr. Usman Abdullahi	Medical Officer	General Sani Abacha Spe. Hospital
Fati Madani	Nurse	General Sani Abacha Spe. Hospital
Hamsatu J. Mohammed	Nurse	General Sani Abacha Spe. Hospital
Mairo Abba Muhammad	Laboratory Scientist	General Sani Abacha Spe. Hospital
Dr. Muhammad Abba	Medical Officer	General Hospital, Geldam
Fatima Malam Bukar	Nurse	General Hospital, Geldam
Halima Abdullahi	Nurse	General Hospital, Geldam
Mohammed Ibrahim	Laboratory Scientist	General Hospital, Geldam
Dr. Tonye Obene	Medical Officer	General Hospital, Jakusko
Pauline Ukachi Iwuh	Nurse	General Hospital, Jakusko
Halima Wasiri	Nurse	General Hospital, Jakusko
Aminu Isa	Laboratory Scientist	General Hospital, Jakusko
Dr. Michael Bojeremu	Medical Officer	CHC, Babangida Taramua
Rose Ameh	Nurse	CHC, Babaginda Taramua
Bukar Balumi	Nurse	CHC, Babaginda Taramua
Victor Ofem-Imu	Laboratory Scientist	CHC, Babaginda Taramua

ZAMFARA STATE

Name	Designation	Organization
Almustapha Marafa	State AIDS Prog. Coordinator	Ministry of Health, Zamfara
Alibi Sunday A	State Laboratory Scientist	Federal Medical Centre, Gusau
Dr. Damuan Obilor	Medical Officer	General Hospital, Talata Mafara
Rebecca H. Umar	Nurse	General Hospital, Talata Mafara
Aishatu D. Argungu	Nurse	General Hospital, Talata Mafara
Suleiman Umar	Site Laboratory Scientist	General Hsopital, Talata Mafara
Abubakar Danladi	Medical Officer	Federal Medical Centre, Gusau
Nana Balarabe	Assistant Chief Nursing Officer	Federal Medical Centre, Gusau
Luba Moh'd	Principal Nursing Officer	Federal Medical Centre, Gusau
Rabe Mamman	Laboratory Scientist	Federal Medical Centre, Gusau
Abubakar Kandey	Officer in Charge	Primary Health Centre, Kotonkoshi
Labbo Abdullahi	Nurse	Primary Health Centre, Kotonkoshi
Hannatu Hashimu	Nurse	Primary Health Centre, Kotonkoshi
Kabiru Saidu	Site Laboratory Scientist	Primary Health Centre, Kotonkoshi
Yusuf Ahamadmaru	Officer in Charge	Primary Health Centre, R/Doruwa
Aminu Ibrahim	Nurse	Primary Health Centre, R/Doruwa
Fatima Yunusa	Nurse	Primary Health Centre, R/Doruwa
Sani Mohd Kanoma	Laboratory Scientist	Primary Health Centre, R/Doruwa