Federal Ministry of Health

Technical Report

2005

National HIV/Syphilis Sero-prevalence Sentinel Survey Among Pregnant Women Attending Antenatal Clinics in Nigeria

Department of Public Health
National AIDS/STI Control Programme

Federal Ministry of Health

Department of Public Health
National AIDS/STI Control Programme

Technical Report

2005 National HIV/Syphilis Sero-prevalence
Sentinel Survey


NASCP/FMOH
Plot 75, Ralph Shodeinde Street
Central Area, Abuja, Nigeria
Phone: 234-09-5238950-1

April 2006

Copies of the Technical Report on the 2005 National HIV/Syphilis 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 2005 National HIV/Syphilis 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 Action Committee on AIDS (NACA)
British Department for International Development (DFID)
AIDS Prevention Initiative in Nigeria (APIN)
Join United Nations Programme on HIV/AIDS (UNAIDS)
ENHANSE Project.

FOREWORD

The HIV and AIDS pandemic has constituted the greatest health challenge of our time. By the end of 2003, Nigeria was adjudged to have the third highest burden of HIV in the world after South African and India.

Since the first reported case of HIV and AIDS in Nigeria in 1986, the epidemic has continued to unleash a huge blow on the nation with about 2.9 million Nigerians currently infected. To respond to this epidemic, the Federal Government of Nigeria put in place various programmes aimed at controlling and mitigating its impact. One of these intervention programmes is the continuous monitoring of the HIV epidemic through a biennial sentinel survey among pregnant women attending antenatal clinics in Nigeria.

In the African region, active HIV sero-surveillance using pregnant women attending ante-natal clinics as the survey population is employed in line with the World Health Organization (WHO) and the Joint United Nations Programme on HIV and AIDS (UNAIDS) recommendation on HIV surveillance. The HIV sentinel sero-surveillance survey have been conducted biennially in Nigeria since 1991 with the recent being the 2005 survey.

The HIV prevalence in Nigeria had been on a consistent increase from 1.8% in 1991 to 5.8% in 2001 before a decline to 5% in 2003 and 4.4% in 2005. The report of the 2005 survey further reaffirms that no state or community is spared this epidemic. There are wide variations in the HIV prevalence between states and between urban and rural areas across the country. However, it must be cautioned that the decline in the National HIV prevalence observed in this survey does not call for outright celebration and relaxation of interventions, since it may be inconlusive to make direct comparisons between aggregate figures obtained in the various surveys due to differences in location and number of survey sites.

This technical report is commended for perusal, analysis, planning and programming as well as for developing relevant strategies based on findings therein.

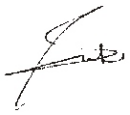
Prof. Eyitayo Lambo
Hon. Minister of Health

PREFACE

The sentinel surveillance system has become an acceptable and widely used tool for the monitoring of disease trends of the magnitude such as HIV and AIDS epidemic as well as in making estimates and projections for future planning and intervention strategies.

Since 1991 and for more than one decade now, the health sector has provided the much needed leadership for collating information and data on HIV and AIDS epidemic in Nigeria. Every two years this survey is carried out. Once again, the time has come to put this expertise to work in the 2005 sentinel survey. The survey samples were collected from pregnant women aged 15-49 years attending antenatal clinic for the first time in public health facilities throughout the federation. This time around, additional rural sites have been selected per state for the survey, thus increasing the rural sites surveyed this year. Information for this survey is important and will act as a spring-board in decision making as it provides the HIV/syphilis prevalence rates for all the 36 states of the Federation and the FCT. It will also give estimates of HIV infection and people living with HIV and AIDS in the general population.

The results of this survey have been presented in this technical report for the use of all stakeholders in the prevention and control of HIV and AIDS. Efficient and rigorous quality control measures coupled with painstaking effort have gone into the production of this report which provides the prevalence for all the 36 states in Nigeria including the Federal Capital Territory (FCT). I therefore recommend this technical report to all involved in the commendable task of minimizing the burden of HIV and AIDS in our society.



Dr. S. Sani MFR
Director of Public Health
Federal Ministry of Health

ACKNOWLEDGEMENT

The 2005 National HIV/Syphilis sero-prevalence sentinel survey has been successfully completed after a substantial period of rigorous preparations and activity implementations. This success could not have been achieved but for the excellent roles of various stakeholders who gave their support at all stages of the implementation of the survey protocol.

The Federal Ministry of Health and indeed the Federal Government of Nigeria particularly appreciates the supports of the following agencies/Partners: World Health Organization (WHO), US Centers for Disease Control and Prevention (CDC), Department for International Development (DFID), Joint United Nations Programme on AIDS (UNAIDS), the AIDS Prevention Initiative in Nigeria (APIN) and ENHANSE project, CSO, and others too numerous to mention.

Our gratitude goes to the Survey Management Committee (SMC), the field supervisors, the Quality Control team, the data management team, report writers and the state team comprising of the State HIV/AIDS programme Coordinators (SAPC), Medical Officers, Laboratory Scientists and Nurses whose active role and cooperation during the survey were of paramount importance in ensuring the successful completion of the survey.

The report of this survey is expected to stimulate various stakeholders and the entire Nigeria in continuous planning and implementation of strategies that will lead to the effective control of the HIV epidemic and subsequent reduction of its negative effect on the nation's socio-economic development.

Dr. O. Salawu
National Programme Manager
National AIDS/STI Control Programme (NASCP)

LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Clinic
ART	Anti Retroviral Therapy
BCC	Behavioural Change Communication
CI	Confidence Interval
EDTA	Ethylene Diaminetetracetic acid
EIA	Enzyme Immuno Assay
EPP	Epidemic Projection Package
FCT	Federal Capital Territory
FLHE	Family Life and HIV/AIDS Education
GDP	Gross Domestic Product
HDI	Human Development Index
HEAP	HIV/AIDS Emergency Action Plan
HIV	Human Immunodeficiency Virus
HSS	HIV Sero-Sentinel Survey
ID	Identification
MAP	Multicountry HIV/AIDS Program-World Bank
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 Health Survey
NE	North East
NGOs	Non-Governmental Organisations
NPC	National Population Commission
NSF	National Strategic Framework
NW	North West
OVC	Orphans and Vulnerable Children
PABA	People Affected by 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
PPP	Purchasing Power Parity for Consumption
QC	Quality Control
RPR	Rapid Plasma Reagin
SE	South East
SMC	Survey Management Committee
SOPs	Standard Operating Procedures
SS	South South

LIST OF TABLES

LIST OF FIGURES

LIST OF MAPS

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The HIV epidemic in Nigeria is believed to have started in the 1980s with the first AIDS case reported in 1986. Nigeria is currently experiencing a generalised epidemic with states HIV prevalence persistently above 1% in pregnant women attending antenatal clinics since 1999. In 2003, it was estimated that about 3.2 to 3.8 million persons were living with HIV/AIDS in Nigeria.

To strengthen the response to the epidemic, the Presidential Council on AIDS and the National Action Committee on AIDS were established in 2000. These bodies have facilitated a coordinated multisectoral response through provision of comprehensive prevention and care services within the context of the HIV/AIDS Emergency Action Plan (HEAP), HIV/AIDS Health Sector Plan and National Strategic Framework (NSF).

HIV sentinel surveillance was established to monitor trends in the epidemic and assess the impact of the response. The 2005 HIV and syphilis sentinel survey was conducted from August 29 to November 26, 2005. The objectives of the survey were to determine HIV prevalence among pregnant women attending antenatal clinics, assess the trend in HIV prevalence and to provide data for estimating and projecting the HIV epidemic in the general population.

The 2005 sentinel survey involved 36,931 pregnant women attending antenatal clinics in 160 sites (86 urban and 74 rural) in 36 States and the FCT. The survey was managed by a Survey Management Team set up by the Federal Ministry of Health under the chairmanship of the Director of Public Health. The National Action Committee on AIDS (NACA), UN agencies, bilateral agencies and other stakeholders participated as members of the committee.

The unlinked anonymous testing strategy was adopted using syphilis and other routine blood tests as entry points. Specimens generated were screened for HIV and syphilis antibodies.

Overall, the HIV prevalence was 4.4% with 95% Confidence Interval (C.I. 4.2-4.6). Benue state in the North Central Zone had the highest state prevalence of 10% while Ekiti state in the South West had the least state prevalence of 1.6%. In general, HIV prevalence was higher in urban (4.6%) than in rural sites (3.9%). However, this observation was not consistent across the states. The highest site specific prevalence (14.7%) was recorded at Iquita-Oron, a rural site in Akwa-Ibom state. The overall prevalence for Syphilis is 1.5% ranging from 0.0% in Abia to 7.6% in Rivers.

The HIV prevalence among pregnant women aged 15-49 years has declined over the last few years (5.8% in 2001 to 5% in 2003 and 4.4% in 2005). The same trend has been observed among young pregnant women aged 15-24years. Several factors may explain the observed decline including the effect of the ongoing intervention efforts, the increase in the number of rural survey sites, and death of those previously infected. Based on the current HIV prevalence in the country, it is estimated that about 2.9 million people are presently living with HIV/AIDS.

Although there is apparent decline in HIV prevalence, it would be dangerous for government and partners to become complacent and relax in intervention efforts.

Based on the survey findings, the following are recommended:

- Interventions should be intensified in all areas of high prevalence.
- With the current level of epidemic in rural areas, there is a need to increase intervention efforts in rural areas.
- Efforts should be made to improve on intervention strategies for the age group 15-24 years.
- The high level of HIV prevalence among women with only primary and secondary education calls for focused and appropriate interventions to target these groups.

- A window of opportunity exists in parts of the country where HIV prevalence is still relatively low; increased preventive intervention effort must be undertaken to curtail the epidemic.
- The level of HIV prevalence among ANC attendees calls for urgent expansion of PMTCT services, andVCT for the general population
- The current care and support activities especially the antiretroviral programme need to be scaled up to meet the increasing need of the large number of estimated AIDS cases in the country

CHAPTER ONE

INTRODUCTION

1.1 Background

HIV and AIDS epidemic is of great concern to the world community. It has the potential of negating the socio-economic gains made in most developing nations over the past 4 decades. By the end of 2003, Nigeria was adjudged to have the third highest burden of HIV in the world after South Africa and India.

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, and is bordered in the north by Niger Republic; in the east by the Republic 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 800km of coast line.

1.2.2 Population size

Nigeria is the most populous country in Africa, and the tenth in the world. The 1991 population of Nigeria was 88.92 million (National Population Commission, 1998).

With a growth rate of 2.9%, the population in 2005 is estimated to be about 134 million. Nigeria is presently at mid transition point of high fertility and declining mortality resulting in a relatively young population with a median age of 17 years (NDHS, 2003).

Nigeria's population is predominantly rural with estimated 46% living in urban areas in 2000. This is expected to have further changed over time with the high rural to urban drift.

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 are further grouped 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 one another in size, population, ecological characteristics, language, culture, settlement patterns, economic opportunities and historical background.

1.2.4 Social Characteristics

The country is made up of about 400 ethnic groups. Christianity and Islam are the major religions. The country has had a mixed public and private economy since independence in 1960 but national revenue has been 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 increased from 45 years in 1963 to 51 years in 1991 mainly due to improved living conditions and better health services, but has fallen to 43.4years (UNDP/ HDR 2003).

The Human Development Index (HDI) for Nigeria was 0.453 (UNDP/HDR, 2003), therefore ranking 158th among countries in the world. The literacy rate is 66.8% with life expectancy at birth of 43.4 years. The combined gross enrolment ratio for primary, secondary and tertiary schools is 64%, and a GDP per capita (PPP US$) of 1,050 in 2003.

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

Indicators	***Estimate***
Life Expectancy (in years)*	43.4
Fertility Rate (births per woman)**	5.5
Infant Mortality Rate (per 1,000 live births) **	98.8
Literacy (15yrs & above) Female (%)**	60.6
Male (%)**	75
Source: *UNDP/HDR 2003 **2003 NDHS	

1.3 Epidemiology of HIV/AIDS in Nigeria

AIDS was first reported in the country in 1986. The prevalence of HIV among ANC clients was 1.8% in 1991, 4.5% in 1996, 5.8% in 2001, and 5.0% in 2003. The epidemic in Nigeria has since extended beyond the high-risk groups to the general population. Some parts of the country are worse affected than others, but no state or community is unaffected. All the states of Nigeria have a generalized epidemic (> 1% among pregnant women). The epidemic in the country can be described as heterogeneous, with various communities in different stages, some declining while others are still rising.

From the results of the 2003 survey, it was estimated that 3.5 million people were living with HIV/AIDS in the country. The report also showed that HIV was more prevalent in the 20-29 year age group, in the urban areas and amongst persons with only primary and secondary school education.

AIDS cases are becoming more visible in communities. Although AIDS case reporting has been characterized by under-recognition, under-reporting, and delayed reporting, the number of reported cases has been on the increase, especially since 1996.

HIV prevalence rate among Female Sex Workers in Nigeria has remained high and on the increase, from 17.5% in 1991, through 22.5% (1993) to 35.6% (1995). This group constitutes an important reservoir of HIV infection for transmission to the general population, through sexual networking. Also, the growth in prevalence among tuberculosis patients has remained relatively high 2.8% in 1991, 7.9% in 1993, 13% in 1995 and 17.0% in 2000 (National sentinel surveys) with attendant strain on the health system.

1.3.1 Knowledge, Attitudes and Behaviour

Presently a high percentage of persons are aware of HIV/AIDS but accurate knowledge on how to prevent infection is limited. Attitudes towards risk of infection are also rather limited. Three strategies: abstinence, faithfulness and the use of condoms, have been adopted to prevent further transmission in the community, based on the high proportion of cases transmitted via sexual intercourse.

1.4 National Response

Nigeria commenced response activities as soon as the first case of HIV/AIDS was diagnosed and this was expanded in 2000. With the establishment of the Presidential Council on AIDS and the National Action Committee on AIDS, a coordinated effort to provide comprehensive prevention and care services have been implemented through a number of plans including the HIV/AIDS Emergency Action Plan (HEAP) the HIV/AIDS Health Sector Plans and the National Strategic Framework (NSF). These focus on scaling up access and quality of HIV/AIDS services. These include a wide range of interventions such as BCC, FLHE, VCT, Blood safety, PMTCT, Palliative care, ART, Home based care, support for OVC and PABA and adequate treatment of STI. While some of the interventions are being implemented widely, others are still in need of massive scaling up while few are in their formative stages.

The national response under the multisectoral platform, the strengthening of National Action Committee on AIDS (NACA) and the application of the THREE ONES principle (ONE National framework, ONE strategic plan, ONE monitoring and evaluation) has lead to better coordination, linkages, networking as well as increased access to available resources and interventions such as treatment and care. There has also been an improvement in the participation and the contributions of the private sector, civil society organizations, bilateral and multilateral organizations, PLWA and the United Nations agencies. More resources have been injected through government/public funding, Global Funds to fight AIDS, Tuberculosis and Malaria, the US government (PEPFAR) and the World Bank (MAP). Furthermore, greater commitment and engagement have been demonstrated by government, especially Federal and States in fighting the epidemic in Nigeria.

CHAPTER TWO

2.1 Goal

The HIV sero- prevalence survey was designed to provide information about the current HIV epidemic and its distribution in the country, with the aim of sensitizing all stakeholders to taking appropriate measures.

2.2 Specific Objectives

1. To determine the prevalence of HIV infection among women attending antenatal clinics in the 36 States in Nigeria and the Federal Capital Territory (FCT).
2. To determine the HIV prevalence in the country
3. To relate/describe the HIV prevalence by specific selected demographic characteristics and by geographical location.
4. To monitor trends of HIV prevalence among women attending antenatal clinics
5. To make general population estimates and projections of the HIV and AIDS epidemic and its impact in the country.

CHAPTER THREE

METHODOLOGY

3.1 Sentinel Population

The population for the 2005 sentinel survey included women aged 15-49 years attending antenatal clinics. 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 a routine blood drawn for syphilis testing. Pregnant women are also generally representative of the sexually active population.

3.2 Eligibility Criteria

Inclusion criteria for women in the survey were:

1. The woman was aged between 15 and 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 accepted syphilis testing

3.3 Site Selection

A site refers to public health facility providing antenatal care for pregnant women. These can be a general hospital, maternity hospital, comprehensive health center, specialist or teaching hospital.
Selection of sites was based on the following criteria:

1. Participation in previous surveys.
2. Availability of staff and facilities for drawing blood from antenatal clinic attendees on their first visit during a pregnancy.
3. Availability of qualified personnel and willingness of on-site staff to adhere to survey protocol.
4. Provision of services to a relatively large number of pregnant women per week to meet the sample size in 12 weeks.

At least two urban and two rural sites were selected from each state and the FCT. A rural site was defined as a community with a population of less than 20,000. In order to provide for the continuous monitoring of the trend of the epidemic, all the urban sentinel sites (86 sites) used in the 2001 and 2003 surveys were maintained. A total of 160 sites (86 urban sites and 74 rural sites) were selected for the 2005 survey (Appendix 1).
For each selected site, 1 medical officer or equivalent, 2 nursing staff and one laboratory scientist were identified and trained for data and blood collection.

3.4 Sample Size and Sampling Scheme

Based on the estimated HIV prevalence of 5%, the acceptable error margin of 2.5%, and the level of confidence (95%) a minimum sample size of 300 was considered adequate for urban sites. Because of the low attendance rate at ANC and the duration of the survey, a rural site was expected to generate 150 blood samples.

Within a site, data were collected from all (consecutively) eligible women that attended antenatal clinics during the survey period. The sampling period for the survey was limited to 12 weeks. Once a site was able to obtain the required sample size it stopped further sample collection.

3.5 Blood and Data Collection

An unlinked anonymous method of testing was used. All women, regardless of eligibility, were offered the opportunity to be screened and treated for syphilis as part of routine antenatal care.

Women attending antenatal clinic during the survey period were first screened to ensure that the eligibility criteria were met. For those women who were eligible, demographic information were recorded in the data collection form (Appendix III). The demographic data for each eligible client included age, marital status, educational status, gravidity, parity, usual residence and duration of residence at catchment area.

The eligible ANC client was then sent to the laboratory staff or nurse responsible for blood collection. Five millilitres of blood was collected from the subject into a sterile vacutainer tube containing EDTA, from which 2ml of plasma was dispensed into a cryovial after syphilis testing. The result of the syphilis test was returned to the attending doctor at the clinic for patient management. The cryovial was then labelled with the survey pre-labelled stickers containing a code specific to that sentinel site and was transported to the state laboratory where HIV testing and syphilis confirmation were carried out.

3.6 Confidentiality and Ethical Issues

Government policy states that all public health facilities must screen all pregnant women for syphilis in order to control and prevent congenital syphilis. Women were informed of the results of their syphilis screening during their next visits and appropriately treated according to National protocols and guidelines.

This survey used unlinked anonymous testing for HIV. Prior to sending the specimen for HIV testing at the state laboratory, the container was labeled with a code (survey ID number) that did not identify the attendee. This unlinked sample was then sent to the State HIV testing Laboratory for HIV testing. The anonymity of the patient was maintained as different personnel were involved in performing the syphilis and HIV screening tests.

3.7 Laboratory Methods

3.7.1 Site Laboratory Screening

Blood samples were tested for syphilis at the site laboratory using RPR and TPHA test kits and the test results returned to the clinic where the decisions on treatment for syphilis were made. Subsequently, the unlinked anonymous specimens were transported to the state laboratory for HIV and syphilis testing.

3.7.2 State Laboratory Screening

Samples were retrieved daily from sites with no adequate storage facilities and weekly where storage facilities were available, to the State laboratory. Samples for HIV testing were refrigerated until ready for testing by laboratory scientists specifically trained for the survey.

Syphilis test was re-conducted at the state laboratories using RPR and TPHA test kits. A two step algorithm was used. The samples that tested positive for RPR were retested using TPHA and only those that tested positive on TPHA were considered positive. The results were recorded on the laboratory data form (Appendix IV).

HIV testing was performed using a two-step algorithm. Determine HIV reagent was used to screen all specimens. Non-reactive samples were reported as HIV negative. Reactive samples were confirmed using Genie II HIV -1 + 2 test kit. Specimens positive in Genie II tests were reported as positive for HIV-1, HIV-2 or for both. Specimens positive in Determine test and negative in Genie II were reported as discordant. The true sero-status of these samples was determined using EIA at the Quality Control (QC) retesting. All test results were reported on the laboratory data form.

3.7.3 Data Retrieval

Completed patient biodata forms, laboratory data forms and all samples, irrespective of sero status, were transported by the state laboratory scientists to the quality control centre, maintaining the cold chain.

3.7.4 Central Screening and Quality Control

All samples that were positive for HIV on both Determine and Genie II tests and 10% of HIV negative samples were retested at QC centre. All discordant HIV results at state level were also retested. All syphilis positive samples at state level and 5% of syphilis negative samples were retested at QC first with RPR and those found reactive were confirmed with TPHA test kit. Negative specimens for HIV and Syphilis QC retesting were selected randomly from negative samples sent from the states.

Retesting of all state samples was done when the samples had doubtful results.This only affected the syphilis testing in one state. Another state did not conduct syphilis testing on all samples.This was therefore carried out in the quality control laboratory in compliance with the agreed QC protocol. A limited amount of retesting was performed with the two HIV rapid tests to answer questions about discordant test results between the two rapid tests .When EIA results differed with the results reported by states the results from EIA were used to determine HIV sero-status.

The following EIA algorithm was used to establish the sero-status of samples with discordant results between state and QC:

- Samples reactive by EIA twice were considered positive
- Samples non reactive by EIA twice are considered negative
- Samples giving two discordant EIA results were retested a third time as tie breaker
- Where there was an incomplete test result from states for a sample, EIA result was used.

3.8 Quality Assurance

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

- Experienced laboratory scientists practising at the site and state laboratories were engaged.
- Training of trainers (TOT) and zonal training (one in each of the 6 geopolitical zones) were organized for all personnel who participated in the survey. The training included a one day laboratory practical (hands- on) training on all laboratory tests for the laboratory personnel.
- The same screening and confirmatory test kits for syphilis and HIV were used in all the site and state laboratories.
- All test kits were evaluated for potency and shelf life before use.
- All test kits and samples were stored at appropriate temperatures.
- The Standard Operating Procedures (SOPs) and Survey Protocol were strictly adhered to at all times in all the sites, states and the QC centre.
- A supervisory visit was conducted during the survey to ensure compliance to SOPs and Survey Protocol.
- Laboratory activities were automated as much as possible due to the large sample size during retesting with EIA at the QC to minimize personnel errors.

3.9 Data Management

Data forms were checked for completeness, errors and inconsistencies to identify any data quality errors. Data were entered using Epi-info for Windows (version 3.2.2) software. Specific measures were taken to ensure that data entry was accurate. Such measures included programmed and guided screens, 100% double data entry and correction of discrepant records before commencement of data analysis. Frequency tables were generated for all variables in order to further examine whether there were any unusual entries.

The analysis focused on determining the prevalence rates of HIV infection and syphilis by the relevant independent variables - age, site, location (urban/rural), state, zone, parity, and education. The site and state prevalence rates were determined by expressing the number of positive samples as a percentage of the total samples tested, while the zonal prevalence was calculated as the median of the prevalence rates of all the sites within each zone, including rural sites. Exact 95% confidence intervals were determined for all rates.

3.10 Methods for Estimations and Projections

The methods, tools and assumptions made 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 out of experts in epidemiology, modelling and statistics that advice UNAIDS in the best methods and tools to be used to estimate national figures for HIV/AIDS. These methods and tools are revised regularly and improvements have been made in those since 2003.

The Epidemic Projection Package (EPP) 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, a computer modelling 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 at national level was the data collected on women attending ANC clinics through regular surveys that have been conducted biennially in Nigeria since 1991. One of the main factors affecting the results of this system is the level of attendance of women in the ANC clinics. In Nigeria it has been estimated that ANC clinics cover about 60% of the pregnant women, although there is extreme variations in the different States and among social classes.

For the estimation process in Nigeria there has been a revision of the rural ANC sites. Each state has 2 rural sites including rural sites used in 2003. However all the other sites before 2003 survey were mostly periurban settings and have been reclassified as urban sites.

Taking into account the fact that data from other African countries have shown that ANC surveillance when compared with the national population surveys tends to overestimate prevalence in rural locations, the technical working group decided to apply some correction factor. This proportion of ratio in West Africa is an average value of 0.6. Because Nigeria is yet to conduct a national population-based survey, the correction factor of 0.6 was applied to the prevalence found in the rural locations.

The estimates were based on the assumption that Nigeria's population in 2005 was about 134 million and that 54% of the population live in rural areas (NPC, 2002).

3.11 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 all 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 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

RESULTS

Data were collected from 36,931 women aged 15 -49 years attending antenatal clinics in 160 sites in the 36 states and FCT during the survey period. Data from 11 women were excluded during the analysis because HIV test was not done; thus 36,920 records were analysed.

4.1 Characteristics of the Survey Population (Table 1)

4.1.1 Age Distribution

Overall, 38% of women were less than 25 years old, and women in the NC, NE and NW zones were relatively younger than those in the SW, SE and SS zones. Seventeen percent and 19.6% were less than 20 years old in the Northwest and Northeast respectively. Women aged 40-49 years constituted a small percentage (2.3%) of the study population.

4.1.2 Marital status

More than 95% of the women were married in all zones except the South South (88%) and South West (93%).

4.1.3 Educational Status

A high proportion of women (74.1%) attending ANC at sentinel sites had received formal western education. Women in the SW, SE and SS zones were relatively more educated (western education) than women in the NC, NE and NW zones, while 10.2% had no education.

4.1.4 Gravidity and Parity

About 26% of the women presented in their first pregnancy and 28% had no previous delivery.

Table 1: Characteristics of the survey Population, (HSS 2005)

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	641	9.3	1111	19.6	1193	17.0	251	4.9	495	8.6	362	5.5	4053	11.0
20-24yrs	1982	29.0	1713	30.2	2142	31.0	1132	22.0	1544	27.0	1412	21.0	9925	26.9
25-29yrs	2352	34.0	1447	25.5	1737	25.0	1781	35.0	1930	34.0	2240	34.0	11487	31.1
30-34yrs	1279	19.0	859	15.1	1112	16.0	1251	25.0	1191	21.0	1741	26.0	7433	20.1
35-39yrs	509	7.4	426	7.5	512	7.4	553	11.0	465	8.1	709	11.0	3174	8.6
40-49yrs	138	2.0	125	2.2	179	2.6	130	2.6	123	2.1	153	2.3	848	2.3
Total	**6901**	**100**	**5681**	**100**	**6875**	**100**	**5098**	**100**	**5748**	**100**	**6617**	**100**	**36920**	**100**
Marital Status*														
Single	249	3.6	106	1.9	18	0.3	171	3.4	668	12	436	6.6	1648	4.5
Married	6628	96.0	5554	97.9	6818	99.0	4872	96.0	5053	88	6149	93	35074	95.0
Divorced/separated	16	0.2	8	0.1	26	0.4	12	0.2	4	0.1	29	0.4	95	0.3
Widowed	6	0.1	6	0.1	11	0.2	42	0.8	20	0.3	2	0	87	0.2
Total	**6899**	**100**	**5674**	**100**	**6873**	**100**	**5097**	**100**	**5745**	**100**	**6616**	**100**	**36904**	**100**
Educational status*														
None	1383	20.0	1165	20.5	608	8.8	137	2.7	202	3.5	262	4.0	3757	10.2
Quranic only	597	8.7	2048	36.1	3059	45.0	24	0.5	49	0.9	39	0.6	5816	15.8
Primary	1755	25.0	1077	19.0	1153	17.0	894	18.0	1412	25.0	1477	22.0	7768	21.1
Secondary	2178	32.0	1094	19.3	1572	23.0	2746	54.0	3051	53.0	3009	46.0	13650	37.0
Higher	983	14.0	293	5.2	479	7.0	1296	25.0	1030	18.0	1830	28.0	5911	16.0
Total	**6896**	**100**	**5677**	**100**	**6871**	**100**	**5097**	**100**	**5744**	**100**	**6617**	**100**	**36902**	**100**
Location														
Urban	4802	69.6	3898	68.6	4496	65.4	3600	70.6	3949	68.7	4865	73.5	25610	69.4
Rural	2099	30.4	1783	31.4	2379	34.6	1498	29.4	1799	31.3	1752	26.5	11310	30.6
Total	**6901**	**100**	**5681**	**100**	**6875**	**100**	**5098**	**100**	**5748**	**100**	**6617**	**100**	**36920**	**100**
Gravidity**														
1	1718	25	1160	20.4	1532	22.3	1557	30.6	1663	28.9	1902	28.7	9532	25.9
>1	5143	75	4516	79.6	5335	77.7	3527	69.4	4082	71.1	4714	71.3	27317	74.1
Total	**6861**	**100**	**5676**	**100**	**6867**	**100**	**5084**	**100**	**5745**	**100**	**6616**	**100**	**36849**	**100**
Parity**														
0	1790	26.3	1215	21.4	1601	23.3	1663	32.7	1848	32.7	2215	33.6	10332	28.2
1	1477	21.7	998	17.6	1314	19.1	1111	21.8	1190	21	1582	24	7672	20.9
>1	3549	52.1	3462	61	3950	21.1	2319	45.5	2618	46.3	2801	42.5	18699	50.9
Total	**6816**	**100**	**5675**	**100**	**6865**	**64**	**5093**	**100**	**5656**	**100**	**6598**	**100**	**36703**	**100**

***16 records missing marital status **18 records missing educational status ***71 records missing gravidity ****217 records missing parity**

4.2 HIV Prevalence

Overall, HIV prevalence among surveyed women attending ANC during the period was 4.4% (C.I. 4.2-4.6). HIV prevalence was 4.6% (C.I. 4.4-4.9) in urban sites and 3.9% (C.I. 3.6-4.3) in rural sites.

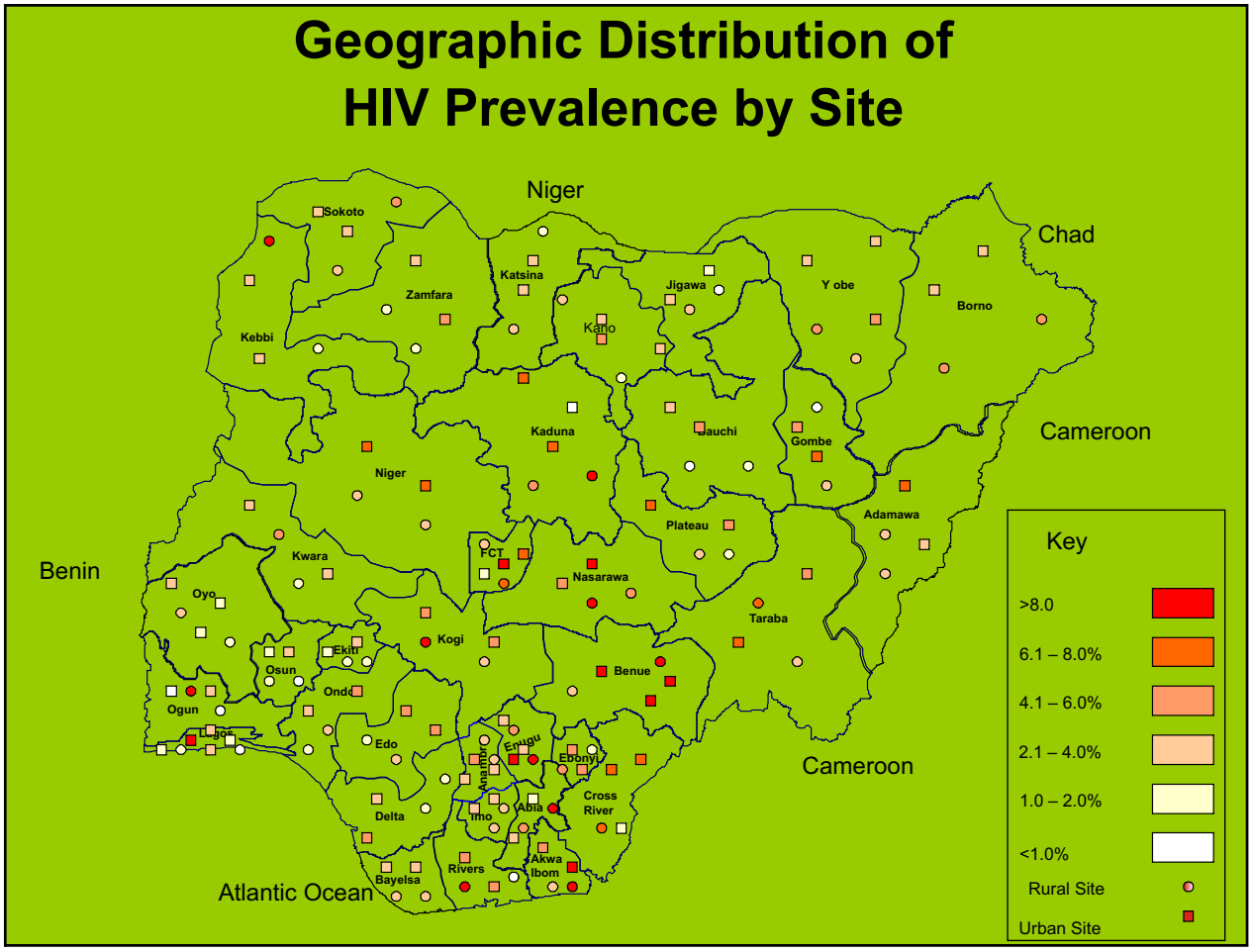
The lowest zonal prevalence was in the South West (2.6%) while the highest was in the North Central (6.1%).

Figure 1: HIV Prevalence by Zone (HSS 2005)

4.2.1 HIV Prevalence by Site

HIV prevalence ranged from 0% in Taura (Jigawa) and Eberi (Rivers) to 14.7% in Iquita-Oron (Akwa Ibom) in rural sites. In urban sites, prevalence ranged from 0.7% in Abeokuta (Ogun) to 13.0% in Makurdi (Benue). A high proportion of survey sites located in North Central, South East and South South zones had HIV prevalence higher than 6%.

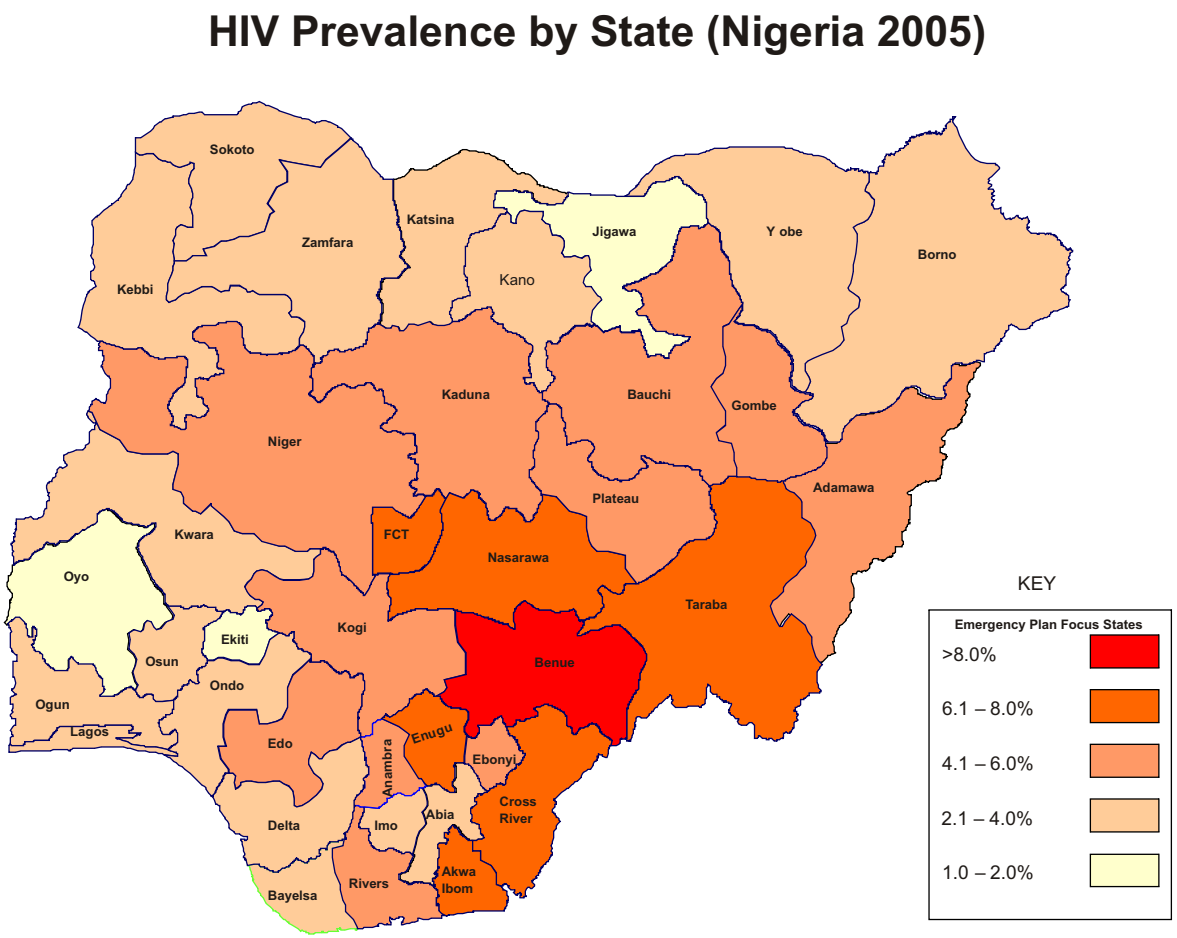
Figure 2: Geographical Distribution of HIV Prevalence by Site (HSS 2005)



4.2.2 HIV Prevalence by State

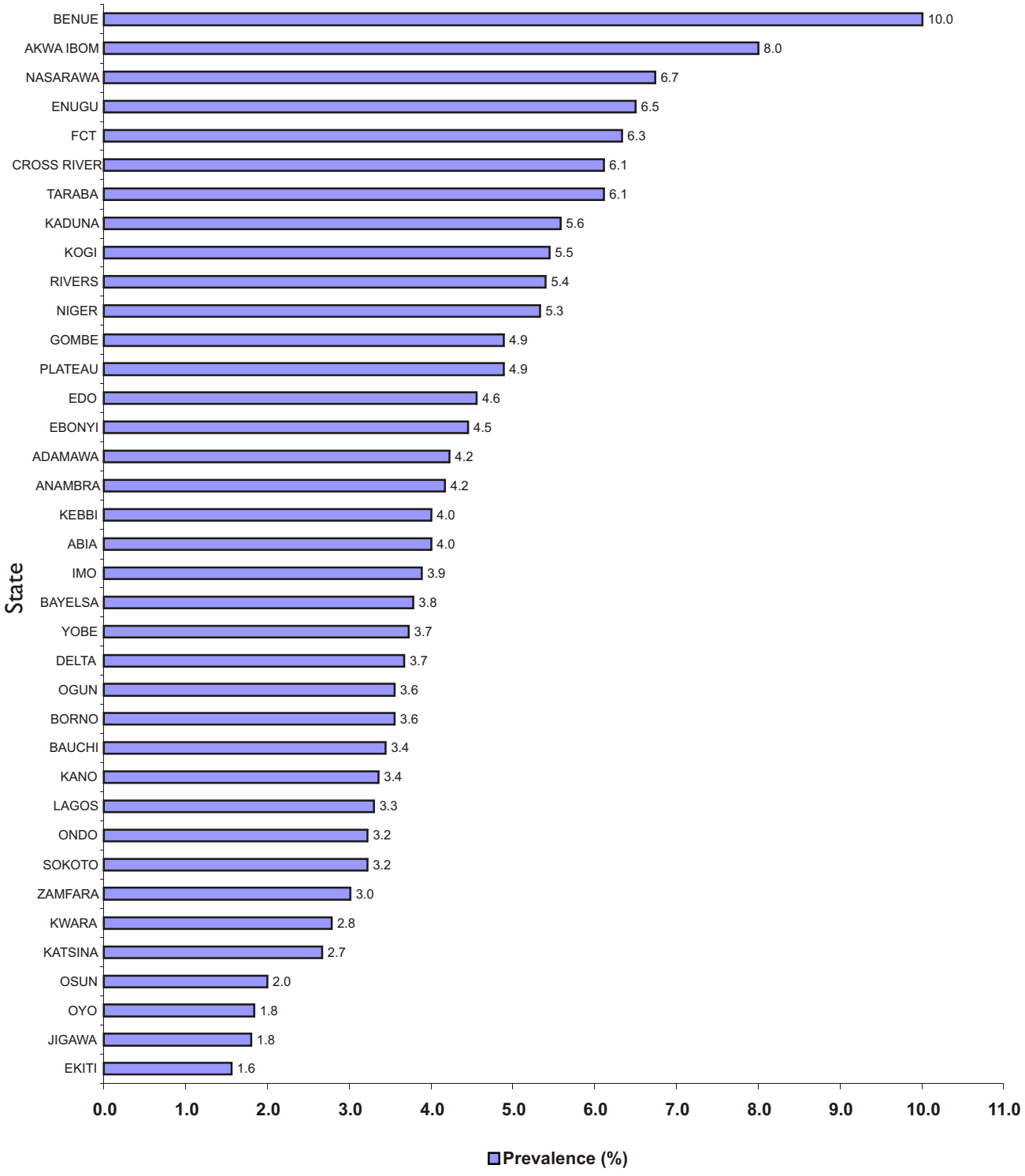
States in the North West and South West had lower HIV prevalence. High HIV prevalence is concentrated in Benue and its adjoining states (Figure 3).

Figure 3: Geographical Distribution of HIV Prevalence by State (HSS 2005)



The state HIV prevalence range from 1.6% (Ekiti) to 10.0% (Benue) and the median prevalence was 4.0% (Abia) Figure 4

Figure 4: HIV Prevalence by State, (HSS 2005)



4.2.3 HIV Prevalence by Zone, State and Site

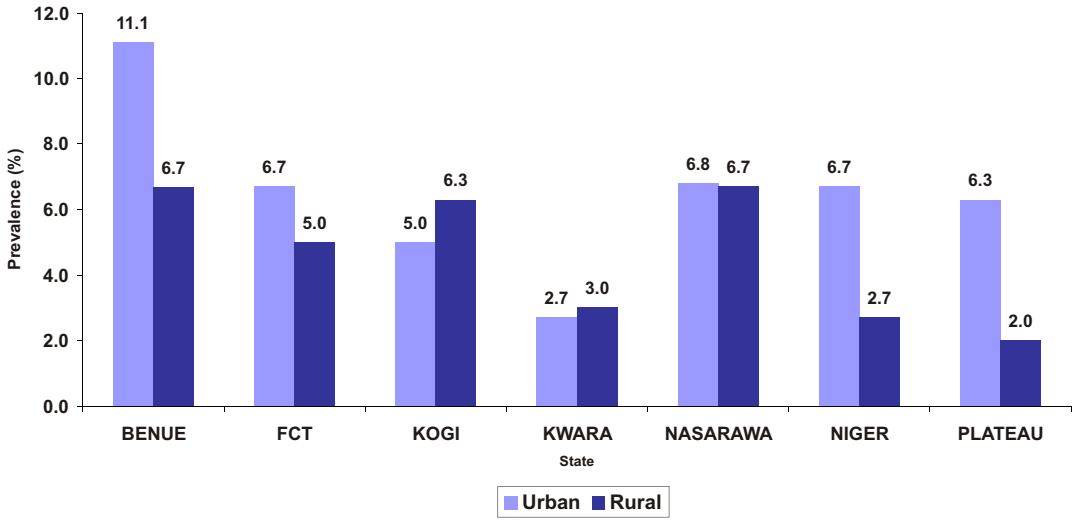
North Central Zone (Table 2, Figure 5)

Table 2: HIV Prevalence by State, Site and Location, North Central Zone (HSS 2005)

State	Site	Site Status	Total Sample	Number Positive	Prevalence (%)	Confidence Interval
BENUE	IHUGU	Urban	299	34	11.4	8.0-15.5
	MAKURDI	Urban	300	39	13.0	9.4-17.3
	OTUKPO	Urban	300	27	9.0	6.0-12.8
	OKPOGA	Rural	150	4	2.7	0.7-6.7
	WANNUNE	Rural	150	16	10.7	6.2-16.7
	Total		**1199**	**120**	**10.0**	**8.4-11.9**
FCT	GWAGWALADA	Urban	300	35	11.7	8.3-15.9
	NYANYA	Urban	300	20	6.7	4.1-10.1
	WUSE	Urban	300	6	2.0	0.7-4.3
	BWARI	Rural	150	5	3.3	1.1-7.6
	KARSHI	Rural	150	10	6.7	3.2-11.9
	Total		**1200**	**76**	**6.3**	**5.1-7.9**
KOGI	ANKPA	Urban	300	17	5.7	3.3-8.9
	LOKOJA	Urban	299	13	4.3	2.3-7.3
	CHERI					
	MEGUMARI	Rural	150	13	8.7	4.7-14.4
	MASARA	Rural	150	6	4.0	1.5-8.5
	Total		**899**	**49**	**5.5**	**4.1-7.2**
KWARA	ILORIN	Urban	300	7	2.3	0.9-4.7
	OFFA	Urban	299	9	3.0	1.4-5.6
	KAIAMA	Rural	149	2	1.3	0.2-4.8
	PATIGI	Rural	150	7	4.7	1.9-9.4
	Total		**898**	**25**	**2.8**	**1.8-4.1**
NASARAWA	LAFIA	Urban	305	28	9.2	6.3-13.1
	N/EGGON	Urban	300	13	4.3	2.3-7.3
	DOMA	Rural	150	7	4.7	1.9-9.4
	GARAKU	Rural	150	13	8.7	4.7-14.4
	Total		**905**	**61**	**6.7**	**5.2-8.6**
NIGER	MINNA	Urban	300	20	6.7	4.1-10.1
	WUSHISHI	Urban	300	20	6.7	4.1-10.1
	LEMU	Rural	150	4	2.7	0.7-6.7
	PAIKO	Rural	150	4	2.7	0.7-6.7
	Total		**900**	**48**	**5.3**	**4.0-7.1**
PLATEAU	JOS	Urban	300	15	5.0	2.8-8.1
	SHENDAM	Urban	300	23	7.7	4.9-11.3
	GANAWURI	Rural	150	4	2.7	0.7-6.7
	PANYAM	Rural	150	2	1.3	0.2-4.7
	Total		**900**	**44**	**4.9**	**3.6-6.6**
Median					**4.9**	
Median Urban					**6.7**	
Median Rural					**3.7**	

The state with the highest prevalence was Benue (10.0%) while Kwara had the lowest (2.8%). The median prevalence for rural sites in the zone was 3.7% with a range of 1.3% in Panyam (Plateau) and Kaiama (Kwara) to 10.7% in Wannune (Benue). The median prevalence for urban sites in the zone was 6.7% with a range of 2.0% in Wuse (FCT) to 13.0% in Makurdi (Benue).

Figure 5: HIV Prevalence in Urban and Rural Sites by State, North Central Zone, (HSS 2005)



North East Zone (Table 3 and Figure 6)

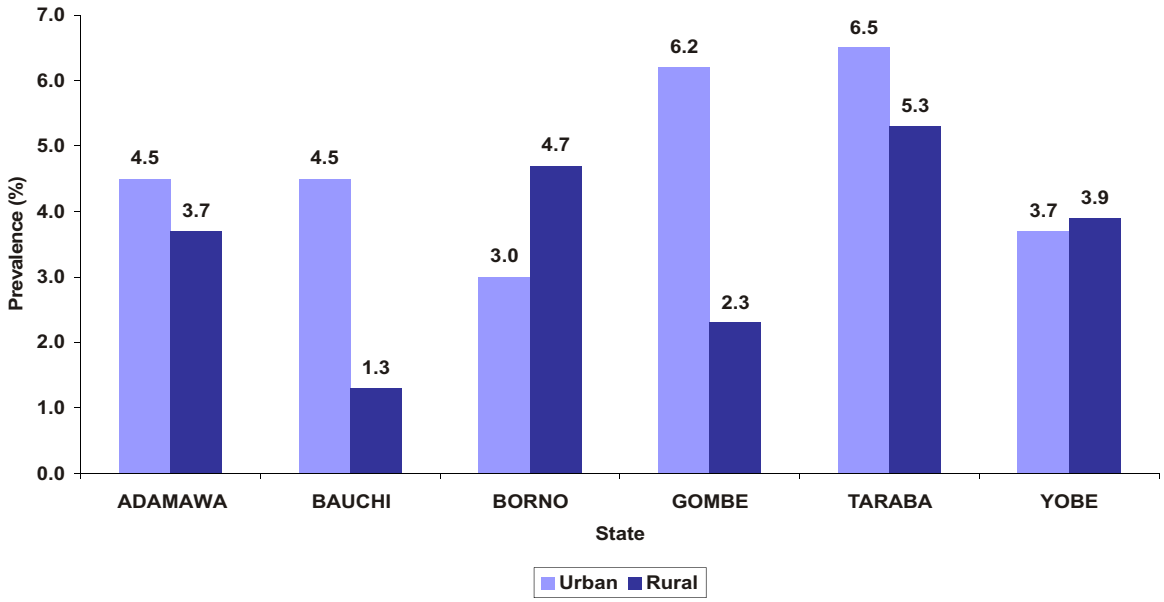
Table 3: HIV Prevalence by State, Site and Location, North East Zone, (HSS 2005)

State	Site	Site Status	Total Sample	Number Positive	Prevalence (%)	Confidence Interval
ADAMAWA	MUBI	Urban	300	7	2.3	0.9-4.7
	YOLA	Urban	300	20	6.7	4.1-10.1
	HONG	Rural	150	5	3.3	1.1-7.6
	MAYO BELWA	Rural	150	6	4.0	1.5-8.5
	Total		**900**	**38**	**4.2**	**3.0-5.8**
BAUCHI	AZARE	Urban	300	10	3.3	1.6-6.0
	BAUCHI	Urban	300	17	5.7	3.3-8.9
	SHIRA YANA	Rural	150	3	2.0	0.4-5.7
	TORO	Rural	150	1	0.7	0-3.7
	Total		**900**	**31**	**3.4**	**2.4-4.9**
BORNO	BIU	Urban	300	7	2.3	0.9-4.7
	MAIDUGURI	Urban	300	11	3.7	1.8-6.5
	KONDUGA	Rural	150	7	4.7	1.9-9.4
	NGALA	Rural	150	7	4.7	1.9-9.4
	Total		**900**	**32**	**3.6**	**2.5-5.0**
GOMBE	GOMBE	Urban	300	19	6.3	3.9-9.7
	KALTUNGO	Urban	300	18	6.0	3.6-9.3
	KWAMI	Rural	150	6	4.0	1.5-8.5
	ZAMBUK	Rural	150	1	0.7	0-3.7
	Total		**900**	**44**	**4.9**	**3.6-6.6**
TARABA	JALINGO	Urban	300	17	5.7	3.3-8.9
	ZING	Urban	300	22	7.3	4.7-10.9
	SUNKANI	Rural	150	5	3.3	1.1-7.6
	YAKOKO	Rural	150	11	7.3	3.7-12.7
	Total		**900**	**55**	**6.1**	**4.7-7.9**
YOBE	DAMATURU	Urban	300	9	3.0	1.4-5.6
	GEIDAM	Urban	299	14	4.7	2.6-7.7
	POTISKUM	Urban	299	10	3.3	1.6-6.1
	BABANGIDA	Rural	150	8	5.3	2.3-10.2
	JAKUSKO	Rural	133	3	2.3	0.5-6.5
	Total		**1181**	**44**	**3.7**	**2.8-5.0**

Median	**4.0**
Median Urban	**4.7**
Median Rural	**3.7**

The state prevalence ranged from 3.4% in Bauchi to 6.1% in Taraba. The median HIV prevalence in urban sites was 4.7% and 3.7% in rural sites. Prevalence in urban sites ranged from 2.3% in Biu (Borno) to 7.3% in Zing (Taraba) while in rural sites prevalence ranged from 0.7% in Toro (Bauchi) and Zambuk (Gombe) to 7.3% in Yakoko (Taraba). In Borno states, prevalence was higher in rural sites than urban sites. Bauchi, Yobe and Borno states had lower prevalence (3.4 3.7) compared to Adamawa, Gombe and Taraba (4.2 6.1%).

Figure 6: HIV Prevalence in Urban and Rural Areas, North East Zone, (HSS 2005)



North West Zone (Table 4, Fig. 7)

Table 4: HIV Prevalence by State, Site and Location, North West Zone, (HSS 2005)

State	Site	Site Status	Total Sample	Number Positive	Prevalence (%)	Confidence Interval
JIGAWA	DUTSE	Urban	300	6	2.0	0.7-4.3
	HADEJIA	Urban	299	7	2.3	0.9-4.8
	MALLAM MADORI	Rural	141	3	2.1	0.4-6.1
	TAURA	Rural	150	0	0.0	0-2.4
	Total		**890**	**16**	**1.8**	**1.1-3.0**
KADUNA	KADUNA	Urban	301	21	7.0	4.5-10.6
	KAFANCHAN	Urban	299	21	7.0	4.4-10.5
	ZARIA	Urban	300	3	1.0	0.2-2.9
	KWOI	Rural	150	7	4.7	1.9-9.4
	SAMINAKA	Rural	150	15	10.0	5.7-16.0
	Total		**1200**	**67**	**5.6**	**4.4-7.1**
KANO	RANO	Urban	298	11	3.7	1.9-6.5
	KANO MMSH	Urban	300	8	2.7	1.2-5.2
	KANO AKTH	Urban	300	13	4.3	2.3-7.3
	SHANONO	Rural	150	6	4.0	1.5-8.5
	KANO	Rural	143	2	1.4	0.2-5.0
	Total		**1191**	**40**	**3.4**	**2.4-4.6**

KATSINA	FUNTUA	Urban	298	8	2.7	1.2-5.2
	KATSINA	Urban	301	10	3.3	1.7-6.2
	BAURE	Rural	150	4	2.7	0.7-6.7
	JIBIA	Rural	150	2	1.3	0.2-4.7
	Total		**899**	**24**	**2.7**	**1.8-4.0**
KEBBI	ARGUNGU	Urban	300	10	3.3	1.6-6.0
	FATI LAMI	Urban	300	11	3.7	1.8-6.5
	ALIERO	Rural	149	2	1.3	0.2-4.8
	SENCHI	Rural	150	13	8.7	4.7-14.4
	Total		**899**	**36**	**4.0**	**2.9-5.6**
SOKOTO	DOGON DAJI	Urban	300	8	2.7	1.2-5.2
	SOKOTO	Urban	300	10	3.3	1.6-6.0
	GWADABAWA	Rural	150	5	3.3	1.1-7.6
	TAMBUWAL	Rural	150	6	4.0	1.5-8.5
	Total		**900**	**29**	**3.2**	**2.2-4.7**
ZAMFARA	GUSAU	Urban	299	15	5.0	2.8-8.1
	MAFARA	Urban	299	8	2.7	1.2-5.2
	KOTORKOSHI	Rural	148	2	1.4	0.2-4.8
	RUWA DORUWA	Rural	150	2	1.3	0.2-4.7
	Total		**896**	**27**	**3.0**	**2.0-4.4**
Median					**3.0**	
Median Urban					**3.3**	
Median Rural					**2.4**	

The HIV prevalence in urban areas ranged from 1.0% in Zaria to 7.0% in Kaduna and Kafanchan (Kaduna) with a median of 3.3% while in rural sites, prevalence ranged from 0% in Taura (Jigawa) to 10% in Saminaka (Kaduna) with a median of 2.4%. The state HIV prevalence ranged from 1.8 in Jigawa to 5.6 in Kaduna. The rural HIV prevalence was higher than urban in some sites within the zone.

Figure 7: HIV Prevalence in Urban and Rural Areas, North West Zone, (HSS 2005)

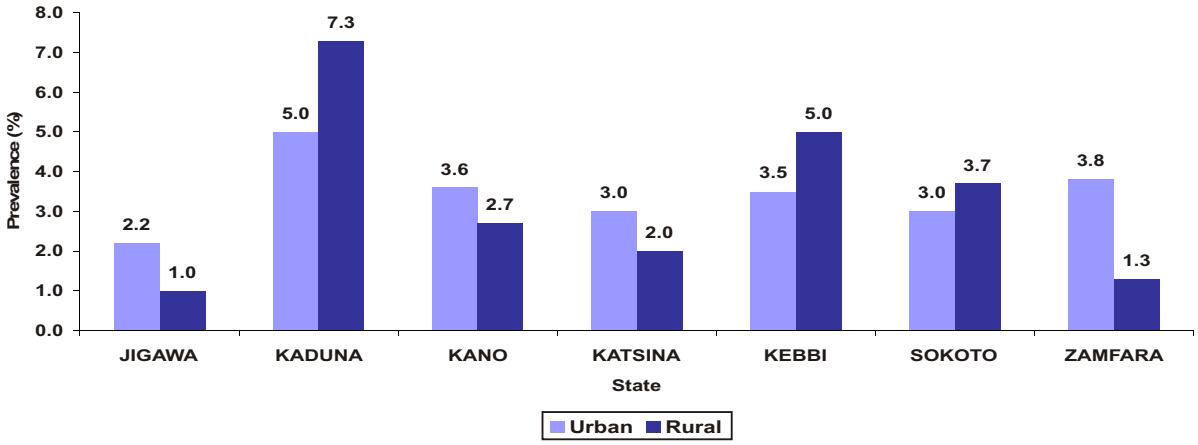
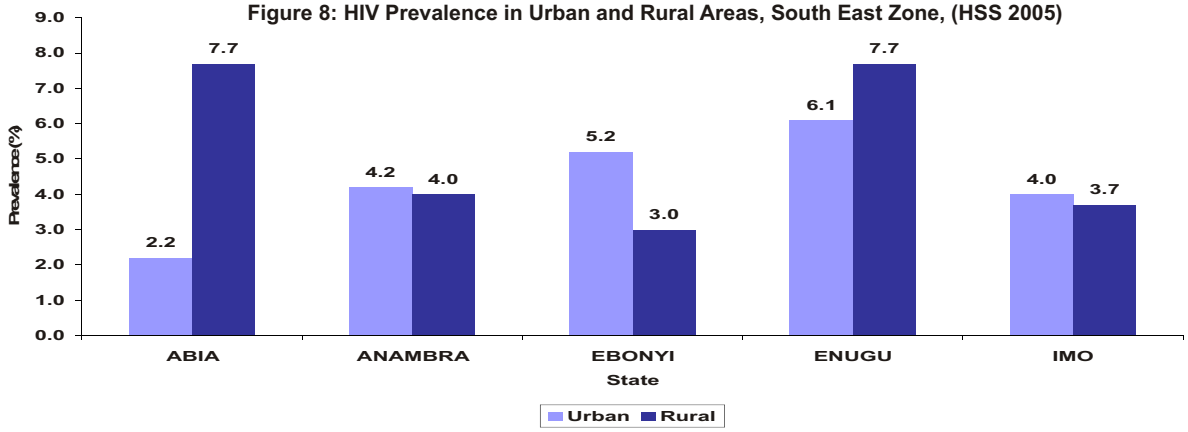


Figure 8: HIV Prevalence in Urban and Rural Areas, South East Zone, (HSS 2005)



South East Zone (Table 5, Fig. 8)

Table 5: HIV Prevalence by State, Site and Location, South East Zone, (HSS 2005)

State	Site	Site Status	Total Sample	Number Positive	Prevalence (%)	Confidence Interval
ABIA	ABA	Urban	300	7	2.3	0.9-4.7
	UMUAHIA	Urban	300	6	2.0	0.7-4.3
	OHAFIA	Rural	150	14	9.3	5.2-15.2
	OKPUALA-NGWA	Rural	150	9	6.0	2.8-11.1
	Total		**900**	**36**	**4.0**	**2.9-5.6**
ANAMBRA	AWKA	Urban	300	15	5.0	2.8-8.1
	EKWULOBIA	Urban	300	11	3.7	1.8-6.5
	ONITSHA	Urban	300	12	4.0	2.1-6.9
	ENUGWU-UKWU	Rural	150	6	4.0	1.5-8.5
	OGIDI	Rural	150	6	4.0	1.5-8.5
	Total		**1200**	**50**	**4.2**	**3.1-5.5**
EBONYI	ABAKALIKI	Urban	300	16	5.3	3.1-8.5
	AFIKPO	Urban	300	15	5.0	2.8-8.1
	ITIM UKWU	Rural	148	7	4.7	1.9-9.5
	NDUBIA	Rural	150	2	1.3	0.2-4.7
	Total		**898**	**40**	**4.5**	**3.2-6.1**
ENUGU	ACHI	Urban	300	38	12.7	9.1-17.0
	NSUKKA	Urban	300	8	2.7	1.2-5.2
	ENUGU/					
	PARK LANE	Urban	300	9	3.0	1.4-5.6
	ORBA	Rural	150	7	4.7	1.9-9.4
	UDI	Rural	150	16	10.7	6.2-16.7
	Total		**1200**	**78**	**6.5**	**5.2-8.1**
IMO	ORLU/AMAIFEKE	Urban	300	12	4.0	2.1-6.9
	OWERRI	Urban	300	12	4.0	2.1-6.9
	ABOH MBAISE	Rural	150	5	3.3	1.1-7.6
	AHIAZU	Rural	150	6	4.0	1.5-8.5
	Total		**900**	**35**	**3.9**	**2.8-5.4**
Median					**4.0**	
Median Urban					**4.0**	
Median Rural					**4.4**	

The median HIV prevalence in urban sites was 4.0% and 4.4% in rural sites.The state prevalence ranged from 3.9 in Imo to 6.5 in Enugu. Prevalence in the urban sites ranged from 2.0% in Umuahia (Abia) to 12.7 % in Achi, (Enugu). Prevalence in rural sites ranged from 1.3 in Ndubia (Ebonyi) to 10.7 in Udi (Enugu). The overall median prevalence for the zone was higher for the rural than urban.

South South Zone (Table 6, Fig. 9)

Table 6: HIV Prevalence by State, Site and Location, South South Zone, (HSS 2005)

State	Site Status	Site Sample	Total Positive	Number (%)	Prevalence Interval	Confidence
AKWA IBOM	UYO	Urban	300	17	5.7	3.3-8.9
	ESSIEN UDIM/					
	URUA AKPAN	Urban	300	27	9.0	6.0-12.8
	IKONO	Rural	150	6	4.0	1.5-8.5
	IQUITA-ORON	Rural	150	22	14.7	9.4-21.4
	Total		**900**	**72**	**8.0**	**6.4-10.0**

BAYELSA	SAGBAMA	Urban	299	10	3.3	1.6-6.1
	YENAGOA	Urban	300	12	4.0	2.1-6.9
	AMASSOMA	Rural	150	6	4.0	1.5-8.5
	BRASS	Rural	150	6	4.0	1.5-8.5
	Total		**899**	**34**	**3.8**	**2.7-5.3**
CROSS RIVER	CALABAR	Urban	300	19	6.3	3.9-9.7
	IKOM	Urban	300	21	7.0	4.4-10.5
	AKAMKPA	Rural	150	12	8.0	4.2-13.6
	GAKEM	Rural	150	3	2.0	0.4-5.7
	Total		**900**	**55**	**6.1**	**4.7-7.9**
DELTA	AGBOR	Urban	300	12	4.0	2.1-6.9
	WARRI	Urban	300	15	5.0	2.8-8.1
	OKPARA - INLAND	Rural	150	3	2.0	0.4-5.7
	OWHELOGBO	Rural	150	3	2.0	0.4-5.7
	Total		**900**	**33**	**3.7**	**2.6-5.2**
EDO	BENIN CITY	Urban	300	17	5.7	3.3-8.9
	EKPOMA	Urban	300	15	5.0	2.8-8.1
	AGBEDE	Rural	150	3	2.0	0.4-5.7
	IRUEKPEN	Rural	150	6	4.0	1.5-8.5
	Total		**900**	**41**	**4.6**	**3.3-6.2**
RIVERS	BONNY	Urban	300	18	6.0	3.6-9.3
	BORI	Urban	300	17	5.7	3.3-8.9
	PORT HARCOURT	Urban	350	18	5.1	3.2-8.2
	EBERI	Rural	149	0	0.0	0-2.4
	EDEOHA	Rural	150	15	10.0	5.7-16.0
	Total		**1249**	**68**	**5.4**	**4.3-6.9**
Median					**4.5**	
Median Urban					**5.4**	
Median Rural					**4.0**	

The HIV prevalence in urban areas ranged from 3.3% in Sagbama (Bayelsa) to 9.0% in Urua Akpan /Essien Udim (Akwa Ibom) with a median of 5.4%, while in rural sites, prevalence ranged from 0.0% in Eberi (Rivers) to 14.7% in Iquita-Oron (Akwa Ibom) with a median of 4.0%. The state HIV prevalence rates ranged from 3.7% in Delta to 8.0% in Akwa Ibom. In most states in the zone urban and rural HIV prevalence were similar except in Edo and Delta where the urban prevalence was higher than the rural

Figure 9: HIV Prevalence in Urban and Rural Areas, South South Zone, (HSS 2005)

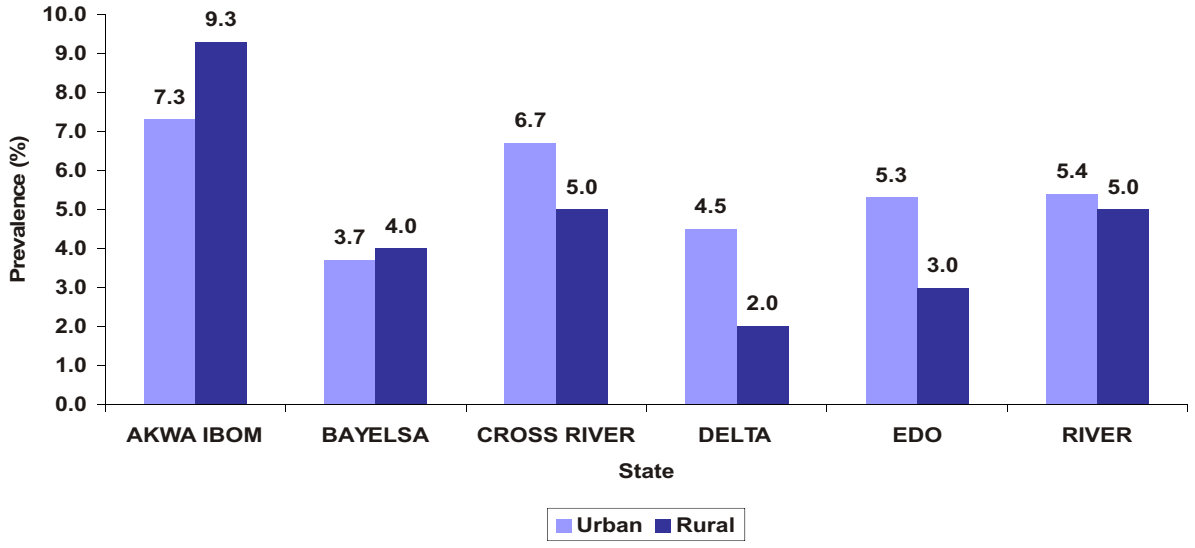


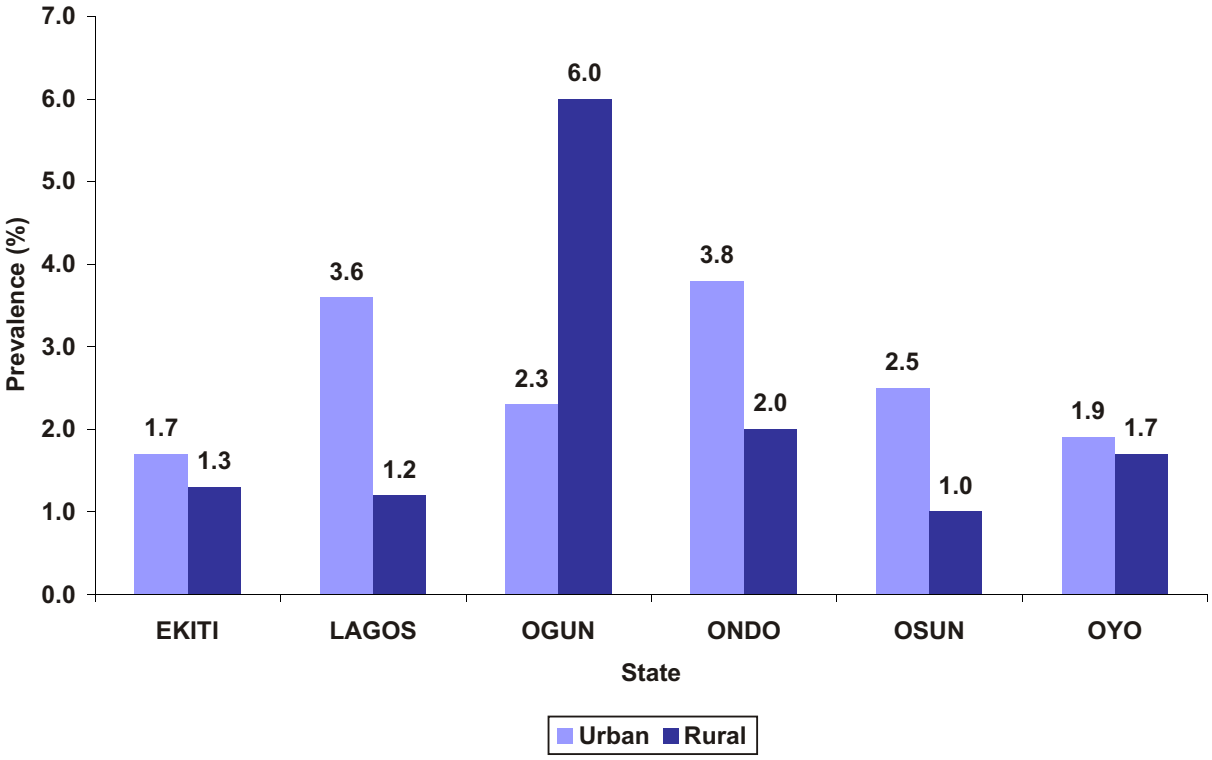
Table 7: HIV Prevalence by State, Site and Location, South West Zone, (HSS 2005)

State	Site	Site Status	Total Sample	Number Positive	Prevalence (%)	Confidence Interval
EKITI	ADO-EKITI	Urban	300	7	2.3	0.9-4.7
	IKOLE	Urban	299	3	1.0	0.2-2.9
	IGBARA ODO	Rural	150	2	1.3	0.2-4.7
	IPAO	Rural	149	2	1.3	0.2-4.8
	Total		**898**	**14**	**1.6**	**0.9-2.7**
LAGOS	BADAGRY	Urban	308	6	1.9	0.8-4.4
	EPE	Urban	334	8	2.4	1.1-4.8
	IKEJA	Urban	320	4	1.3	0.4-3.4
	LAGOS ISLAND	Urban	300	28	9.3	6.3-13.2
	SURULERE	Urban	304	11	3.6	1.9-6.6
	AGBOWA	Rural	149	2	1.3	0.2-4.8
	IJEDE	Rural	104	1	1.0	0.0-5.2
	Total		**1819**	**60**	**3.3**	**2.5-4.3**
OGUN	ABEOKUTA	Urban	300	2	0.7	0.1-2.4
	IJEBU-ODE	Urban	300	12	4.0	2.1-6.9
	AYETORO	Rural	150	1	0.7	0.0-3.7
	ISARA	Rural	150	17	11.3	6.7-17.5
	Total		**900**	**32**	**3.6**	**2.5-5.0**
ONDO	AKURE	Urban	300	13	4.3	2.3-7.3
	ONDO	Urban	300	10	3.3	1.6-6.0
	ALADE	Rural	150	2	1.3	0.2-4.7
	IJU	Rural	150	4	2.7	0.7-6.7
	Total		**900**	**29**	**3.2**	**2.2-4.7**
OSUN	ILESA	Urban	300	11	3.7	1.8-6.5
	OSOGBO	Urban	300	4	1.3	0.4-3.4
	IBOKUN	Rural	150	2	1.3	0.2-4.7
	IRAGBERI	Rural	150	1	0.7	0.0-3.7
	Total		**900**	**18**	**2.0**	**1.2-3.2**
OYO	IBADAN	Urban	300	3	1.0	0.2-2.9
	OGBOMOSO	Urban	300	4	1.3	0.4-3.4
	SAKI	Urban	300	10	3.3	1.6-6.0
	ADO-AWAYE	Rural	150	3	2.0	0.4-5.7
	LAGUN	Rural	150	2	1.3	0.2-4.7
	Total		**1200**	**22**	**1.8**	**1.2-2.8**
Median					**1.3**	
Median Urban					**2.4**	
Median Rural					**1.3**	

South West Zone (Table 7, Figure 10)

The HIV prevalence in urban areas ranged from 0.7% in Abeokuta to 9.3% Lagos Island (Lagos) with a median of 2.4% while in rural sites, prevalence ranged from 0.7% in Iragbere (Osun state) to 11.3% in Isara (Ogun) with a median of 1.3%. The state HIV prevalence rates ranged from 1.8% in Ekiti to 3.6% in Ogun. The rural prevalence in Ogun state was more than double the urban prevalence (Figure 10).

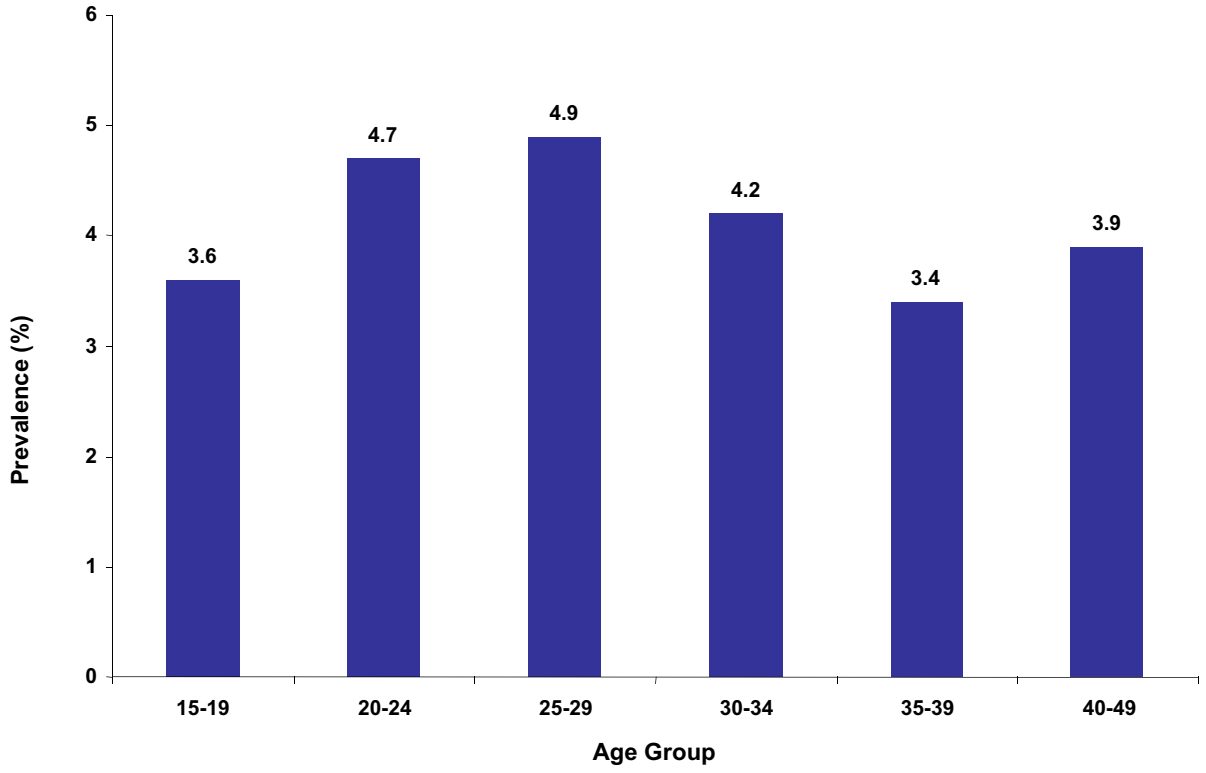
Figure 10: HIV Prevalence in Urban and Rural Areas, South West Zone, (HSS 2005)



4.2.4 HIV Prevalence by Age Group (Figure 11)

HIV prevalence was highest in the 25-29 age group closely followed by women aged 20-24 years.

Figure 11: HIV Prevalence by Age Group (Years), (HSS 2005)



4.2.5 **HIV Prevalence by Marital Status** (Table 8)

HIV prevalence was lowest among married women.

Table 8: HIV Prevalence by Marital status (HSS 2005)

Marital Status	Sample Size	Number Positive	Prevalence (%)	Confidence Interval
Single	1648	79	4.8	3.8-6.0
Married	35074	1528	4.4	4.1-4.6
Other	182	16	8.8	5.1-13.9
Total	**36904**	**1623**	**4.4**	**4.2-4.4**

4.2.6 **HIV Prevalence by Educational Status** (Table 9)

The lowest prevalence (3.1%) was observed among women with Quranic education only. Women with primary and secondary education had the highest HIV prevalence.

Table 9: HIV Prevalence by Educational Status

Educational Status	Sample Size	Number Positive	Prevalence (%)	Confidence Interval
None	3757	156	4.2	3.5-4.9
Quranic Only	5816	181	3.1	2.7-3.6
Primary	7768	375	4.8	4.4-5.3
Secondary	13650	689	5.0	4.7-5.4
Higher	5911	222	3.8	3.3-4.3
Total	36902	1623	4.4	4.2-4.6

4.2.7 **HIV Prevalence by Gravidity and Parity** (Table 10)

HIV prevalence among women in their first pregnancy was higher than those women with two or more pregnancies. The difference however was not statistically significant. HIV prevalence was also higher among women with no previous deliveries compared to women with 1 or more deliveries.

Table 10: HIV Prevalence by Gravidity and Parity

Gravidity Status	Sample Size	Number Positive	Prevalence (%)	Confidence Interval
1	9532	445	4.7	4.3-5.1
2 or more	27317	1177	4.3	4.1-4.6
Total	**36851**	**1622**	**4.4**	**4.2-4.6**
Parity				
0	10332	490	4.7	4.3-5.2
1	7672	388	5.1	4.6-5.6
2 or more	18699	737	3.9	3.7-4.2
Total	**36703**	**1615**	**4.4**	**4.2-4.6**

4.2.8 HIV Prevalence among Young Pregnant Women (15-24 years)

Analysis was conducted among women aged 15 -24 years, since HIV prevalence in this group is used as a proxy for measuring rates of new infections in the population. The overall HIV prevalence in this group was 4.3%. The median state prevalence was 4.2% with a range of 1.2% in Ekiti and Osun to 9.1% in Benue.

Figures 12 to 17 present the HIV prevalence among this group in the six geopolitical zones.

Figure 12: HIV Prevalence among women age 15-24 year by state and location, North East Zone, (HSS 2005),

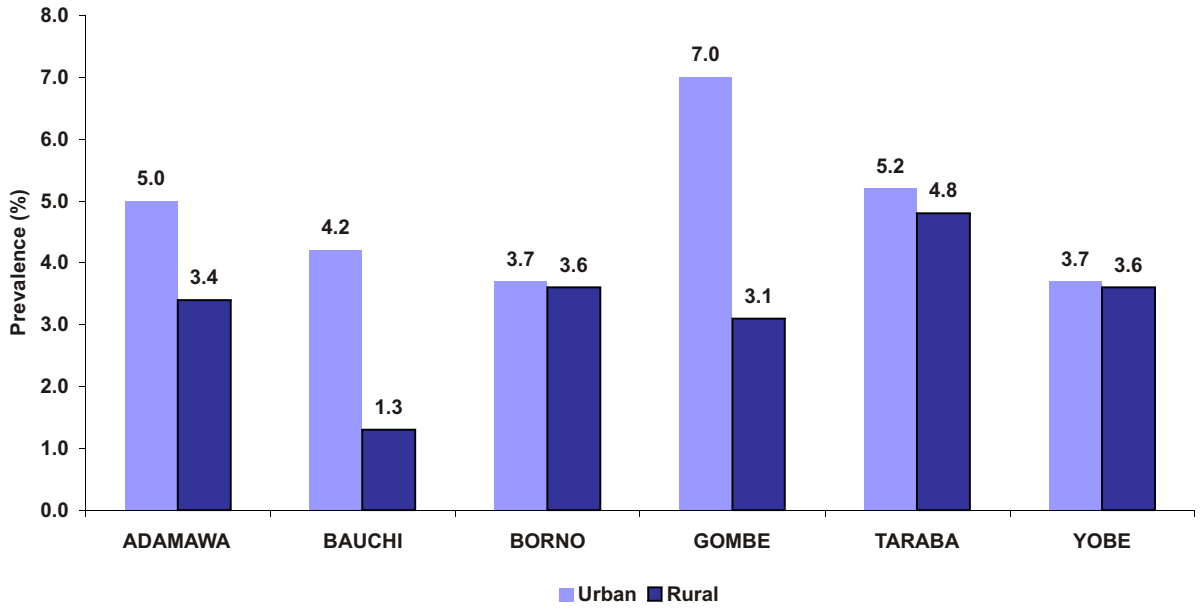


Figure 12 shows the HIV prevalence among this age group in the North Central zone. The prevalence in urban areas ranged from 3.2% (Kwara) to 9.0%(Benue) while in rural area it ranged from 2.0% (Plateau) to 9.7% (Benue). In three states (Benue, Kogi and Kwara) the prevalence was higher in rural sites compared to urban.

Figure 13: HIV Prevalence among Women age 15-24 Year by State and Location, North Central Zone, (HSS 2005)

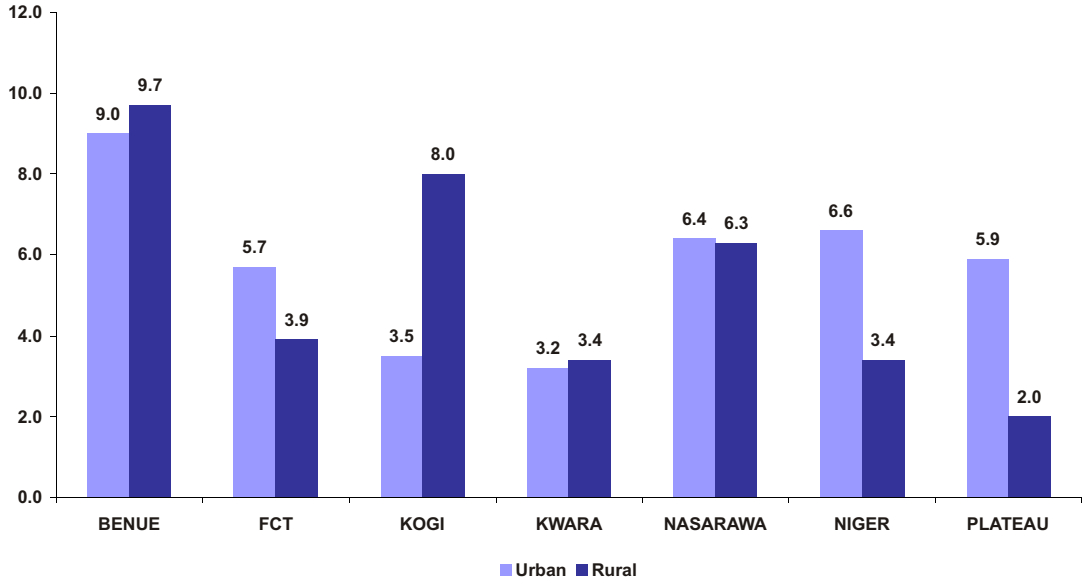


Figure 13 shows the HIV prevalence among this age group in the North East Zone. HIV prevalence was consistently higher in urban compared to rural areas.

Figure 14: HIV Prevalence among Women Age 15-24 Year by State and Location, North West Zone, (HSS 2005)

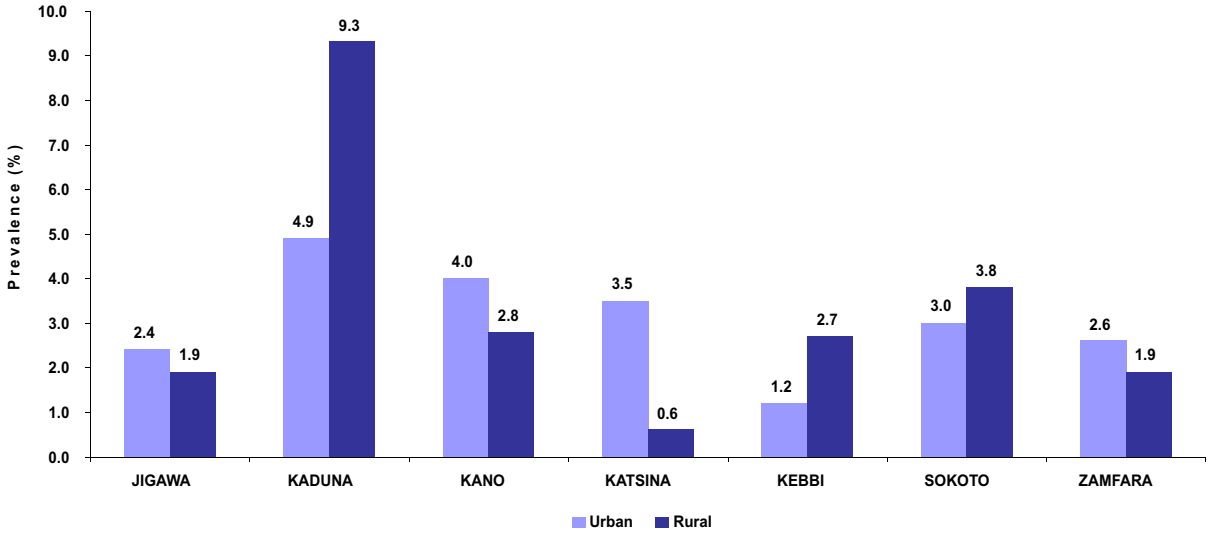
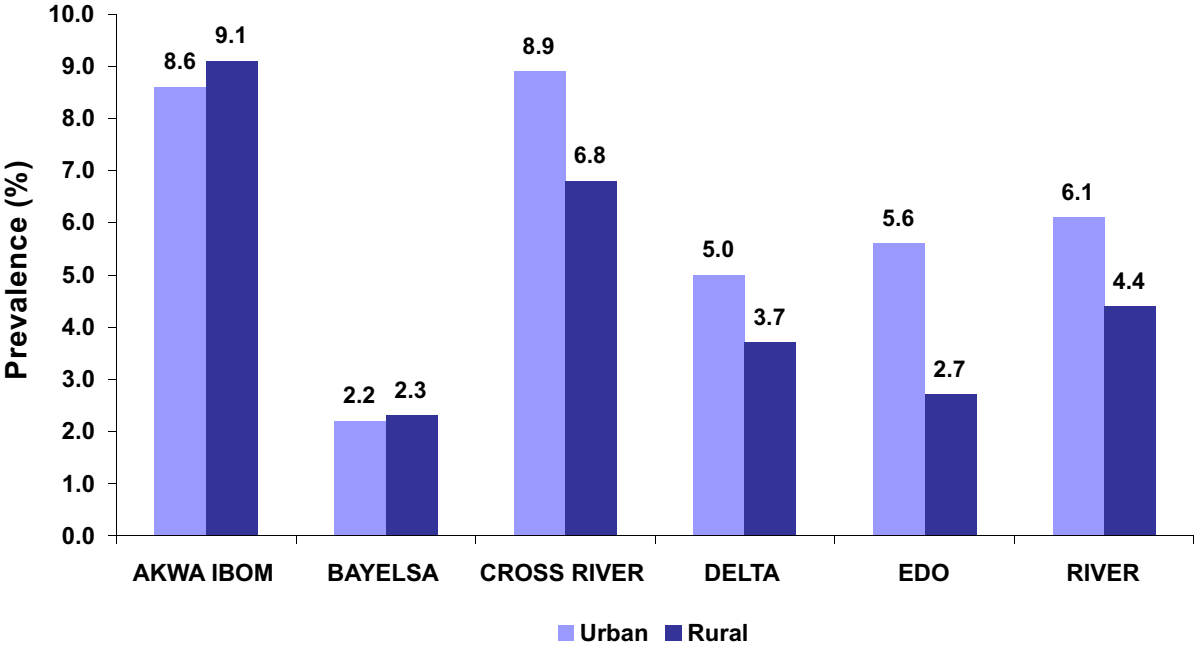


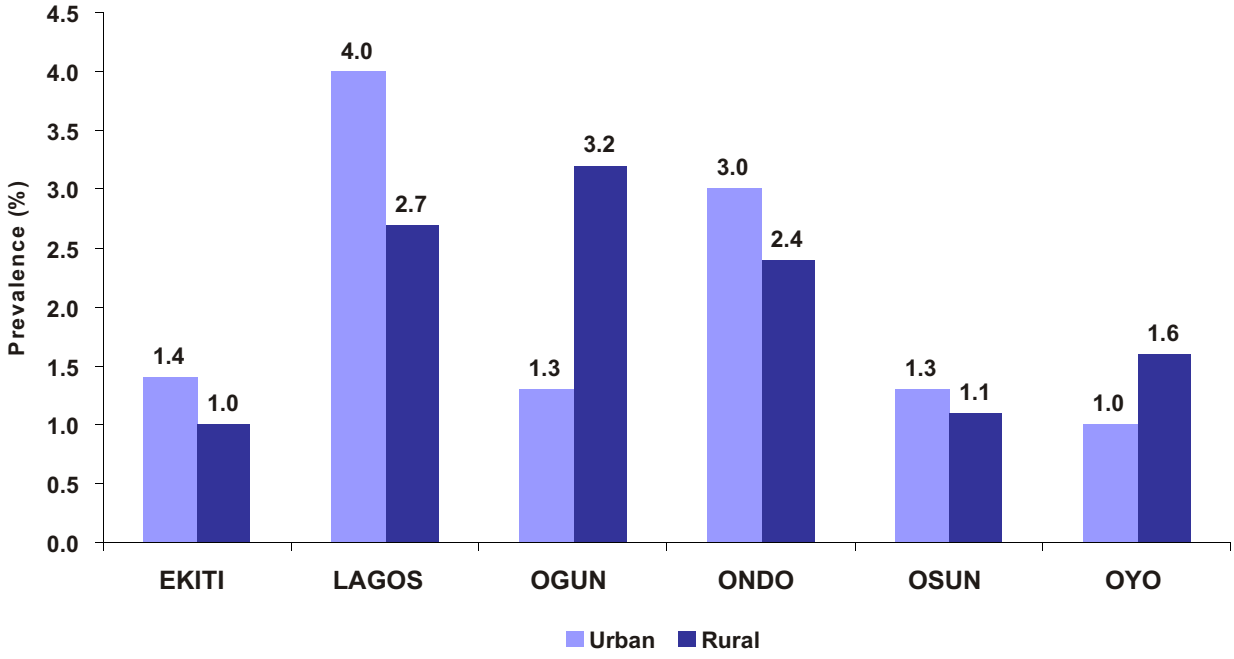
Figure 14 depicts the HIV prevalence among the 15-24year age group in the North West Zone. The prevalence was higher in rural than urban areas in three states (Kaduna, Kebbi and Sokoto). In Kaduna and Kebbi the rural prevalence was about twice that of urban areas.

Figure 15: HIV Prevalence among Women Age 15-24 Year by State and Location, South South Zone, (HSS 2005)



In the South South zone HIV prevalence was higher in rural than urban areas in Akwa Ibom and Bayelsa (Fig 15)

Figure 16: HIV Prevalence among Women Aged 15-24 Years by State and Location, South West Zone, (HSS 2005)



In the South West Zone, the prevalence was higher in urban than rural areas in four states. However in Ogun and Oyo it was higher in the rural areas.

Figure 17: HIV Prevalence among Women Aged 15-24 Years by State and Location, South East Zone, (HSS 2005)

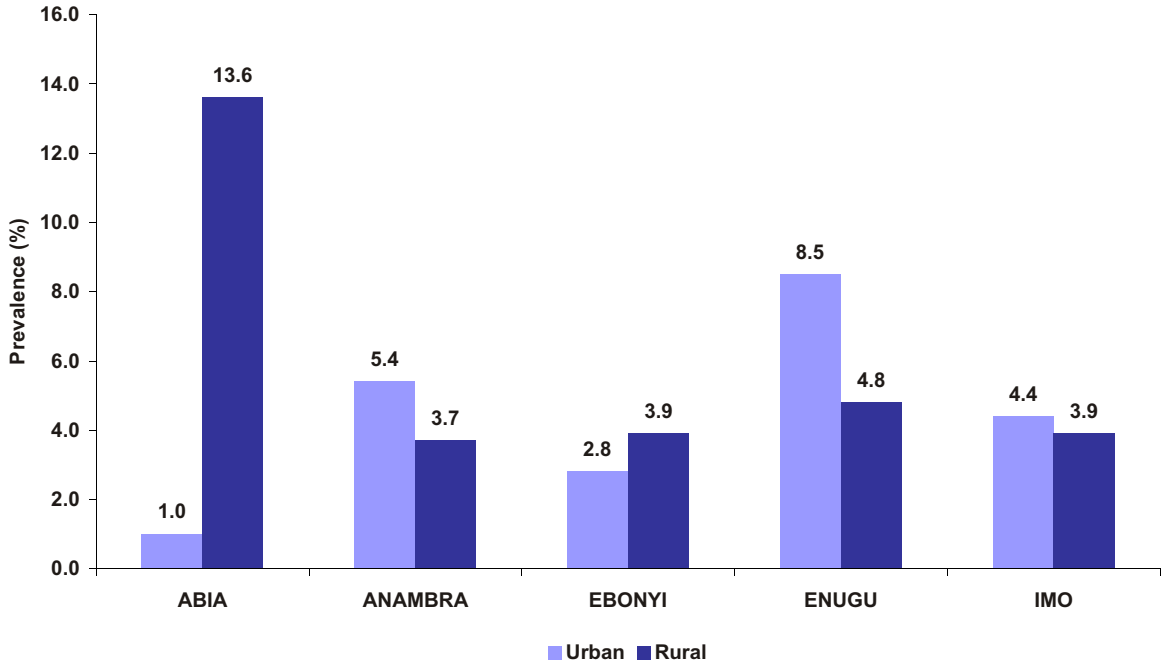


Figure 17 shows the HIV prevalence in this age group in the South East zone. In Abia and Ebonyi the rural prevalence was higher than in urban areas. In Abia the rural prevalence was more than ten times higher than the urban.

4.3 Trend Analysis

Figure 18: National HIV prevalence trend, 1991-2005, (HSS 2005)

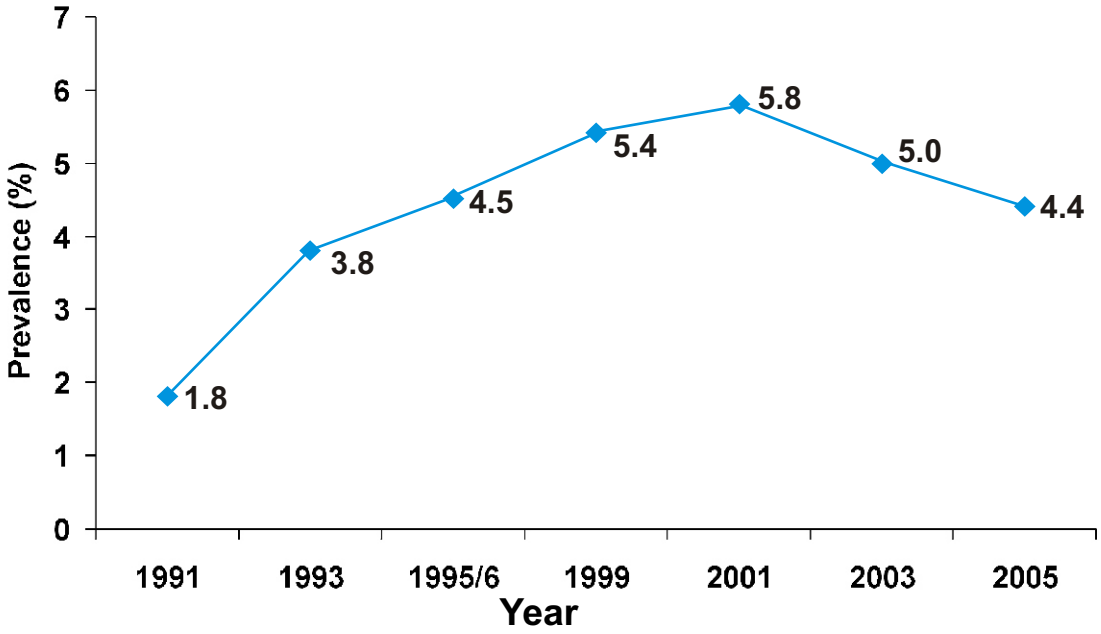


Figure 18 shows the trend of HIV prevalence in Nigeria between 1991 and 2005, as reported from the HIV Sentinel Sero-Surveillance cycle. There was a steady increase in HIV Prevalence from 1.8% in 1991 to 5.8% in 2001 before a drop to 5.0% in 2003. The result for 2005 showed a further drop to 4.4%.

Table 11: HIV Prevalence Trends by State from 1991- 2005, (HSS 2005)

State	1991/92	1993/94	1995/96	1999	2001	2003	2005
Adamawa	0.3	1.3	5.3	5.0	4.5	7.6	4.2
Anambra	0.4	2.4	5.3	6.0	6.5	3.8	4.2
Benue	1.6	4.7	2.3	16.8	13.5	9.3	10.0
Borno	4.4	6.4	1.0	4.5	4.5	3.2	3.6
Cross River	0.0	4.1	1.4	5.8	8.0	12.0	6.1
Delta*	0.8	5.1	2.3	4.2	5.8	5.0	3.7
Edo	0.0	1.8	3.0	5.9	5.7	4.3	4.6
Enugu	1.3	3.7	10.2	4.7	5.2	4.9	6.5
Kaduna	0.9	4.6	7.5	11.6	5.6	6.0	5.6
Kano	0.0	0.4	2.5	4.3	3.8	4.1	3.4
Kwara	0.4	2.4	1.7	3.2	4.3	2.7	2.8
Lagos	1.9	6.8	---	6.7	3.5	4.7	3.3
Osun	0.0	1.4	1.6	3.7	4.3	1.2	2.0
Oyo*	0.1	0.2	0.4	3.5	4.2	3.9	1.8
Plateau*	6.2	8.2	11.0	6.1	8.5	6.3	4.9
Sokoto	1.8	1.6	---	2.7	2.8	4.5	3.2
Abia	ND	ND	ND	3.0	3.3	3.7	4.0
Akwa Ibom	ND	ND	ND	12.5	10.7	7.2	8.0
Bauchi	ND	ND	ND	3.0	6.8	4.8	3.4
Bayelsa	ND	ND	ND	4.3	7.2	4.0	3.8

Ebonyi	ND	ND	ND	9.3	6.2	4.5	4.5
Ekiti	ND	ND	ND	2.2	3.2	2.0	1.6
Gombe	ND	ND	ND	4.7	8.2	6.8	4.9
Imo	ND	ND	ND	7.8	4.3	3.1	3.9
Jigawa	ND	ND	1.7	1.7	1.8	2.0	1.8
Katsina	ND	ND	ND	2.3	3.5	2.8	2.7
Kebbi	ND	ND	ND	3.7	4.0	2.5	4.0
Kogi	ND	ND	2.3	5.2	5.7	5.7	5.5
Nasarawa	ND	ND	ND	10.8	8.1	6.5	6.7
Niger	ND	ND	ND	6.7	4.5	7.0	5.3
Ogun	ND	ND	0.1	2.5	3.5	1.5	3.6
Ondo	ND	ND	ND	2.9	6.7	2.3	3.2
Rivers	ND	ND	1.0	3.3	7.7	6.6	5.4
Taraba	ND	ND	6.0	5.5	6.2	6.0	6.1
Yobe	ND	ND	ND	1.9	3.5	3.8	3.7
Zamfara	ND	ND	ND	2.7	3.5	3.3	3.0
FCT	ND	ND	ND	7.2	10.2	8.4	6.3

* Number of sites participating in the survey varied from year to year

ND: Not done

Table 11 presents the state prevalence trends between 1991 and 2005. The first round of HIV sentinel surveillance survey was conducted in 1991 in 9 states but it was possible to determine the prevalence for 16 states following the creation of more states in the country during the survey period. This was done by using the data available from the location of sentinel sites that fell within the new states. It was also possible to estimate the prevalence for as many states in 1993 and 1995 using the same approach. Information has been more complete for sentinel surveys conducted in 1999 - 2005. There has been a consistent increase in the number of sites over time.

In three consecutive surveys from 2001 to 2005 ten states and the FCT appear to show a decline in prevalence while Abia is the only state that showed a consistent rise duirng the period.

Table 12: HIV Prevalence Trend in Sites Participating in the Survey from 2001 to 2005, (HSS 2005)

		2001	2003	2005
STATE	**SITE**	Prevalence (%)	Prevalence (%)	Prevalence (%)
ABIA	UMUAHIA	2.7	4.7	2.0
	ABA	4.0	2.7	2.3
ANAMBRA	AWKA	6.7	4.3	5.0
	ONITSHA	6.0	4.0	4.0
	EKWULOBIA	6.8	2.9	3.7
EBONYI	ABAKALIKI	6.7	4.6	5.3
	AFIKPO	5.7	4.3	5.0
ENUGU	ENUGU PARKLANE	4.7	2.0	3.0
	ACHI	13.6	11.9	12.7
IMO	OWERRI	4.0	2.0	4.0
EKITI	ADO EKITI	2.3	1.7	2.3
	IKOLE EKITI	4.0	2.3	1.0
LAGOS	IKEJA	1.3	7.7	1.3
	LAGOS ISLAND	2.0	1.7	9.3
	SURULERE	3.1	2.7	3.6
	BADAGRY	5.6	6.3	1.9
	EPE	6.9	4.2	2.4
OGUN	ABEOKUTA	2.9	0.7	0.7
	IJEBU - ODE	4.0	2.3	4.0
ONDO	AKURE	6.3	2.0	4.3
	ONDO	7.0	2.3	3.3
OSUN	OSOGBO	3.0	0.7	1.3

	ILESA	5.7	1.7	3.7
OYO	IBADAN	3.3	1.7	1.0
	SAKI	4.7	6.4	3.3
	OGBOMOSHO	4.7	3.7	1.3
JIGAWA	DUTSE	2.3	2.3	2.0
	HADEJIA	1.3	1.7	2.3
KADUNA	KADUNA	4.0	6.0	7.0
	ZARIA	3.3	2.1	1.0
	KAFANCHAN	9.3	9.7	7.0
KANO	KANO MMSH	3.7	5.7	2.7
	KANO AKTH	3.3	4.3	4.3
	RANO	4.3	2.3	3.7
KATSINA	KATSINA	3.7	3.4	3.3
	FUNTUA	3.3	2.3	2.7
	ARGUNGU	4.7	2.7	3.3
SOKOTO	SOKOTO	3.0	7.7	2.7
	DOGON DAJI	2.7	1.3	3.3
ZAMFARA	GUSAU	5.0	3.0	5.0
	TALATA MARAFA	2.0	3.7	2.7
ADAMAWA	YOLA	5.7	7.4	6.7
	MUBI	3.3	7.7	2.3

		2001	**2003**	**2005**
State	**Site**	**Prevalence (%)**	**Prevalence (%)**	**Prevalence (%)**
BAUCHI	BAUCHI	6.7	4.0	5.7
	AZARE	6.9	5.7	3.3
BORNO	MAIDUGURI	4.3	3.7	3.7
	BIU	4.7	2.7	2.3
GOMBE	GOMBE	4.0	7.3	6.3
	KALTUNGO	12.3	6.3	6.0
TARABA	JALINGO	6.7	6.3	5.7
	ZING	5.7	5.8	7.3
YOBE	DAMATURU	5.0	4.3	3.0
	GEIDAM	1.0	6.6	4.7
BENUE	MAKURDI	14.4	9.7	13.0
	OTUKPO	11.0	7.7	9.0
	IHUGH	15.0	10.7	11.4
	GWAGWALADA	5.3	5.8	11.7
	NYANYA	14.3	9.2	6.7
KOGI	LOKOJA	3.7	7.0	4.3
	ANKPA	7.7	4.4	5.7
KWARA	ILORIN	3.7	3.0	2.3
	OFFA	5.2	2.3	3.0
NASARAWA	LAFIA	10.7	8.9	9.2
	N/EGGON	5.3	3.7	4.3
NIGER	MINNA	5.7	6.4	6.7
	WUSHISHI	3.3	7.7	6.7
PLATEAU	JOS	11.3	7.7	5.0
	SHENDAM	5.7	5.0	7.7
AKWA IBOM	UYO	13.0	6.4	5.7
	ESSIEN - UDIM	8.3	8.0	9.0Ê
BAYELSA	YENOGOA	7.5	5.0	4.0
	SAGBAMA	6.7	3.0	3.3
CROSS RIVER	CALABAR	8.3	12.7	6.3
	IKOM	7.7	11.3	7.0
DELTA	WARRI	2.3	4.0	5.0

	AGBOR	9.3	6.0	4.0
EDO	BENIN CITY	4.3	4.0	5.7
	EKPOMA	7.0	4.7	5.0
RIVERS	PORT HARCOURT	7.0	3.7	5.1
	BONNY	8.2	8.3	6.0
	BORI	7.9	7.7	5.7
	Median	**5.2**	**4.3**	**4.0**
	Range	**1.0 - 15**	**2.3 12.7**	**2.3 - 13.0**

The table shows that over the years there is a decreasing trend in the site median prevalence from 2001 to 2005 for survey sites that participated consistently in the sentinel survey.

4.4 Estimates and Projections

Estimates and projections using Estimation and Projection Package (EPP) show the national HIV prevalence in the adult population to be 3.9% (2.4 to 6.0%). This is not expected to rise much further if the the momnentum of interventions is sustained. The number of people living with HIV/AIDS (PLWHA) in Nigeria by the end of 2005 is estimated to be about 2.86 million; adults (>15 years) constituting 2.62 million while children constituted about 238,000.

About 296,000 new adult infections occurred in the 2005, while another 73,550 children were infected largely due to mother to child transmissions. The estimates also show that about 412,500 Nigerian adults and 95,000 children presently require anti retroviral therapy. These figures are expected to rise gradually over the next five years.

Table 13: HIV Estimates and Projections

HIV Estimates and Projections			
	2005	**2006**	**2010**
HIV population (Millions)			
Total	2.86	2.99	3.4
Males	1.19	1.25	1.42
Females	1.67	1.74	1.98
Adult HIV prevalence	3.86	3.89	3.89
New HIV Infections			
Adult new infections (thousands)	296.32	305.08	346.15
Child hood new infections (thousands)	73.55	74.52	75.78
New AIDS cases (Thousands)			
Total	247.70	263.04	308.82
Males	109.64	115.89	136.04
Females	138.05	147.15	172.78
ART Program (Thousands)			
Total requiring ART (adults)	412.45	456.79	538.97
Total requiring ART (<15yrs)	94.99	98.04	106.84
Annual HIV+ births (Thousands)			
Total	73.55	74.52	75.78
Percent of births	1.33	1.34	1.32
Annual AIDS deaths (Thousands)			
Total	220.75	245.71	298.34
Males	98.37	108.79	131.17
Females	122.38	136.92	167.17
Per thousand	1.63	1.78	1.98
Cumulative AIDS deaths (Millions)			
Total	1.45	1.70	2.82
Males	0.69	0.80	1.29
Females	0.76	0.90	1.53

4.5 Prevalence of Syphilis Infection by State, (HSS 2005)

Table 14: Prevalence of Syphilis Infection by State and by Zone

Zone	State	Sample Size	Number Positive	Prevalence (%)	95% Confidence Interval
North Central	BENUE	1199	2	0.2	0.0-0.7
	FCT	1200	2	0.2	0.0-0.7
	KOGI	899	8	0.9	0.4-1.8
	KWARA	898	9	1.0	0.5-2.0
	NASARAWA	905	1	0.1	0.0-0.7
	NIGER	900	8	0.9	0.4-1.8
	PLATEAU	900	4	0.4	0.1-1.2
	Total	**6901**	**34**	**0.5**	**0.3-0.7**
North East	ADAMAWA	900	24	2.7	1.8-4.0
	BAUCHI	900	2	0.2	0-0.9
	BORNO	900	1	0.1	0-0.7
	GOMBE	900	11	1.2	0.6-2.2
	TARABA	900	10	1.1	0.6-2.1
	YOBE	1181	9	0.8	0.4 1.5
	Total	**5681**	**57**	**1.0**	**0.9-1.7**
North West	JIGAWA	890	5	0.6	0.2-1.4
	KADUNA	1200	4	0.3	0.1-0.9
	KANO	1191	16	1.3	0.8-2.2
	KATSINA	899	4	0.4	0.1-1.2
	KEBBI	899	11	1.2	0.6-2.2
	SOKOTO	900	7	0.8	0.3-1.7
	ZAMFARA	896	4	0.4	0.1-1.2
	Total	**6875**	**51**	**0.7**	**0.6-1.0**
South East	ABIA	900	0	0.0	0-0.5
	ANAMBRA	1200	12	1.0	0.5-1.8
	EBONYI	898	16	1.8	1.1-2.9
	ENUGU	1200	5	0.4	0.2-1.0
	IMO	900	6	0.7	0.3-1.5
	Total	**5098**	**39**	**0.8**	**0.6-1.1**
South South	AKWA IBOM	900	3	0.3	0.1-1.1
	BAYELSA	899	18	2.0	1.2-3.2
	CROSS RIVER	900	7	0.8	0.3-1.7
	DELTA	900	5	0.6	0.2-1.4
	EDO	900	5	0.6	0.2-1.4
	RIVERS	1249	95	7.6	6.2-9.3
	Total	**5748**	**133**	**2.3**	**1.9-2.7**
South West	EKITI	898	5	0.6	0.2-1.4
	LAGOS	1819	118	6.5	5.4-7.7
	OGUN	900	9	1.0	0.5-2.0
	ONDO	900	13	1.4	0.8-2.5
	OSUN	900	1	0.1	0-0.7
	OYO	1200	1	0.1	0-0.5
	Total	**6617**	**147**	**2.2**	**1.9-2.6**
TOTAL		**36920**	**461**	**1.5**	**1.1-1.8**

The overall Syphilis prevalence among the pregnant women attending antenatal clinics in Nigeria was 1.5%. The prevalence ranged from 0.0% in Abia to 7.6% in Rivers state. Most states had prevalence of less than 1%. However, Adamawa, Lagos and Rivers states recorded prevalence of greater than 2%. South South zone had the highest zonal prevalence of 2.3% while North Central zone had the least of 0.5%.

CHAPTER FIVE

5.1 DISCUSSION

The results of the 2005 sentinel surveillance have further confirmed that the HIV and AIDS epidemic in Nigeria is a public health problem of enormous magnitude that must be given priority attention. The epidemic has affected all parts of country with enormous disparities. With an overall prevalence of 4.4 %, and the prevalence exceeding 5% in many states, it is evident that there are large numbers of HIV-infected people in the country.

It was observed that HIV prevalence was generally higher in urban than in the rural sites, but this observation was not consistent across states. Specifically, in twelve states, the rural prevalence was higher than the urban. In fact, the highest site-specific prevalence (14.4%) was observed in Iquita-Oron, a rural site in Akwa Ibom State. In most East African countries, there is a marked difference between HIV prevalence in urban and rural areas, whereas in West Africa, the picture is mixed. As the epidemic matures, the gap between urban and rural prevalence will become narrower. This has already been observed in some countries such as Botswana, Lesotho and Cote d'Ivoire.

The NPC definition of rural areas may not be a very useful criterion in predicting the intensity of HIV/AIDS. Social, cultural and economic activities peculiar to a site may be more useful in predicting the magnitude and future dimensions of the epidemic. Iquita-Oron for instance, is a mini-port and a melting pot for commercial fishermen, sailors and itinerant traders. This may explain the high prevalence in the area.

HIV infection among young women aged 15-24 years is generally used as an index of new infections since the group represents the age at which sexual activity begins. A positive development from this survey is the observation that the trend in HIV prevalence among young women is not increasing (6.0% in 2001, 5.3% in 2003 and 4.3% in 2005). The same is observed amongst all pregnant women aged 15-49 years between 2001 and 2005.

The low prevalence of 4.4% obtained in this survey may be accounted for by the addition of more rural sites in the 2005 survey, AIDS-related deaths, HIV and AIDS interventions. It must be emphasized that this decline should not in any way call for celebration and relaxation of interventions, since it may be difficult to make direct comparisons between aggregate figures obtained in the various surveys due to differences in location and number of surveys sites.

In Nigeria, with a prevalence of 4.4%, the number of infected person is estimated to be about 2.9 million. Present estimates show that over 400,000 presently require ART. Although there have been increased efforts to provide ART, currently, only about 50,000 PLWAs have access to treatment. The country will have to rapidly scale up its ART programme to meet present and future needs. Also the present estimates show that over 250,000 new HIV infections occurred in 2005 and this number shows no sign of rapid decrease.

Over the years, some states such as Benue, Akwa Ibom and the FCT have been observed to have consistently had a high prevalence. Concerted efforts must be made to address the problem in these States. Moreover, detailed socio-epidemiological and behavioural studies need to be undertaken in these areas to better understand the factors fueling and sustaining the epidemic. It has also been observed that some states like Osun, Jigawa and Ekiti consistently have had low prevalence over the years. No simple explanations may be offered for these disparities. It is probable that the epidemic started in different States at different points in time. It may also be due to a combination of exposure to interventions, condom use, biological and social vulnerability. Such states need not become complacent since there are no boundaries in human interaction and relationships.

Another observation of concern is the fact that HIV prevalence was highest among pregnant women with primary and secondary education compared to those with higher educational level. It appears that women with higher education are more exposed to information, are more likely to respond to interventions. From the NARHS 2003, it was observed that condom use increased with increasing level of education thus women with low level of education continue to be at increased risk of acquiring the infection.

The HIV estimates cannot easily be compared with those done in previous years due to changes in assumptions that have been made. Research has shown that the use of "Outside Major Towns" as a proxy for what occurs in rural areas overestimates the true situation of the epidemic in such locations. Indeed using the same assumptions that were used for these estimates, show that numbers that would have been obtained in previous years are largely similar to what was obtained during this exercise. The present estimates are believed to be more accurate due to better information on rural areas and information generated elsewhere.

To further improve the estimates, it is important to conduct population based HIV prevalence survey.
The ANC sentinel surveillance system in Nigeria has been improved significantly since 2001 with financial and technical support from many donors. The main improvements are the increase in number and coverage of ANC sites since 2001 and the use of sites that more closely reflect the rural situation.

Another fundamental factor in calculating the number of people infected in Nigeria, is the adult population. The population estimate used was based on projections from the National Population Commission based on the 1991 census. The new census to be conducted in 2006 will provide more accurate information in the population of Nigeria and thus national figures may need to be updated.

The HIV and AIDS epidemic has been recognized not to be an isolated phenomenon. It affects every facet of life, every sector of the economy and social well-being of communities and individuals. The epidemic, if not controlled, will leave many orphans in its aftermath and the extended family, once capable of absorbing orphaned children, will become overburdened, thus forcing many orphans to become street children. For some orphaned girls, many may be forced into commercial sex or "survival sex", thus perpetuating further spread of the epidemic.

In conclusion, HIV and AIDS remains a public health problem in Nigeria. New infections continue to occur, the number infected is substantial and persons requiring care and support are numerous. With an estimated 2.9 million people infected the enormity of the HIV and AIDS burden is clearly evident, and its effects on the health and socioeconomic development can easily be imagined.

5.2 Recommendations

- With the current increasing level of the epidemic in rural areas, there is a need to increase intervention effort in these areas.
- The high level of HIV prevalence among women with only primary and secondary school education calls for focused and appropriate interventions to target these groups.
- A window of opportunity exist in many parts of the country where HIV prevalence is still relatively low; increased preventive intervention effort must be undertaken to curtail the epidemic.
- The HIV prevalence among ANC attendees calls for urgent expansion of PMTCT services, and VCT for the general population
- The current care and support activities especially the antiretroviral programme need to be scaled up to meet the increasing need of the large number of estimated AIDS cases in the country
- There is a need to link the existing data from biological and behavioural surveys to better understand the dynamic of the epidemic in the country,.
- There is need to conduct studies on HIV incidence to measure the level of new infections in the country.
- A population based survey to determine the HIV prevalence in the general population should be undertaken to improve our understanding of the epidemic.
- The capacity of the NASCP staff should be enhanced to effectively coordinate surveillance activities.
- There is a need to create a data bank in the surveillance unit of NASCP for maintaining institutional memory.

The areas of improvement on the 2005 round of the survey should be maintained. Such areas were:

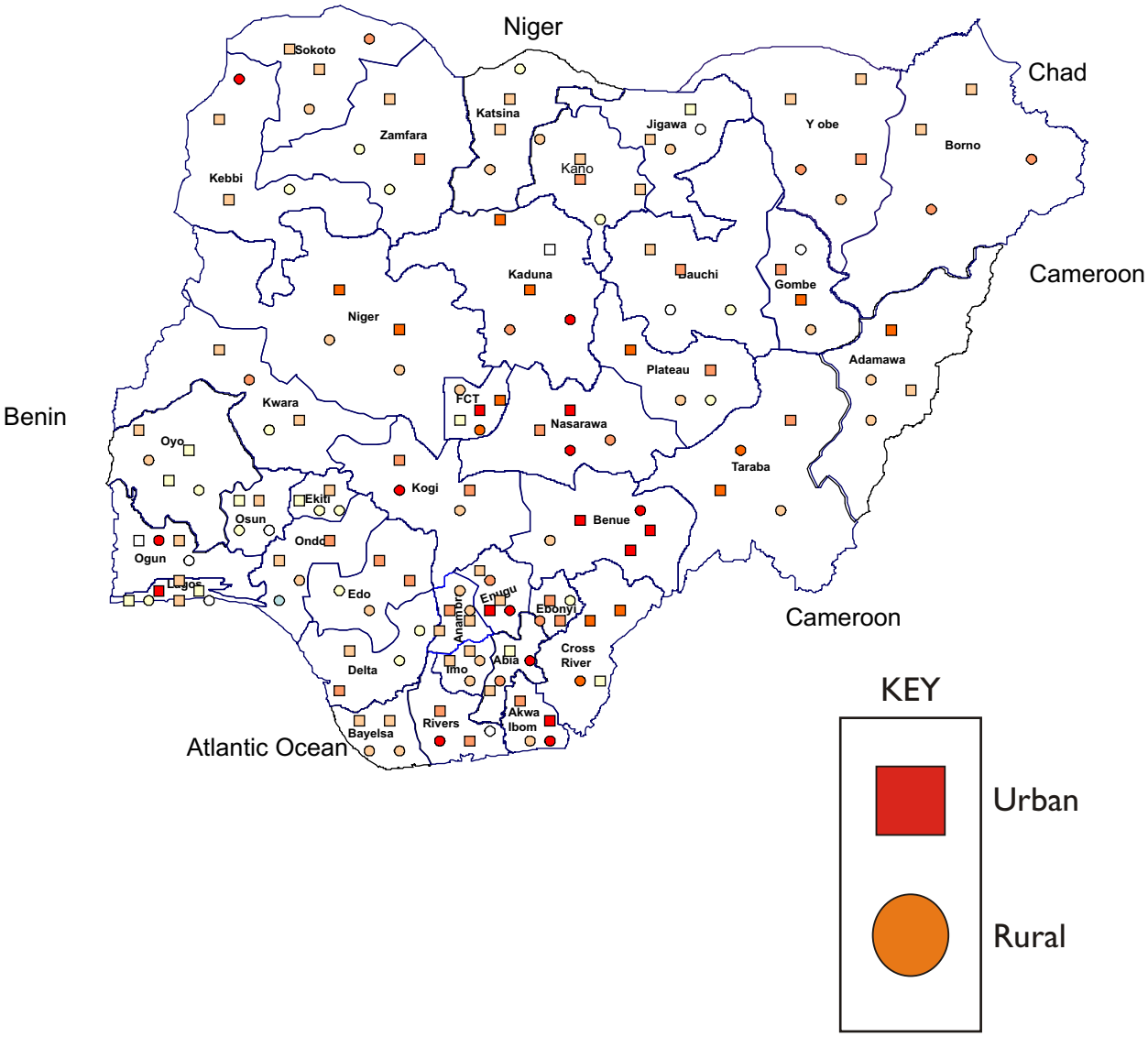
- Improved representation of the rural areas through increased rural sites and sample size in all the states plus FCT

- Provision of warehouse and cold room for storage of consumables and test kits respectively
- Maintenance of cold chain system for test kits and sample transportation
- A well articulated and direct training of all personnel involved in the data collection exercise
- Timely central supervision of the data collection and review of the exercise by the TC/SMC
- Confirmation of syphilis screening with TPHA at sites to facilitate patient management and avert ethical implication which may arise especially in subject that tested negative to RPR at site but Positive to TPHA at state laboratory
- Use of EIA testing at QC which allows larger number of samples to be tested at a time
- The conduct of the data entry and the QC and testing exercises concomitantly which allowed rooms for interactions between the data management and the QC teams

For areas of shortcoming during the 2005 sentinel survey, the following were recommended:

- Early commencement and timely implementation of activities which will allow the release of the survey result within the survey year.
- Central pooling of resources to facilitate implementation of activities on time as scheduled
- Early placement of orders for test kits and consumables
- Timely payment of the fieldworkers allowances

Appendix I: Distribution of Sentinel Sites



Appendix II: Survey Timeline

S/No	Description of Activity	Period
	2003 Survey Lessons learnt and Protocol Development meeting	February 7th - 9th 2005
	Evaluation of Determine Syphilis TP test kits	April 20th - 22nd 2005
	Resource mobilization meeting	April 28th 2005
	Procurement of Consumables and test kits	February - July 2005
	Distribution of consumables and test kits to states	August 20th - 24th 2005
	Training:	
	Development of Training instruments	July 27th - 29th 2005
	Core training of facilitator	July 27th - 29th 2005
	Zonal training of field workers	August 9th - 19th 2005
	Sample collection and testing	August 29th November 26th 2005
	Central Supervision of data collection exercise	September 4th - 9th 2005
	TC/SMC meeting to discuss finding of the supervision of the data collection exercise	October 20th 2005
	Retrieval of samples and data collection forms from states	January 5th - 26th 2006
	QC and Testing:	
	-EIA training	January 13th -17th 2006
	-QC and testing exercise	February 13th - 3rd March 2006
	Data entry exercise	January 30th February 18th 2006
	Data analysis/Writing of draft report	March 13th - 25th 2006
	Review of draft report	March 27th - 31st 2005
	TC/SMC and Data users and producers meeting	April 4th - 6th 2006
	Press briefing by HMH	April 27th 2006
	Printing of report	July 2006
	Dissemination workshop	July 2006 - 2007

Appendix III

PATIENT INFORMATION FORM (To be completed daily)

Date (dd/mm/yyyy): …./…./……..

State name:…… Local Government Area:……. Site name:……

Urban site ( ) Rural site ( ) Name of health facility……..…….

Survey ID Code (use pre-printed ID labels)	**Age** (in years)	**Marital Status** Single=1 ; Married=2 Divorced/separated=3 Widowed = 4	**Level of Education:** None=1 ; Quranic only=2; Primary=3; Secondary=4 Above secondary =5	**Gravidity** (Number of pregnancy)	**Parity** (Number of birth)	**Usual residence** (Name of town)	**Duration of residence at sentinel site** (in months)	**Participant's Name**

- Level of education = level attended
- Usual residence= where the woman normally lives, including when she is not pregnant

Appendix IV

LABORATORY DATA FORM

State name:…… Local Government Area:……..…… Site name:……...……

Urban site ( ) Rural site ( ) Name of health facility…….……..

Please report test results for RPR, TPHA and Determine as follows:
Non-reactive specimens: **NEG**
Reactive specimens: **POS**

Please report test results for GENIE II as follows:
NEG
HIV-1 HIV-2 HIV-1/2

Survey ID Code (use pre-printed ID labels)	**Age**	**RPR test result**	**TPHA test result**	**HIV test result (Determine)**	**HIV test result (Genie II)**	**QC lab. RPR test result**	**Q.C lab. TPHA test result**

Appendix V

CHECKLIST FOR SITE SUPERVISORY VISITS

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. of eligible pregnant women visiting ANC: ___ No. of pregnant women recruited: _____
No. of pregnant women tested for RPR: _____

No. of women recruited on last ANC day: _____Recruiting consecutive? Yes ( ) No ( ) (If No, Explain)
ANC staff present: Yes ( ) No ( ) (Explain) Lab. Sc. present: Yes ( ) No ( ) (If No, Explain)
Data collection form (number of pregnant women listed): ___ No. filled row without label: _____
Number of plasma specimens collected: _____ Number of cryovials without label: _____
Unlink anonymous procedures for HIV sentinel survey specimen correct? ( ) Yes ( ) No (If No, Explain)

EQUIPMENT/STORAGE AND SITES LABORATORY ACTIVITIES (PLS VERIFY)

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

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

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

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

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

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

Are vacutainers being used? Yes ( ) No ( ) (If No, Explain)

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

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

How often are specimens transported to the state lab? _____

Site staff name: _____ **Signature:** _____

CHECKLIST FOR STATE LABORATORY SUPERVISORY VISITS

State name: _____ **Name of Laboratory:** _____

Supervisor's name: _____ **Date:** _____

Cryovials containing plasma stored in fridge/freezer? Yes ( ) No ( ) (If No, Explain)

RPR and TPHA test kits stored in fridge? Yes ( ) No ( ) (If No, Explain)

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

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

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

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

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

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

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

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

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

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

State laboratory staff' name_____ **Signature**_____

Appendix VI: 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
		ITIM 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 SOUTH WEST			**28**

SOUTH- SOUTH

STATE	STATE CODE	SITE	SITE STATUS
AKWA IBOM	AK	UYO	URBAN
		URUA AKPAN	URBAN
		IKONO	RURAL
		IQUITA	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
		OKPARA	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			4
TOTAL NUMBER OF SITES IN SOUTH SOUTH			**25**

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 BELWA	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
		IHUGU	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
		KAIAMA	RURAL
		PATIGI	RURAL
SUB-TOTAL			4
NASARAWA	NS	LAFIA	URBAN
		N/EGGON	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 SITES IN NORTH CENTRAL			**30**
TOTAL NUMBER OF SENTINEL SITES IN SIX ZONES			**160**

Appendix VII

LIST OF CONTRIBUTORS

TECHNICAL COMMITTEE

Name	Designation	Contact Address
Dr. S. Sani MFR	Director Public Health	Federal Ministry of Health, Abuja
Dr. Edugie Abebe mni	Interim Coordinator/Chief Executive	National Programme on Immunization, Abuja
Dr. O. Salawu	National Coordinator/CSG 1	Federal Ministry of Health, Abuja
Prof. E. Ekanem	Epidemiologist	College of Medicine, Lagos University Teaching Hospital, Idi-Araba Lagos
Prof. G. Okafor	Deputy Provost	Deputy provost office, College of Medicine, University of Nigeria, Enugu
Dr. Sidibe Kassim	Epidemiologist	CDC 1600 Clifton Road, Atlanta ,GA30333, USA
Prof. Tekena Harry	Professor of Virology	Dept. of Immunology, University of Maiduguri Teaching Hospital, Maiduguri
Prof. D. O. Olaleye	Professor of Virology	Dept. of Virology, University College Hospital, Ibadan
Idris Saliu	Researcher/Medical Laboratory Scientist	Safe Blood for African Foundation, Wuse II, Abuja
Dr. Nsan Emmanuel	Consultant Physician/Epidemiologist	Dept. of Public Health, University of Calabar Teaching Hospital, Calabar
Dr. Issa B. Kawu	MO/Head, Epidemiology, Surveillance and Research, NASCP	Federal Ministry of Health, Abuja
Dr. Akanbi Ali Ajibola	Consultant/Lecturer	Dept. of Medical Microbiology, University of Ilorin Teaching Hospital, Ilorin
Dr. Lydia Abia-Bassey	Head of Department/Senior Lecturer	Dept. of Medical Microbiology/Parasitology, University of Calabar Teaching Hospital, Calabar
Dr. O.K. Obonge	Consultant	Dept. of Medical Microbiology, UPTH, Port Harcourt
Dr. K. Sabitu	Consultant Physician	Dept. of Community Medicine, ABUTH, Zaria
Prof. E. A. Bamgboye	Epidemiologist	Dept. of Epidemiology, University College Hospital,
Dr. Alti Zwandor	NUCC	UNAIDS, UN House, Plot 617/618 Diplomatic Drive, Central Area District, Abuja
Dr. Henry J. Damisoni	Monitoring and Evaluation Adviser	UNAIDS, UN House, Plot 617/618 Diplomatic Drive, Central Area District, Abuja
Dr. E. A Coker	Deputy Director	Federal Ministry of Health, Abuja
Dr. G. Odaibo	Virologist	Dept. of Virology, University College Hospital, Ibadan
Prof. D. O. Olaleye	Professor of Virology	Dept. of Virology, University College Hospital, Ibadan
Dr. Oluwole A. Fajemisin	M & E, Modelling and Research Aviser	ENHANSE, Lake Chad Crescent, Maitama, Abuja
Dr. Tony Eloike	Zonal Programme Manager	NASCP plot 16 4th Avenue, Asata ,Enugu
Gabriel O. Ikwulono	Senior Laboratory Scientist/ Focal Person on ANC survey	Federal Ministry of Health, Abuja
Ms. Elsie Etok-Akpan	Scientific Officer	Federal Ministry of Health, Abuja
Mrs. Perpetua O. Agbi	Senior Scientific Officer/ Epidemiologist	Federal Ministry of Health, Abuja

CENTRAL SUPERVISORS

Name	Designation	Contact Address
Dr. Edugie Abebe mni	Interim Coordinator/Chief Executive	National Programme on Immunization, Abuja
Dr. O. Salawu	National Coordinator/ Consultant Special Grade 1	Federal Ministry of Health, Abuja
Prof. E. Ekanem	Epidemiologist	College of Medicine, Lagos University Teaching Hospital, Idi-Araba Lagos

Dr. Nsan Emmanuel	Consultant Physician/ Epidemiologist	Dept. of Public Health, University of Calabar Teaching Hospital, Calabar
Prof. Tekena Harry	Professor of Virology	Dept. of Immunology, University of Maiduguri Teaching Hospital, Maiduguri
Prof. D. O. Olaleye	Professor of Virology	Dept. of Virology, University College Hospital, Ibadan
Prof. E. A. Bamgboye	Epidemiologist	Dept. of Epidemiology, Medical statistics and Enviromental Health, University College Hospital, Ibadan
Dr. Alti Zwandor	NUCC	UNAIDS, UN House, Plot 617/618 Diplomatic Drive, Central Area District, Abuja
Dr. Henry J. Damisoni	Monitoring and Evaluation Adviser	UNAIDS, UN House, Plot 617/618 Diplomatic Drive, Central Area District, Abuja
Dr Oluwole A. Fajemisin	M & E, Modelling and Research Aviser	ENHANSE, Lake Chad Crescent, Maitama, Abuja
Dr.(Mrs) A. I. Ayede	Epidemiologist/ Consultant Paediatrician	Dept. of Epidemiology, Medical statistics and Enviromental Health, University College Hospital, Ibadan
Dr. Tony Eloike	Zonal Programme Manager	NASCP plot 16 4th Avenue, Asata ,EnuguDr.
Lydia Abia-Bassey	Head of Department/Senior Lecturer	Dept. of Medical Microbiology/Parasitology, University of Calabar Teaching Hospital, Calabar
Dr. Issa B. Kawu	MO/Head, Epidemiology, Surveillance and Research, NASCP	Federal Ministry of Health, Abuja
Gabriel O. Ikwulono	Senior Laboratory Scientist/ Focal Person on ANC survey	Federal Ministry of Health, Abuja
Mrs. Okoye Wariboko Adamu Baba	Medical Laboratory Immunologist Chief Medical Laboratory Scientist	National Hospital, Abuja Immunology Dept. General Hospital, Minna
Ogboi Sonny JohnBull	Senior Medical Laboratory Scientist	Public Health Laboratory, Dept. of Community Medicine, Ahmad Bello University Teaching Hospital, Zaria
Henry Nosa Igiebor	Assist. Director, Medical Laboratory Scientist	Pathology Dept. University of Benin Teaching Hospital, Benin City
Mrs. Perpetua O. Agbi	Senior Scientific Officer/ Epidemiologist	Federal Ministry of Health, Abuja
Dr. Akanbi Ali Ajibola	Consultant/Lecturer	Dept. of medical Microbiology, University of Ilorin Teaching Hospital, Ilorin
Ado Garba Abubakar	Medical Laboratory Scientist	PEPFAR LAB AKTH, Kano
Audu Fred Anebi	Assist. Chief Medical Laboratory Scientist	Federal Medical Center, Makurdi
Bassey Orji Orji	Senior Medical Laboratory Scientist	CDC, Nnamdi Azikiwe University Teaching Hospital, Nnewi
Odafen Ojiekere	Medical Laboratory Scientist	CDC, University of Benin Teaching Hospital, Benin City
Fasina Najeem Ayinla	Principal Medical Laboratory Scientist	Dept. of Medical Microbiology, University College Hospital, Ibadan
Gideon Tokkit	Medical Laboratory Scientist	Gwagwalada Specialist Hospital, Abuja
Ms. Elsie Etok-Akpan Dr. Kayode Ogungbemi	Scientific Officer	Federal Ministry of Health, Abuja National Action Committee on AIDS, Abuja
Dr. O.K. Obonge	Consultant	Dept. of Medical Microbiology, UPTH, Port Harcourt
Dr. K. Sabitu Dr. Adebola T. Olayinka	Consultant Physician Consultant Medical Microbiologist	Dept. of Community Medicine, ABUTH, Zaria Dept. of Medical Microbiology, ABUTH, Zaria

Dr. E.A Coker	Deputy Director	Federal Ministry of Health, Abuja
Dr. G. Odaibo	Virologist	Dept. of Virology, University College Hospital, Ibadan
Dr. A. Lawanson	Assist. Director/ Head of Care and Support	Federal Ministry of Health, Abuja
Fasina Najeem Ayinla	Principal Medical Laboratory Scientist	Dept. of Medical Microbiology, University College Hospital, Ibadan
Dr. Ibrahim Atta		National Action Committee on AIDS, Abuja
Mr Araoye Segilola	Chief Environmental Health Officer/ Epidemiologist	Federal Ministry of Health, Abuja
Mr Akinbiyi A.O	Environmental Health Officer	Federal Ministry of Health, Abuja
Mr Alex Onwuchekwa	Senior Scientific Officer	Federal Ministry of Health, Abuja
Dr. A. Adedeji	Virologist/Chief Scientific Officer	Federal Ministry of Health, Abuja
Njoku Lawrence	Microbiologist	Federal Ministry of Health, Abuja
Alh. Oyetunji Tajudeen	Medical Laboratory Scientist	Obafemi Awolowo University Teaching Hospital, Ile-Ife
Dr. E. Asadu	Medical Officer/Head of STI	Federal Ministry of Health, Abuja
Mrs. Omang Helena	Medical Laboratory Scientist	Dept. of Medical Microbiology/Parasitology, University of Calabar Teaching Hospital, Calabar

QUALITY CONTROL

Name	Designation	Contact Address
Dr. O. Salawu	National Coordinator/ Consultant Special Grade I	Federal Ministry of Health, Abuja
Prof. G. Okafor	Deputy Provost	Office of Deputy Provost, College of Medicine, University of Nigeria
Kyle Bond	Associate Director for Laboratory	CDC Atlanta
Dr. Issa B. Kawu	Head, Epidemiology, Surveillance and Research	Federal Ministry of Health, Abuja
Okoye Wariboko	Medical Laboratory Immunologist	National Hospital, Abuja
Osuji Iherue	Principal Medical Laboratory Scientist	Gwagwalada Specialist Hospital, Abuja
Mogaji (Mrs) Nurat O.	Chief Medical Laboratory Scientist	Dept. of Virology, University College Hospital, Ibadan
Adamu Baba	Chief Medical Laboratory Scientist	Immunology Dept. General Hospital, Minna
Ogunniran Comfort	Medical Laboratory Scientist	Dept. of Virology, University College Hospital, Ibadan
Omakwele Godwin Chukwudi	Chief Medical Laboratory Scientist	Medical Microbiology/Parasitology Dept. (UPTH)
Ogboi Sonny JohnBull	Senior Medical Laboratory Scientist	Public Health Laboratory, Dept. of Community Medicine, Ahmad Bello University Teaching Hospital, Zaria
Kalu Stephen Okorafor	Medical Laboratory Scientist	Nnamdi Azikiwe University Teaching Hospital, Nnewi
Dr. Adebola T. Olayinka	Consultant Medical Microbiologist	Dept. of Medical Microbiology, ABUTH, Zaria
Henry Nosa Igiebor	Assist. Director, Medical Laboratory Scientist	Pathology Dept. University of Benin Teaching Hospital, Benin City
Dr. Akanbi Ali Ajibola	Consultant/Lecturer	Dept. of medical Microbiology, University of Ilorin Teaching Hospital, Ilorin
Ado Garba Abubakar	Medical Laboratory Scientist	PEPFAR LAB AKTH, Kano

Audu Fred Anebi	Assist. Chief Medical Laboratory Scientist	Federal Medical Center, Makurdi
Faruk Sarkinfada	Medical Laboratory Scientist/Lecturer	Dept. of Medical Microbiology, Faculty of Medicine BUK/AKTH
Bassey Orji Orji	Senior Medical Laboratory Scientist	CDC, Nnamdi Azikiwe University Teaching Hospital, Nnewi
Fasina Najeem Ayinla	Principal Medical Laboratory Scientist	Dept. of Medical Microbiology, University College Hospital, Ibadan
Gabriel O. Ikwulono	Senior Laboratory Scientist/Focal Person on ANC survey	Federal Ministry of Health, Abuja
Manason	Chief Medical Laboratory Scientist	Gwagwalada Specialist Hospital, Abuja
Owolagba Femi Emmanuel	Medical Laboratory Scientist	Gwagwalada Specialist Hospital, Abuja VCCT Resource Center Public Health
Okon Lazarus Akpan	Chief Medical Laboratory Scientist	Laboratory, Ministry of Health, Uyo
Gideon Tokkit	Medical Laboratory Scientist	Gwagwalada Specialist Hospital, Abuja

DATA ENTRY AND CLEANING

Prof. E. Ekanem	Consultant Epidemiologist	College of Medicine, Lagos University Teaching Hospital, Idi-Araba Lagos
Dr. Issa B. Kawu	Head, Epidemiology, Surveillance and Research	Federal Ministry of Health, Abuja
Raphael Akpan	Data entry supervisor	CDC-GAP,Nigeria, First City plaza plot 252, Herbert Macaulay way Garki, Abuja
Jude A. Okoisor	Data entry clerk	National Population Commission, Abuja
Mrs. Adenike Adebola	Data entry clerk	National Population Commission, Abuja
AkejuGrace Abaleme	Data entry clerk	C/o Federal Ministry of Health, Abuja
Chigizie Alozie	Data entry clerk	C/o Federal Ministry of Health, Abuja
Medupin Olalekan	Data entry clerk	C/o Federal Ministry of Health, Abuja
Obinna Kalu Idika	Data entry clerk	C/o FHI/GHAIN , Abuja
Chuks Oji	Data entry clerk	National Population Commission, Abuja

DATA ANALYSIS AND REPORT WRITING

Name	Designation	Contact Address
Dr. O. Salawu	National Coordinator/ Consultant Special Grade I	Federal Ministry of Health, Abuja
Prof. E. Ekanem	Professor	Dept. of Community Health, College of Medicine, LUTH, Idi Araba, Lagos
Prof. G. Okafor	Deputy Provost	Deputy provost office, College of Medicine, University of Nigeria, Enugu
Dr. Alti Zwandor	NUCC	UNAIDS, UN House, Plot 617/618 Diplomatic Drive, Central Area District, Abuja
Dr. N. Adeniyi Ogundiran	HIV/AIDS NPO	WHO UN House, Plot 617/618,Abuja
Dr Oluwole A. Fajemisin	National Professional Officer (HIV/AIDS)	WHO, C/oWHO UN House, Plot 617/618 Diplomatic Drive, Central Area District, Abuja
Erica Kufa	Data Manager	WHO P.O Box BE773,HARARE,ZIMBABWE

Sidibe Kassim Dr. Tony Eloike	Epidemiologist Zonal Programme Manager	CDC 1600 Clifton Road, Atlanta ,GA30333, USA NASCP plot 16 4th Avenue, Asata ,Enugu
Henry J.Damisoni	Monitoring and Evaluation Adviser	UNAIDS plot 617/618 Diplomatic Drive, Central Area District, Abuja
Dr. Issa B. Kawu	Medical Officer/Head of Epidemiology, Surveillance and Research	Federal Ministry of Health, Abuja
Gabriel O. Ikwulono	Senior Laboratory Scientist / Focal Person on ANC Survey	Federal Ministry of Health, Abuja
Raphael Akpan	Data Analyst	CDC-GAP,Nigeria, First City plaza plot 252, Herbert Macaulay way Garki, Abuja
Ado Garba Abubarkar	Snr. Medical Laboratory Scientist	CDC-GAP,Nigeria, First City plaza

REVIEW OF TECHNICAL REPORT

Name	Designation	Contact Address
Prof. B. Osotimehin	Chairman, NACA	Ralph Shodiende Street, Central Area, Abuja
Dr. O. Salawu	National Coordinator/CSG 1	Federal Ministry of Health, Abuja
Prof. E. Ekanem	Epidemiologist	College of Medicine, Lagos University Teaching Hospital, Idi-Araba Lagos
Henry Damisoni	Monitoring and Evaluation Adviser	UNAIDS, Plot 617/618, Abuja
Dr. O.K. Obunge	Consultant, Medical Microbiologist	University of Port Harcourt Teaching Hospital
Dr. Abia Bassey, Lydia	Sen. Lecturer/Consultant	University of Calabar Teaching Hospital, Calabar
Dr. Adedokun Babatunde O.	Medical Statistician	Dept. of EMSEH, College of Medicine, UCH, Ibadan
Dr. (Mrs.) Ayede Adejumoke Idowu	Epidemiologist, Consultant Paediatrican	Dept. of Epidemiology, medical Statistic & Environmental Health, College of Medicene, UCH, Ibadan
Alti Zwandor	NUCC	UNAIDS, UN House, Abuja
Idris A. Saliu	Director Laboratory Services	Safe Blood for Africa Foundation, Plot 3 Kikuyu Close off Nairobi Street, Wuse II Abuja
Temitayo Odusete		USAID, Plot 111 Zakarnya Mamalari Str. CBD, Abuja
Oluwole A. Fajemisin	NPO	HIV/AIDS (3by5) C/o UN House, Abuja
Dr. Issa B. Kawu	Medical Officer/Head of Epidemiology, Surveillance and Research	Federal Ministry of Health, Abuja
Dr. Kene, Terfa Simon	Physician	Comm. Medicine Dept., ABUTH, Zaria.
Gabriel O. Ikwulono	Senior Laboratory Scientist / Focal Person on ANC Survey	Federal Ministry of Health, Abuja
Prof. G. Okafor	Deputy Provost	Deputy provost office, College of Medicine, University of Nigeria, Enugu
Garcia Calleja,	Epidemiologist	WHO, Geneva 27, Swttzerland
Faruk Sarkinfada	Senior Lecturer	Aminu Kano Teaching Hospital, Dept of Medical Microbiology, Kano
Theresa T. Ochu	M & E/ Communication Officer	ENHANSE Project/USAID, 50 Haile Selessie Street, Asokoro
Dr. Mohammed M. Tumala	M & E/Research Advisor	No.50 Haile Selessie Street, Asokoro, Abuja
Felicia Ekpenyong	Secretary	Federal Ministry of Health, Abuja
Bassey Orji Orji	Medical Laboratory Scientist	CDC, Nigeria, Nnamdi Azikwe University Teaching Hospital, P.M.B. 5025, Nnewi

Ado Garba Abubakar	Medical Laboratory Scientist	CDC, Nigeria, Amino Kano Teaching Hospital, Kano Site
Dr. Tony Eloike	Zonal Programme Manager	NASCP plot 16 4th Avenue, Asata, Enugu
Mrs. Agbi, O. Perpetua	Epidemiologist	Federal Ministry of Health, Abuja
Miss. Christina Morgan	M & E	UNAIDS, UNHOUSE, Central Area, Abuja
Mr. Alex Onwuchekwa	Senior Scientific Officer	Federal Ministry of Health, Abuja
Dr. Adeniyi Ogundiran	HIV/AIDS Advisor	WHO, UN House, Abuja
Mrs. Etta Jeanette Nneka	Snr. Scientific Officer,	Federal Ministry of Health, Abuja

LIST OF STATE FIELD WORKERS

ABIA

Name	Designation	Organization
Uka Uduma Chukwuemeka	State AIDS Programme Coordinator	State Ministry of Health, Umuahia
Dr. Declan Uba	Medical Doctor	Federal Medical Center, Umuahia
Ejiofor Agbo C	State Laboratory Scientist	Federal Medical Center, Umuahia
Nnabuihe Vivian C	Site Laboratory Scientist	Federal Medical Center, Umuahia
Iromuanya Chinedum	Site Laboratory Scientist	Federal Medical Center, Umuahia
Odachi Glory	Nurse	Federal Medical Center, Umuahia
Madugba Egobure C	Nurse	Federal Medical Center, Umuahia
Akpaka Opia K	Medical Laboratory Scientist	Abia State University Teaching Hospital, Aba
Egerue Roseline	Nurse	Abia State University Teaching Hospital, Aba
Ibeakalam Chinedu	Nurse	Abia State University Teaching Hospital, Aba
Dr. Okwun Ume K	Medical Doctor	Okpulangwa General Hospital
Uruakpa Vera I	Medical Laboratory Scientist	Okpulangwa General Hospital
Onyebuchi Sella C	Nurse	Okpulangwa General Hospital
Dr. Azuka	Medical Doctor	Ohafia General Hospital
Kalu S. O.	Medical Labratory Scientist	Ohafia General Hospital
Nnenna Archibong	Nurse	Ohafia General Hospital
Mrs. Ojukwu	Nurse	Ohafia General Hospital

ADAMAWA

Kwatri T. Futules	State AIDS Programme Coordinator	State Ministry of Health, Yola
Dr. Alfred Marshal	O&G	Federal Medical Center, Yola
Mrs Juliana Midala	State Laboratory Scientist	Federal Medical Center, Yola
Mrs Dorah Reter	Asst. Laboratory Scientist	Federal Medical Center, Yola
Mrs Confort Fada	Laboratory Tech.	Federal Medical Center, Yola
Mrs Jumai Bashir	Nurse	Federal Medical Center, Yola
Mrs Dinah M. Manassah	Nurse	Federal Medical Center, Yola
Dr. Pur Vandi	O&G	General Hospital, Mubi
Alfred L. Vandu	Laboratory Scientist	General Hospital, Mubi
Hurama Joel	Nurse	General Hospital, Mubi
Huzana T. Moni	Nurse	General Hospital, Mubi
Dr. Ezikiel Sini	Principal Medical Officer	Hong Cottage Hospital
Mrs Murna K. Suku	Nurse	Hong Cottage Hospital
Mr. Abinatus Thomas	Laboratory Tech.	Hong Cottage Hospital
Dr. Oduah Emmanuel Chiedu	Principal Medical Officer	Mayo Belwa Cottge Hospital
Mrs Rahab E.A Gadongga	Nurse	Mayo Belwa Cottge Hospital
Mr. Bedison J. Mozong	Laboratory Tech.	Mayo Belwa Cottge Hospital

AKWA IBOM

Elder U.A Udofia	State AIDS Programme Coordinator	State Ministry of Health, Uyo
Ubong Ime Inyang	Laboratory Scientist	State Ministry of Health, Uyo
Okon L. Akpan	Chief Medical Laboratory Scientist	State Ministry of Health, Uyo
Dr. Charles U. Ekanem	Chief Medical Officer	St. Luke's Hospital, Uyo
Alice E. Akpan	Nursing Officer II	St. Luke's Hospital, Uyo
Imelda g. Eduok	Chief Nursing Officer	St. Luke's Hospital, Uyo
Victoria Nsima Edet	Medical Laboratory Scientist	St. Luke's Hospital, Uyo
Rev. Sis. Alice A. Ashitebe	Matron	St. Mary's Hospital, Urua Akpan
Dr. Sofoluwe Oluyime A.	DM Surgeon	St. Mary's Hospital, Urua Akpan
Usen Emmanuel Udeme	Nursing Officer II	St. Mary's Hospital, Urua Akpan
Ekanem, Benedetti Philip	Medical Laboratory Scientist	St. Mary's Hospital, Urua Akpan
Dr. Ime U. Eshiet	Chief Medical Officer	General Hospital, Iquita, Oron
Etanguno E. Owowo	Medical Laboratory Scientist	General Hospital, Iquita, Oron
Affiong E.O. Offong	Chief Nursing Officer	General Hospital, Iquita, Oron
Dr. Isaiah U. Edeheudim	Principal Medical officer	General Hospital, Ikono
Anthonia A. Obot	Laboratory Scientist	General Hospital, Ikono
Okon A. Ntoketi	Medical Laboratory Scientist	General Hospital, Ikono

ANAMBRA

Dr. J. N. Ijezie, JP	State AIDS Programme Coordinator	State Ministry of Health, Awka
Mr. S. E. Orji	State Laboratory Scientist	State Ministry of Health, Awka
Mr. A. K Obiora	Laboratory Scientist	State Ministry of Health, Awka
Dr. A. O. Ohaneme	Medical Officer	General Hospital, Awka
Mr. A. R. Mgbakogu	Laboratory Scientist	General Hospital, Awka
Mrs. E.U Ike-Okakpu	Nurse	General Hospital, Awka
Mrs. G.N Nwoka	Nurse	General Hospital, Awka
Dr. E. A. Anazodo	Medical Officer	General Hospital, Onitsha
Mrs. R. O. Olisaka	Laboratory Scientist	General Hospital, Onitsha
Mrs. E. C. Belonwu	Nurse	General Hospital, Onitsha
Mrs. J. C. Nwankwo	Nurse	General Hospital, Onitsha
Dr. (Mrs) P. N. Onyekonwu	Medical Officer	General Hospital, Ekwulobia
Mr. J. Umeibe	Laboratory Scientist	General Hospital, Ekwulobia
Mrs. A.M Nwogu	Nurse	General Hospital, Ekwulobia
Mrs. E.I Abone	Nurse	General Hospital, Ekwulobia
Dr. G. O. Ibekwe	Medical Officer	General Hospital, Enugwu Ukwu
Mr E Okpala	Laboratory Scientist	General Hospital, Enugwu Ukwu
Mr. R.O. Nnadi	Nurse	General Hospital, Enugwu Ukwu
Mrs. M. N. Mbelu	Head of rural site team	Ajefo Okwuosa Hospital, Ogidi
Mr. I. Chidebelu	Laboratory Scientist	Ajefo Okwuosa Hospital, Ogidi
Ms. D. I. Uzuagu	Nurse	Ajefo Okwuosa Hospital, Ogidi

BAUCHI

Mohammed Nasir Musa	State AIDS Programme Coordinator	State Ministry of Health, Bauchi
Mahmood Yelwa	State Laboratory Scientist	State Ministry of Health, Bauchi
Mariya H. Zakari	Asst. State Laboratory Scientist	State Ministry of Health, Bauchi
Dr. Andrew A. Ugboji	M/O incharge O&G Dept.	Specialist Hospital, Bauchi
Abdurraman Danjuma	Laboratory Scientist	Specialist Hospital, Bauchi

Hauwa Aliyu Dass	Nurse/Midwife O&G Dept.	Specialist Hospital, Bauchi
Cecilia J. Auta	Nurse/Midwife O&G Dept.	Specialist Hospital, Bauchi
Dr. Umar Ibrahim Nasir	M/O incharge O&G Dept.	Federal Medical Center, Azare
Saidu A. Yaro	Laboratory Scientist	Federal Medical Center, Azare
Ummi Ibrahim	Nurse/Midwife O&G Dept.	Federal Medical Center, Azare
Theresa E. Ogwu	Nurse/Midwife O&G Dept.	Federal Medical Center, Azare
Dr. Olaniyi Afolabi	Principal Medical Officer	General Hospital, Shirayana
Samuel Dauda	Laboratory Scientist	General Hospital, Shirayana
Caros Philips	Nurse/Midwife	General Hospital, Shirayana
Dr. Angela Smart	M/O incharge ANC	General Hospital, Toro
Nuhu Abdullahi	Laboratory Scientist	General Hospital, Toro
Laraba Saleh	Nurse/Midwife ANC	General Hospital, Toro

BAYELSA

Dr. J.Y. Stow	State AIDS Programme Coordinator	State Ministry of Health, Yenegoa
Mr. E A. Solomon	State Laboratory Scientist	Federal Medical Center, Yenegoa
Dr. P.O. Akoyere	ANC Doctor	Federal Medical Center, Yenegoa
Mr. Okelue Faith O. U.	Laboratory Scientist	Federal Medical Center, Yenegoa
Mr. Jonny N. A	Laboratory Scientist	Federal Medical Center, Yenegoa
Ms Ikuli Fancy	ANC Nurse	Federal Medical Center, Yenegoa
Ms Amala Gift	ANC Nurse	Federal Medical Center, Yenegoa
Dr. I. A. Oworodo	ANC Doctor	General Hospital, Sagbama
Mr. Fesei Morris	Laboratory Scientist	General Hospital, Sagbama
Ms. Njoku Rose	ANC Nurse	General Hospital, Sagbama
Ms. Salome Ambari	ANC Nurse	General Hospital, Sagbama
Dr. E. N. Karibi	ANC Doctor	General Hospital, Brass
Mrs B. R. Kemmer	ANC Nurse	General Hospital, Brass
Mr. R. R. Goliyegha	Laboratory Scientist	General Hospital, Brass
Dr. M. O. Adienbor	ANC Doctor	General Hospital, Amassoma
Ms. Leigha E. R.	ANC Nurse	General Hospital, Amassoma
Mrs. A. Dienagha	Laboratory Scientist	General Hospital, Amassoma

BENUE

Mrs. Grace A. Wende	State AIDS Programme Coordinator	State Ministry of Health, Makurdi
Mr. Audu Fred A.	State Laboratory Scientist	Federal Medical Center, Makurdi
Mrs. Ada Eronini	Laboratory Scientist	Federal Medical Center, Makurdi
Dr. J. U. Kwaghtsule	Medical Officer	General Hospital, Makurdi
Mrs. Agnes Kwaghtser	Nurse	General Hospital, Makurdi
Mrs. Hannah Ikyenge	Nurse	General Hospital, Makurdi
Mr. Peter Chimbiv	Lab. Technician	General Hospital, Makurdi
Dr. P. Okoh	Head of Site	General Hospital, Otukpo
Mr. Adeyomi Olufemi	Laboratory Scientist	General Hospital, Otukpo
Mrs. Adah Ikpe	Nurse	General Hospital, Otukpo
Mrs. Achegbulu	Nurse	General Hospital, Otukpo
Dr. Ezeanya Chike	Medical Officer	St. Thomas Hospital, Ihugh
Mrs. Gwache Christiana	Nurse	St. Thomas Hospital, Ihugh
Mr. Godwin Udende	Lab technician	St. Thomas Hospital, Ihugh
Regina Ijele	Nurse	St. Thomas Hospital, Ihugh
Dr. Patrick Ekedegba	Head of Site	General Hospital, Okpoga

Mr. Leonand Udeh	Laboratory Scientist	General Hospital, Okpoga
Mrs. Maria Ojobi Wunse	Nurse	General Hospital, Okpoga
Dr. Joseph Kumba	Head of Site	General Hospital, Wannune
Mrs. Awa Sokpo	Nurse	General Hospital, Wannune
Mr. Andor	Laboratory technician	General Hospital, Wannune

BORNO

Dr. Ba'abba Goni	State AIDS Programme Coordinator	State Ministry of Health, Maiduguri
Ahmed Musa	State Laboratory Scientist	State Specialist Hospital, Maiduguri
Dr. Mohammed Mailafiya	Medical Officer, ANC	State Specialist Hospital, Maiduguri
Maina Mustapha	Laboratory Scientist	State Specialist Hospital, Maiduguri
Goni Ali	Laboratory Scientist	State Specialist Hospital, Maiduguri
Aishatu Kaka Sanda	CNS	State Specialist Hospital, Maiduguri
Indo Shaffie	CNS	State Specialist Hospital, Maiduguri
Dr. Dikka Edward	Medical Officer, ANC	General Hospital, Biu
Dibal Arhey Wamdali	Laboratory Scientist	General Hospital, Biu
Charity Dikka	Chief Nursing Officer	General Hospital, Biu
Hajiya Zainab Aliu	Asst. Chief Nursing Officer	General Hospital, Biu
Dr. Isa Ismail	Medical Officer, ANC	General Hospital, Konduga
Garba Musa Kwajaka	Laboratory Scientist	General Hospital, Konduga
Hamsatu Abatcha	ACS	General Hospital, Konduga
Dr Onoha Chiduben	Medical Officer	General Hospital, Ngala
Baba Gana Modu	Laboratory Scientist	General Hospital, Ngala
Maimuna Lamba Wulgo	Chief Nursing Officer	General Hospital, Ngala

CROSS RIVER

Dr. Emmanuel Ojar	State AIDS Programme Coordinator	State Ministry of Health, Calabar
Ogban Eni	State Laboratory Scientist	General Hospital, Calabar
Dr. Ezukwa Ezukwa	Medical Officer	General Hospital, Calabar
Eni John Eko	Laboratory Scientist	General Hospital, Calabar
Jane O. Ansa	Nurse	General Hospital, Calabar
Nkoyo Oyo Oku-Ita	Nurse	General Hospital, Calabar
Oguni N. Enong	Nurse	Holy Family Hospital, Ikom
Okoye Bonaventine E.	Laboratory Scientist	Holy Family Hospital, Ikom
Sr Eucharia Ajawo	Nurse	Holy Family Hospital, Ikom
Dr. Joseph A. Bassey	Medical Supritendent	General Hospital, Akamkpa
Grace Peter Eteng	Nurse	General Hospital, Akamkpa
Lucy Monday Ekanem	Laboratory Scientist	General Hospital, Akamkpa
Felicia Ikpor R.	Nurse	General Hospital, Akamkpa
Emuru Julis Adie	Head of Unit/Nurse	Primary Health Care, Gakem
Josephine O. Aganyi	Nurse	Primary Health Care, Gakem
Ushie Fred Odey	Laboratory Tech.	Primary Health Care, Gakem
Mayen Ikpali	Nurse	Primary Health Care, Gakem

DELTA

Mrs B.O Irobo	State AIDS Programme Coordinator	State Ministry of Health, Asaba
Dr. A. C Ojumah	Medical Officer	Government Hospital, Owhelogbo
Mrs. V. O. Idhigu	Nurse	Government Hospital, Owhelogbo
Mr. S. Ekokotu	Laboratory Tech.	Government Hospital, Owhelogbo

Dr. E. Ayaebene	Medical Officer	Central Hospital, Agbor
Mr. C. Isibor	Laboratory Scientist	Central Hospital, Agbor
Mrs. G.C. Ogode	Nurse	Central Hospital, Agbor
Mrs. F.N. Odiase	Nurse	Central Hospital, Agbor
Dr. L. O. Oyeye	Medical Officer	Central Hospital, Warri
Miss. G. Akpati	Laboratory Scientist	Central Hospital, Warri
Mrs E. O . Ugbebor	Nurse	Central Hospital, Warri
Mrs. V. Ugiomoh	Nurse	Central Hospital, Warri
Mr. E Ogboru	Laboratory Scientist	Central Hospital, Warri
Miss. Nneka Ntata	Laboratory Scientist	Central Hospital, Warri
Dr C. M. Oghroro	Medical Officer	Okpara Inland PHC Center
Mr Tega Obere	Laboratory Scientist	Okpara Inland PHC Center
Betty Idede (Oyeye)	Nurse	Okpara Inland PHC Center
Miss Monica Ogun	Nurse	Okpara Inland PHC Center

EBONYI

Dr. P. O. Elom	State AIDS Programme Coordinator	State Ministry of Health, Abakaliki
Mr. Jude. Ugwu	State Laboratory Scientist	State Ministry of Health, Abakaliki
Mrs. Juliet Onwe	Asst. State Laboratory Scientist	State Ministry of Health, Abakaliki
Dr. Ike Dimejesi	Medical Officer I/C	Ebonyi state University Teaching Hospital, Abakaliki
Mr. Ikechuckwu Orji	Laboratory Scientist	Ebonyi state University Teaching Hospital, Abakaliki
Mrs. Juliana Amadi	ANC Nurse	Ebonyi state University Teaching Hospital, Abakaliki
Mrs. Theresa Okocha	ANC Nurse	Ebonyi state University Teaching Hospital, Abakaliki
Dr. Ukanwoko C.	Medical Officer I/C	Master Misericordiae Hospital, Afikpo
Mr. Ben Chukwu	Laboratory Scientist	Master Misericordiae Hospital, Afikpo
Matron Akpelu Theresa	ANC Nurse	Master Misericordiae Hospital, Afikpo
Virginia Ugwu	Nurse	Master Misericordiae Hospital, Afikpo
Dr. Ogbonna Nkwegu	Medical Officer I/C	St. Vincent's Hospital, Ndubia-Izzi L.G.A.
Rev Sr. Maria Stella Oko	Laboratory Scientist	St. Vincent's Hospital, Ndubia-Izzi L.G.A.
Rev. Sr. Francisca Eya	ANC Nurse	St. Vincent's Hospital, Ndubia-Izzi L.G.A.
Dr. Adekunle V. O.	Medical Officer I/C	General Hospital Itim-Ukwu, Afikpo North L.G.A.
Mr. Oti Egwu J.	Laboratory Scientist	General Hospital Itim-Ukwu, Afikpo North L.G.A.
Mrs. Beatrice O. Ama	ANC Nurse	General Hospital Itim-Ukwu, Afikpo North L.G.A.

EDO

Mrs. A . C. Agbadua	State AIDS programme Coordinator	State Ministry of Health, Benin-City
Mrs. Ayaulere	State Laboratory Scientist	State Ministry of Health, Benin-City
Dr. F. E. Otuomagie	Medical Officer	Central Hospital, Benin City
D. O. Osanyande	Laboratory Scientist	Central Hospital, Benin City
Mr. O. C. Ogunorabo	Asst. Laboratory Scientist	Central Hospital, Benin City
Mrs. I. P. Okundia	Nurse	Central Hospital, Benin City

Mrs. A. Isiramen	Nurse	Central Hospital, Benin City
Dr.V.O Akhimiona	Medical Officer	General Hospital, Ekpoma
Mr. F. Iyamu	Laboratory Scientist	General Hospital, Ekpoma
Mrs. C. E. Arikhan	Nurse	General Hospital, Ekpoma
Mrs. C. I. Ihenyen	Nurse	General Hospital, Ekpoma
Dr. A. Osunbor	Medical Officer	General hospital, Iruekpen
Mr. F. Otasowie	Asst. Laboratory Scientist	General hospital, Iruekpen
Dr. F. E. Azekhumen	Medical Doctor	General hospital, Iruekpen
Dr. B. O. Akpyi	ANC Medical Doctor	General Hospital, Agbede
Mr. Nelson Akhimien	Laboratory Assistant	General Hospital, Agbede
Mrs. M. O. Yesufu	ANC Nurse	General Hospital, Agbede

EKITI

Mrs. E.O. Oluwasola	State AIDS Programme Coordinator	State Ministry of Health, Ado-Ekiti
Mrs. E. A. Mogaji	State Laboratory Scientist	State Ministry of Health, Ado-Ekiti
Mr. Abiodun Ojo	Asst. State Laboratory Scientist	State Ministry of Health, Ado-Ekiti
Dr. Adetoye	Medical Officer	State Specialist Hospital, Ado
Mr. G. Daramola	Medical Laboratory Scientist	State Specialist Hospital, Ado
Mrs. Ibukun	Nurse	State Specialist Hospital, Ado
Mrs. Adesina	Nurse	State Specialist Hospital, Ado
Dr. Aina	Medical Officer	State Specialist Hospital, Ikole
Mr. Olabiyi	Medical Laboratory Scientist	State Specialist Hospital, Ikole
Mrs. Adegbuyi	Nurse	State Specialist Hospital, Ikole
Miss. Akanbi	Nurse	State Specialist Hospital, Ikole
Mr. Famori	Medical Laboratory Scientist	Igbara odo Basic Health center
Mrs. Aina	Nurse	Igbara odo Basic Health center
Mrs. Afere	Nurse	Igbara odo Basic Health center
Mr. Ajiboye	Medical Laboratory Scientist	Ipao Basic health Centre
Miss. Ajakaye	Nurse	Ipao Basic health Centre
Mrs. Omojola	Nurse	Ipao Basic health Centre

ENUGU

Dr. C. C. Ani	State AIDS programme Coordinator	State Ministry of Health, Enugu
Osum E. E.	State Laboratory Scientist	State Ministry of Health, Enugu
Aneke H. O. JP	Assist. State Laboratory Scientist	State Ministry of Health, Enugu
Dr. I. I. Okafor	Medical Officer	Parklane Specialist/Teaching Hospital, Enugu
Obiora C. E.	Laboratory Scientist	Parklane Specialist/Teaching Hospital, Enugu
Okite Felicia N.	Nurse	Parklane Specialist/Teaching Hospital, Enugu
Akpa Cecilia N	Nurse	Parklane Specialist/Teaching Hospital, Enugu
Dr. Uzo N. M.	Medical Officer	Goodsheperd Hospital, Nsukka
Emmanuel Ngwu	Laboratory Scientist	Goodsheperd Hospital, Nsukka
Ugwu Chinelo	Nurse	Goodsheperd Hospital, Nsukka
Nnebechi Augustina	Nurse	Goodsheperd Hospital, Nsukka
Dr. Ossai P.	Medical Officer	Achi Joint Hospital
Rev. Sister Gladys Ubah	Laboratory Scientist	Achi Joint Hospital
Rev. Sister Callistas Iwuji	Nurse	Achi Joint Hospital
Onwu Felicia	Nurse	Achi Joint Hospital
Dr. Achime E. C.	Medical Officer	General Hospital, Udi
Mr. Ani Simon	Laboratory Scientist	General Hospital, Udi

Mrs. Oguama M.A	Nurse	General Hospital, Udi
Dr. Nwossai C. E.	Medical Officer	Model CHC Orba Nsukka
Mr. Ugwu Cosmas E.	Laboratory Scientist	Model CHC Orba Nsukka
Odo Fidelia N.	Nurse	Model CHC Orba Nsukka

FCT

Dr. A. A. Momoh	State AIDS Programme Coordinator	General Hospital, Wuse
Dr. Asaolu	Medical Officer, ANC	General Hospital, Wuse
Mr. Adejumo A A	State Laboratory Scientist	General Hospital, Wuse
Mr. Ndaks Comfort	Site Laboratory Scientist	General Hospital, Wuse
Mr. Ochei Kingsley	Asst. Site Laboratory Scientist	General Hospital, Wuse
Mrs. Adewumi	Nurse	General Hospital, Wuse
Mariam Adamu	Nurse	General Hospital, Wuse
Dr. B. I. Adeka	Medical Officer, ANC	Gwagwalada Specialist Hospital
Murna Bivan	Site Laboratory Scientist	Gwagwalada Specialist Hospital
Jemila Abubakar	Nurse	Gwagwalada Specialist Hospital
Martha Akawu	Nurse	Gwagwalada Specialist Hospital
Dr. Ohiagu I. O	Medical Officer, ANC	General Hospital, Nyanya
Samson Racheal	Laboratory Scientist	General Hospital, Nyanya
Zita Nwakama	Nurse	General Hospital, Nyanya
Oshegba E. Anwuli	Nurse	General Hospital, Nyanya
Dr. Obadofin	Medical Officer I/C	General Hospital, Bwari
Mr. Adewale R.A	Site Laboratory Scientist	General Hospital, Bwari
Mr. Okonedo Christy	Nurse	General Hospital, Bwari
Dr. Okoye	Medical Officer I/C	Karshi Hospital
Esom M. N	Site Laboratory Scientist	Karshi Hospital
Nengel Felicia	Nurse	Karshi Hospital

GOMBE

Mr. Hassan Ibrahim	State AIDS Programme Coordinator	State Ministry of Health, Gombe
Dr. Johnson Dilla	Med. Officer	Specialist Hospital, Gombe
Lilian S. Maina	State Laboratory	Specialist Hospital, Gombe
Shelley I. aliyu	Laboratory Scientist	Specialist Hospital, Gombe
Femi Oluwasesin	Laboratory Scientist	Specialist Hospital, Gombe
Adamu Jummai	Nurse	Specialist Hospital, Gombe
Chiroma B. Rose	Nurse	Specialist Hospital, Gombe
Dr. Nwukwa Gideon	Medical Officer Officer	General Hospital, Kaltungo
Emmanuel Peters	Laboratory Scientist	General Hospital, Kaltungo
Na'aman Maryamu	Nurse	General Hospital, Kaltungo
Gimba marka	Nurse	General Hospital, Kaltungo
Dr. Lawal Bala	Medical Officer	General Hospital, Zambuk
Dunas Boyi	Laboratory Scientist	General Hospital, Zambuk
Mele Egla A.	Nurse	General Hospital, Zambuk
Muhammadu Abdulmummuni	Head of true rural site	Comprehensive Health Center, Kwami
Abdulmummuni Ladi	Community Health worker	Comprehensive Health Center, Kwami
Garba D. Jade	Laboratory Technician	Comprehensive Health Center, Kwami

IMO

Dr. Anyanwu O. E.	State AIDS Programme Coordinator	State Ministry of Health, Owerri
Mrs. Opara Onyedike	State Laboratory Scientist	General Hospital, Owerri
Mrs. Nkwo Chinyere	Laboratory Scientist	General Hospital, Owerri
Mrs. Martina Nwaigbo	Nurse	General Hospital, Owerri
Mrs. Ugo Assumpta	Nurse	General Hospital, Owerri
Dr. Omende	Medical Officer	General Hospital, Orlu
Mrs. Glory Anele	Nurse	General Hospital, Orlu
Mrs. Christy Okorie	Nurse	General Hospital, Orlu
Mrs. Esther Okoye	Laboratory Scientist	General Hospital, Orlu
Mrs. Mary Ukaegbu	Nurse	General Hospital, Orlu
Dr. Anyanwu C. E.	Medical Officer	General Hospital, Aboh Mbaise
Mrs. Paulina Umunna	Nurse	General Hospital, Aboh Mbaise
Mr. Etim-Etim Charles	Laboratory Scientist	General Hospital, Aboh Mbaise
Dr. Andy Ezimefule	Medical Officer	General Hospital, Ahiazu Mbaise
Mr. Nathaniel Nwachukwu	Laboratory Scientist	General Hospital, Ahiazu Mbaise
Mrs. Elizabeth Anele	Nurse	General Hospital, Ahiazu Mbaise

JIGAWA

Ibrahim Almajiri	State AIDS programme Coordinator	Jigawa State Primary Health Care Agency, Jahun
Sani Iliya	State Laboratory Scientist	State Ministry of Health, Dutse
Dr. Kabir Ibrahim	Medical Officer	General Hospital, Dutse
Ojo Oyekunle	Laboratory Scientist	General Hospital, Dutse
Mustapha Bello	Laboratory Scientist	General Hospital, Dutse
Amina Manu	Nurse	General Hospital, Dutse
Saude Abdullahi	Nurse	General Hospital, Dutse
Dr. Yau Garba Abbas	Medical Officer	General Hospital, Hadejia
Lawal S. Yakubu	Laboratory Scientist	General Hospital, Hadejia
Mannira Mohd Hadejia	Nurse	General Hospital, Hadejia
Umma Imam	Nurse	General Hospital, Hadejia
Hassan Malam	Laboratory Technologist	Mallammadori PHC
Mohd Bako	Community Health Officer	Mallammadori PHC
Yaro Mohd	Community Health Officer	Mallammadori PHC
Ibrahim S. Taura	Laboratory Technologist	Taura PHC
Ibrahim Abdu	Community Health Officer	Taura PHC
Gambo Umar	Nurse	Taura PHC

KADUNA

Dr. Mark D. Anthony	State AIDS programme Coordinator	State Ministry of Health, Kaduna
Mr. Jonathan Zaki	State Laboratory Scientist	State Ministry of Health, Kaduna
Dr. Joel Adze	ANC Medical Officer	BDSH
Miss Felicia Francis	Site Laboratory Scientist	BDSH
Miss Kayadi Thomas	Site Laboratory Scientist	BDSH
Mrs. Paulina F. Akanet	ANC Nurse	BDSH
Mrs. Kezaih G. Garba	ANC Nurse	BDSH
Dr. Ahmed A. M.	ANC Medical Officer	HGSGH K/Gayan
Mr Mathias S. Yango	Site Laboratory Scientist	HGSGH K/Gayan

Mrs. Rabiatu Bisallah	ANC Nurse	HGSGH K/Gayan
Mrs Safiya Magaii Is'Haq	ANC Nurse	HGSGH K/Gayan
Dr. Gajere G. Jonathan	ANC Medical Officer	General Hospital, Kafanchan
Mr. Monday Banda	Site Laboratory Scientist	General Hospital, Kafanchan
Mrs. Esther Ibrahim	ANC Nurse	General Hospital, Kafanchan
Mrs. Agnes t. Anga	ANC Nurse	General Hospital, Kafanchan
Dr. Dogara Livingstone	Medical Officer	RH Kwoi
Augustine Ahmadu	Laboratory Technician	RH Kwoi
Sim Habila	ANC Nurse	RH Kwoi
Dr. Kure S. M	Medical Officer	General Hostipal, Saminaka
Dikko A. Sunday	Laboratory Technician	General Hostipal, Saminaka
Mrs. Asabaru Obadiah	ANC Nurse	General Hostipal, Saminaka

KANO

Dr. Ashiru Rajab	State AIDS Programme Coordinator	State Ministry of Health, Kano
Sani Abdu Fagge	State Laboratory Scientist	State Ministry of Health, Kano
Dr. Muhammad Inuwa	Medical Officer, ANC	Gen. Murtala Muhammed Specialist Hospital, Kano
Aminu I. Minjibir	Site Laboratory Scientist	Gen. Murtala Muhammed Specialist Hospital, Kano
Faruq U Ibrahim	Asst site Laboratory Scientist	Gen. Murtala Muhammed Specialist Hospital, Kano
Amina Sa'ad Ahmad	Nurse	Gen. Murtala Muhammed Specialist Hospital, Kano
Mairo Mohammad	Nurse	Gen. Murtala Muhammed Specialist Hospital, Kano
Dr. Lawan Adamu	Medical Officer, ANC	General Hospital, Rano
Auwal Mohammad Musa	Site Laboratory Scientist	General Hospital, Rano
Binta M Abubakar	Nurse	General Hospital, Rano
Abubakar Ahmad	Nurse	General Hospital, Rano
Lamido T. Sanusi	CHO	Comprehensive Hospital, Tudun-Wada
Garba Namadi	Site Laboratory Scientist	Comprehensive Hospital, Tudun-Wada
Mariya Aliyu	Nurse	Comprehensive Hospital, Tudun-Wada
Dr. Agu Osunde Chukwula	Medical Officer, ANC	Aminu Kano Teaching Hospital, kano
Ado Umar Adamu	Site Laboratory Scientist	Aminu Kano Teaching Hospital, kano
Nafisatu Zubairu	Nurse	Aminu Kano Teaching Hospital, kano
Jummai D Yunusa	Nurse	Aminu Kano Teaching Hospital, kano
Zakari Haruna	Site Laboratory Scientist	Shanono Comprehensive Health Center
Elizabeth John	Nurse	Shanono Comprehensive Health Center

KATSINA

Dr. Bashir Abdullahi	State AIDS Programme Coordinator	State Ministry of Health, Katsina
Dr. Aliyu E. I.	Medical Doctor	General Hospital, Katsina
Abdul rasheed Ibrahim	State Laboratory Scientist	General Hospital, Katsina
Usman Aliyu	Asst. State Laboratory Scientist	General Hospital, Katsina
Sani Lawal	Medical Laboratory Scientist	General Hospital, Katsina
Indo Aliyu	Nurse	General Hospital, Katsina
Baraka Mati	Nurse	General Hospital, Katsina
Dr. Ado Maaruf	Medical Doctor	General Hospital, Funtua

Yusuf Ado	Laboratory Scientist	General Hospital, Funtua
Jummai Lawal Bala	Nurse	General Hospital, Funtua
Aisha Umar Saulawa	Nurse	General Hospital, Funtua
Dr. Suleima Abdul Karim	Medical Doctor	General Hospital, Jibia
Abdullahi Ahmed O.	Laboratory Technician	General Hospital, Jibia
Nana Abbati	Nurse	General Hospital, Jibia
Dr. Suleiman O Yakubu	Medical Doctor	General Hospital, Baure
Nafiu Dahiru	Laboratory Technician	General Hospital, Baure
Aisha Abubakar	Nurse	General Hospital, Baure

KEBBI

Dr. Shehu Abubakar Kalgo	State AIDS Programme Coordinator	State Ministry of Health, Birnin-Kebbi
Dr. Abubakar Tilli	Medical Officer	Women and Children Hospital, Fati Lami Abubakar
Umaru Balarabe Tunga	State Laboratory Scientist	Women and Children Hospital, Fati Lami Abubakar
Muhammed Haruna Yeldu	Asst. Site Laboratory Scientist	Women and Children Hospital, Fati Lami Abubakar
Aliyu Nuradeen Muhammed	Site Laboratory Scientist	Women and Children Hospital, Fati Lami Abubakar
Kulu Abubakar Shamaki	Nurse	Women and Children Hospital, Fati Lami Abubakar
Hajara Haruna Yeldu	Nurse	Women and Children Hospital, Fati Lami Abubakar
Dr. M. O. Onyinlo	Medical Officer	General Hospital, Argungu
Umaru Mairuwa	Laboratory Scientist	General Hospital, Argungu
Amina Saidu Sauwa	Nurse	General Hospital, Argungu
Amina Ibrahim Musa	Nurse	General Hospital, Argungu
Dr. Ibrahim Tayo	Medical officer	General Hospital, Aliero
Musa Marafa	Laboratory Scientist	General Hospital, Aliero
Ama Salihu	Nurse	General Hospital, Aliero
Dr. Joseph D. Dasa	Medical Officer	BSMMC Senchi
Dudu Nasamu	Laboratory Scientist	BSMMC Senchi
Esther Magaji	Nurse	BSMMC Senchi

KOGI

Mrs. Konto	State AIDS Programme Coordinator	State Ministry of Health, Lokoja
Dr Idris Shehu	Medical Officer	Federal Medical Center, Lokoja
Mrs Itodo Grace	State Laboratory Scientist	Federal Medical Center, Lokoja
Gambo Abdullahi	Site Laboratory Scientist	Federal Medical Center, Lokoja
Vyouko Ekaete	Asst. Site Laboratory Scientist	Federal Medical Center, Lokoja
Mrs Wambebe	Nurse	Federal Medical Center, Lokoja
Mrs Abdulsalami	Nurse	Federal Medical Center, Lokoja
Dr Ebiloma	Medical Officer	General Hospital, Ankpa
Amodu Christian	Laboratory Scientist	General Hospital, Ankpa
Mrs Attah	Nurse	General Hospital, Ankpa
Mrs Awodi Serah	Nurse	General Hospital, Ankpa
Lucy Odufu	Nurse	MRS, Cheri Megu Mari Barracks
Florence Adoma	Site Laboratory Scientist	MRS, Cheri Megu Mari Barracks

Fatima Anwalu Salihu	Nurse	Maternal and Child Welfare Clinic, Masara
Rabiat Abdullalu	Site Technician	Maternal and Child Welfare Clinic, Masara
Hauwa Umar	CHW	Maternal and Child Welfare Clinic, Masara

KWARA

Dr. J.A. Oyeniyi	State AIDS Programme Coordinator (SAPC)	State Ministry of Health, Ilorin
Mr. Olarewaju J. F.	State Laboratory Scientist	State Ministry of Health, Ilorin
Mr. L.D. Abdulrahim	Asst. State Laboratory Scientist	State Ministry of Health, Ilorin
Dr. W.W. Ajetomobi	Medical Officer	Specialist Hospital, Offa
Mr. Aliu A. R.	Site Laboratory Scientist	Specialist Hospital, Offa
Mrs. Mustapha	Nurse	Specialist Hospital, Offa
Mrs. Fajola	Nurse	Specialist Hospital, Offa
Dr. Oludipe I. O.	Medical Officer	Children Specialist Hospital, Ilorin
Mr. Salami A.T.	Site Laboratory Scientist	Children Specialist Hospital, Ilorin
Mrs. K.V. Olarewaju	Nurse	Children Specialist Hospital, Ilorin
Mrs. Kareem A. I.	Nurse	Children Specialist Hospital, Ilorin
Dr. Oyelowo	Medical Officer	General Hospital, Kaiama
Mr. Bandipo J. O.	Site Laboratory Scientist	General Hospital, Kaiama
Mrs. H. Samuel	Nurse	General Hospital, Kaiama
Dr. Ashinze E.A.	Medical Officer	General Hospital, Patigi
Mr. Lasis Funsho	Site Laboratory Scientist	General Hospital, Patigi
Mrs. Gang E.A.	Nurse	General Hospital, Patigi

LAGOS

Dr. Tolu Arowolo	State AIDS Programme Coordinator	State Ministry of Health, Alausa, Lagos
Mr. O. Jenrola	State Laboratory Scientist	State Ministry of Health, Alausa, Lagos
Dr. Akinyemi	Medical Doctor	General Hospital, Surulere, Lagos
Mrs. Farri	Laboratory Scientist	General Hospital, Surulere, Lagos
Mrs. Adebiyi	ANC Nurse	General Hospital, Surulere, Lagos
Mrs. Aiyepe	ANC Nurse	General Hospital, Surulere, Lagos
Dr. Ayodele	Med Doctor	Lagos state University Teaching Hospital, Ikeja
Mrs. Ituechi	Snr. Laboratory Scientist	Lagos state University Teaching Hospital, Ikeja
Mr. Arogundade	Laboratory Scientist	Lagos state University Teaching Hospital, Ikeja
Mrs. Shankunle	Laboratory Scientist	Lagos state University Teaching Hospital, Ikeja
Mrs. Sanni	Nurse	Lagos state University Teaching Hospital, Ikeja
Miss. Oladunni	Nurse	Lagos state University Teaching Hospital, Ikeja
Mrs. Adelaja	Medical Doctor	Lagos Island Maternity Hospital
Chima Agwu	Laboratory Scientist	Lagos Island Maternity Hospital
Mrs. Ojo	Nurse	Lagos Island Maternity Hospital
Ms Omotosho	Nurse	Lagos Island Maternity Hospital
Dr. Orebela	Medical Doctor	General Hospital, Epe
Mr. Towesho	Laboratory Scientist	General Hospital, Epe
Mrs. Hassan	Nurse	General Hospital, Epe
Mrs. Balogun	Nurse	General Hospital, Epe
Dr. Bello	Medical Doctor	General Hospital, Agbowa
Mrs. Olufotebi	Nurse	General Hospital, Agbowa
Mrs Adepitan	Laboratory Scientist	General Hospital, Agbowa

Dr. Omoloye	Medical Doctor	Health Center, Ijede
Mrs. Adeyemi	Laboratory Scientist	Health Center, Ijede
Mrs Okubanjo	Nurse	Health Center, Ijede
Dr. O. B. Aletan	Medical Doctor	General Hospital, Badaqgry
Mrs. Newton	Laboratory Scientist	General Hospital, Badaqgry
Mrs. Aina	Nurse	General Hospital, Badaqgry
Mrs. Kayode	Nurse	General Hospital, Badaqgry

NASARAWA

Mrs. Roseline Eigege	State AIDS Programme Coordinator	State Ministry of Health, Lafia
Dr. Abimuku P. P.	Medical Director	Specialist Hospital, Dalhatu Araf, Lafia
Adam A. Mungo Park	Laboratory Technician	Specialist Hospital, Dalhatu Araf, Lafia
Kingbu J. A.	Asst State Laboratory Scientist	Specialist Hospital, Dalhatu Araf, Lafia
Kyari S. H	State Laboratory Scientist	Specialist Hospital, Dalhatu Araf, Lafia
Bless Adamu	Nurse	Specialist Hospital, Dalhatu Araf, Lafia
Hajara Mohammed	Nurse	Specialist Hospital, Dalhatu Araf, Lafia
Osuh Immanuel	Medical Laboratory Scientist	General Hospital, Nasarawa Eggon
Ruth Gado	Nurse (CNO)	General Hospital, Nasarawa Eggon
Dr. Obodo Kinsley	Medical Supt I/C	General Hospital, Nasarawa Eggon
Margaret m. Odeh	Nurse (CNO)	General Hospital, Nasarawa Eggon
Dr. Atai Gabriel	Medical Supervisor	General Hospital, Garaku
Mrs. Esther Kaka	Laboratory Technician	General Hospital, Garaku
Mrs. Rhoda Bature	Nurse	General Hospital, Garaku
Dr. Charles Ugboma	Medical Supervisor I/C	General Hospital, Doma
Yahanna A. Bamaiyi	Laboratory Scientist	General Hospital, Doma
Mrs. Christian H. John	Nurse	General Hospital, Doma

NIGER

Dr. Chindo I. Bisallah	State AIDS Programme Coordinator	State Ministry of Health, Minna
Dr. James J. Kolo	ANC Doctor	General Hospital, Minna
Mrs. Asabe Abubakar	Nurse	General Hospital, Minna
Mrs. Zainab Garba	Nurse	General Hospital, Minna
Galadima Mohd	Laboratory Scientist	General Hospital, Minna
Habib Abdulkadir	Laboratory Scientist	General Hospital, Minna
Adamu Baba	State Laboratory Scientist	General Hospital, Minna
Dr. N. Osama	ANC Doctor	Rural Hospital, Wushishi
Abdul Ibn Saidu	Laboratory Scientist	Rural Hospital, Wushishi
Hauwa Bitrus	Nurse	Rural Hospital, Wushishi
Halimat Atiku	Nurse	Rural Hospital, Wushishi
Mrs. Grace Echioda	Head Rural Site	Primary Health Care, Paiko
Mrs. Jummai Barde	Nurse	Primary Health Care, Paiko
Alfa Ahmadu Dangana	Laboratory Scientist	Primary Health Care, Paiko
Paul Jiri	Head Rural site	Rural Health Center, Lemu
Winifred Tsado	Nurse	Rural Health Center, Lemu
Nasiru Abubakar	Laboratory Scientist	Rural Health Center, Lemu

OGUN

Mrs. B.A. Gbadamosi	State AIDS Programme Coordinator	State Ministry of Health, Abeokuta
Mr. J.A. Adedeji	State Laboratory Scientist	State Ministry of Health, Abeokuta
Mrs. C. O. Akintunde	Laboratory Scientist	State Ministry of Health, Abeokuta
Dr. Ayoola	Medical Officer	State Hospital, Abeokuta
Mr. O. O. Okunoye	Laboratory Scientist	State Hospital, Abeokuta
Mrs. O. O. Oladeji	Nurse	State Hospital, Abeokuta
Mrs B. B. Awodele	Nurse	State Hospital, Abeokuta
Dr. Nathaniel	Medical Officer	State Hospital, Ijebu Ode
Mr. P. O. Abba	Laboratory Scientist	State Hospital, Ijebu Ode
Mrs. K. F. Bellow	Nurse	General Hospital, Ijebu-Ode
Mrs. A. I. Alabi	Nurse	General Hospital, Ijebu-Ode
Mrs. I. O. Iwezeuife	Head Rural Site	Primary Health Center, Aiyetoro
Mr. R. T. Akinlalu	Laboratory Scientist	Primary Health Center, Aiyetoro
Mrs. M. O. Odunbaku	Nurse	Primary Health Center, Aiyetoro
Dr. Taiwo	Medical Officer	General Hospital, Isara
Mr. J. K. Amoo	Laboratory Scientist	General Hospital, Isara
Idowu J.A.	Nurse	General Hospital, Isara

ONDO

Dr. Adegbulu A.A.	State AIDS Program Coordinator	State Ministry of Health, Akure
Mr. Oloye Kola	State Laboratory Scientist	State Ministry of Health, Akure
Dr. Fagbemi S. O	Medical officer	Specialist Hospital, Akure
Mrs Olaleye B. O.	Chief Nurse	Specialist Hospital, Akure
Mrs. Falodun L.G.	Asst. Nurse	Specialist Hospital, Akure
Mr. Fagite S.	Laboratory Scientist	Specialist Hospital, Akure
Dr. Adiji A. O.	Medical Officer	Specialist Hospital, Ondo
Mrs. Ogundipe M.A.	Chief Nurse	Specialist Hospital, Ondo
Mrs. Edu C. K.	Asst. Nurse	Specialist Hospital, Ondo
Mrs Ologunowa O.A.	Laboratory Scientist	Specialist Hospital, Ondo
Mrs. Sule B. O.	Chief Nurse	Basic Health Center, Iju
Mrs Osore O.W.	Asst. Nurse	Basic Health Center, Iju
Mrs Oladoyin B. J.	Laboratory Scientist	Basic Health Center, Iju
Dr. Akintan A. L.	Medical Officer	Rural Health Center, Idanre
Mrs. Akinnadeju M.A.	Asst. Nurse	Rural Health Center, Idanre
Mrs. Abiona F. B.	Laboratory Scientist.	Rural Health Center, Idanre

OSUN

Pastor I. O. Oguntunde	State AIDS programme Coordinator	State Ministry of Health, Osogbo
Mrs. Akinbolade A.A	Chief Medical Laboratory Scientist	State Laboratory, Osogbo
Mrs. AKolawole I.I	Medical Laboratory Scientist	State Laboratory, Osogbo
Dr. N.A. Adeleke	ANC Medical Officer	State Laboratory, Osogbo
Mr. Oladokun L.O	Medical Laboratory Scientist	Site Laboratory, Osogbo
Mrs. L. O. Kehinde	ANC Nurse	State Hospital, Osogbo
Mrs. M. Awoyemi	ANC Nurse	State Hospital, Osogbo
Dr. S. O. Subair	Medical Officer ANC	State Hospital, Ilesha
Mrs. Janet Afolabi	Medical Laboratory Scientist	Site Hospital, Ilesha
Mrs. Olaniyi C. M.	ANC Nurse	State Hospital, Ilesha

Mrs. R. O. Abe	ANC Nurse	State Hospital, Ilesha
Mr. E.F. Fadokun	Medical Laboratory Scientist	C. H. C. Iragberi
Mrs. E. O. Orisatola	Head Nurse	C. H. C. Iragberi
Mrs. S. O. Onifade	Nurse	C. H. C. Iragberi
Mr. J. O. Eso	Site Laboratory	C. H. C. Ibokun
Mrs. M. K. Momoh	Head Nurse CHC	C. H. C. Ibokun
Mrs. E. A. Jegede	Nurse CHC	C. H. C. Ibokun

OYO

Dr. (Mrs.) O.O. Akintunde	State AIDS Programme Coordinator	State Ministry of Health, Ibadan
Mrs F. I. Oyediran	State Laboratory Scientist	State Health Management Board
Mrs. M.V Adeleke	Laboratory Scientist	State Health Management Board
Mr I. O. Akinbola	Laboratory Scientist	State Health Management Board
Miss B. R. Adekola	Laboratory Scientist	State Health Management Board
Dr. Olopade	Doctor	Adeoyo Maternity Hospital, Ibadan
Mrs. S. M. Fawumi	Laboratory Scientist	Adeoyo Maternity Hospital, Ibadan
Mrs. B. B. Tomori	Nurse	Adeoyo Maternity Hospital, Ibadan
Mrs. V. K Oyediji	Nurse	Adeoyo Maternity Hospital, Ibadan
Dr. Adedigba	Doctor	Saki State Hospital
Mrs. R. Oladeji	Laboratory Scientist	Saki State Hospital
Mrs. E. B. Ewetola	Nurse	Saki State Hospital
Mrs. M. Babalola	Nurse	Saki State Hospital
Dr. Ladoye	Doctor	Ogbomoso State Hospital
Mr. Adeleke	Laboratory Scientist	Ogbomoso State Hospital
Mrs. Oladipo	Nurse	Ogbomoso State Hospital
Mrs. Eyitayo	Nurse	Ogbomoso State Hospital
Dr. Ayorinde	Medical Officer	Lagun General Hospital
Mrs. Akinwale	Laboratory Scientist	Lagun General Hospital
Mrs. Ogunremi	Nurse	Lagun General Hospital
Dr. Ogunkule	Doctor	Ado Awaye General Hospital
Mr. J. Oladokun	Laboratory Scientist	Ado Awaye General Hospital
Mr. Okediran	Nurse	Ado Awaye General Hospital

PLATEAU

Dr. B. I. Matawal	Consultant (Obs/Gynae)	Plateau state Specialist Hospital, Jos
Patience P. Amangam	Laboratory Scientist	Plateau state Specialist Hospital, Jos
Dimas Damshak	Laboratory Scientist	Plateau state Specialist Hospital, Jos
Jelpe Dadik	Chief Medical Laboratory Scientist	Plateau state Specialist Hospital, Jos
Ruth Dalyop	ANC Nurse	Plateau state Specialist Hospital, Jos
Esther K. Beka	Chief Nursing Officer	Plateau state Specialist Hospital, Jos
Mary Chollom	Principal Nursing Officer	Health Center, Ganawuri
Dachung P. Gadong	PMLT	Health Center, Ganawuri
Daniel G. Chayi	CCHO	Health Center, Ganawuri
Dr. John K.Y. Saki	CMO	General Hospital, Shendam
Kwapshit Anthony	CMLS	General Hospital, Shendam
Fibi Nkup	PMO	General Hospital, Shendam
Mrs. V. Good	CHO	General Hospital, Shendam
Nanle I. Dabwut	Laboratory Tech.	CMC Panyam

Mrs. Doris J. L.	ACNO	CMC Panyam
Dr. Shwadun K. J.	Medical Officer	CMC Panyam
Magdalene L. Dakyan	Ass. SAPC	CMC Panyam

RIVERS

David Fubara	State AIDS programme Coordinator	State Ministry of Health, Port Harcourt
Dr. Douglas Pepple	Consultant in-charge	Bonny General Hospital
Mr. Dienye Jaja	Laboratory Scientist	Bonny General Hospital
Mrs. Bridget Brown	CNO	Bonny General Hospital
Mrs. Gift Banigo	CNO	Bonny General Hospital
Dr. D. Briggs	Consultant in-charge HIV/AIDS	Braithwaite Memorial Specialist Hospital
Mr. Reginald Jaja	Stae Lab. Sc. Central Lab.	Braithwaite Memorial Specialist Hospital
Mr. Nebe Godwin	Lab. Sc. Syphilis Testing	Braithwaite Memorial Specialist Hospital
Mr. O. Odike	Lab Sc. HIV Testing Asst.	Braithwaite Memorial Specialist Hospital
Mrs. E. N. Iwori	CNO	Braithwaite Memorial Specialist Hospital
Mrs R. Isokarari	CNO	Braithwaite Memorial Specialist Hospital
Dr. P. E. Kua	Consultant in-charge	Bori General Hospital
Mr. Kotenwa B. Samuel	Med. Lab. Sc.	Bori General Hospital
Mrs. Bari Dambe	CNO	Bori General Hospital
Mrs. Joy W. Walker	CNO	Bori General Hospital
Dr. D. N. Okujiagu	Consultant in-charge	Ahoada (Edeoha) Health Centre
Mr. Cheta Ogide	Med. Lab. Sc.	Ahoada (Edeoha) Health Centre
Mrs. Biolebe	CNO	Ahoada (Edeoha) Health Centre
Mrs. J. N. Yagwerea	Public Health Care Coordiantor	Ebereomuma Health Centre
Mrs. M. Eze	Laboratory Scientist	Ebereomuma Health Centre
Mrs. Dikko T. L.	Principal Nursing Officer	Ebereomuma Health Cen tre

SOKOTO

Haliru Yusufu	State AIDS Programme Coordinator	State Ministry of Health, Sokoto
Dr. Constance Shehu	Obstetrician Gynaecologist	Specialist Hospital, Sokoto
Nasiru Yahaya Isa	State Medical Laboratory Scientist	Specialist Hospital, Sokoto
Manir Balarabe	Laboratory Scientist	Specialist Hospital, Sokoto
Sani Y. Mohammed	Medical Laboratory Scientist	Specialist Hospital, Sokoto
Mutiat Dikko	CNO/CHO	Specialist Hospital, Sokoto
Maryam T Moh'd	SN/Midwife	Specialist Hospital, Sokoto
Abdullahi Usman	Head of site	Rural Health Center, Gwadabawa
Abubakar Muhammad	Laboratory Scientist	Rural Health Center, Gwadabawa
Idiatu Abdul-Aziz	Nurse	Rural Health Center, Gwadabawa
Alh Muhammed Tambuwal	Head of Rural Site	Rural Health, Center, Tambuwal
Luba Dikko Tambuwal	Nurse	Rural Health, Center, Tambuwal
Bello Udu Tambuwal	Laboratory Scientist	Rural Health, Center, Tambuwal
Dr Bello Ibrahim	Medical Officer	General Hospital, Dogon Daji
Aliyu Attahiru	Snr. Medical Laboratory Scientist	General Hospital, Dogon Daji
Umaru Habibu Sanyinna	Nurse	General Hospital, Dogon Daji
Jamila Mohammed	Nurse	General Hospital, Dogon Daji

TARABA

Dr. Madaki M. M.	State AIDS Programme Coordinator	State Ministry of Health, Jalingo
Mr. Amamra Tawum	State Medical Laboratory Scientist	State Ministry of Health, Jalingo
Dr. Danjuma Garba	Medical Officer ANC	State Ministry of Health, Jalingo
Mrs. Elizabeth Joshua	Medical Laboratory Scientist	State Ministry of Health, Jalingo
Mr. Tunde Olapade	Medical Laboratory Scientist	State Ministry of Health, Jalingo
Mrs. Laraba B. Audu	Nurse (ANC)	State Ministry of Health, Jalingo
Alh. Isa Sambo	Nurse (ANC)	State Ministry of Health, Jalingo
Dr. Nafinji Abe	Medical Officer (ANC)	General Hospital, Zing
Mr. Tanko Urese	Medical Laboratory Scientist	General Hospital, Zing
Mrs. Abigail Obida	Nurse (ANC)	General Hospital, Zing
Mrs. Dinnah Anure	Nurse (ANC)	General Hospital, Zing
Mr. Alfred Jiginji	Acting Head	St. Monica Health Center Yakoko
Mr. Augustine Garbar	Medical Laboratory Technician	St. Monica Health Center Yakoko
Miss Monica Awu	Nurse (ANC)	St. Monica Health Center Yakoko
Dr. Boniface Haziel	Medical Officer (ANC)	Cottage Hospital, Sunkani
Mr. Nicodemus Bishi	Medical Lab. Technician	Cottage Hospital, Sunkani
Mr. Christian Baraya	Nurse (ANC)	Cottage Hospital, Sunkani

YOBE

Hajja Fati Abba Sidi	State AIDS Programme Coordinator	State Ministry of Health, Damaturu
Alikime A Dauda	State Laboratory Scientist	State Ministry of Health, Damaturu
Yerima Sabo	Asst. Laboratory Scientist	State Ministry of Health, Damaturu
Dr. Audu Bala Moh'd	Medical Officer	Damaturu
Mairo Abba Moh'd	Laboratory Scientist	Damaturu
Fati M. Madaki	Nurse	Damaturu
Hamsatu Moh'd Jakusco	Nurse	Damaturu
Dr. D. M. Muna	Medical Officer	Potiskum
Bukar M. Burah	Laboratory Scientist	Potiskum
Laraba Ezra	Nurse	Potiskum
Yagana K. Shettima	Nurse	Potiskum
Ahmed Shettima	Medical Officer	Geidam
Igbarumah O. Cleus	Laboraory Officer	Geidam
Mrs. Esther Daniel	Nurse	Geidam
Bulama Madu Biririma	Head of Rural Site	Babangida
Ofen Imu Victor	Laboratory Scientist	Babangida
Mrs. Rose Ahmed	Nurse	Babangida
Dr.	Head of Rural Site	Jakusco
Modu Aji Kolo	Laboratory Scientist	Jakusco
Ladi Buba	Nurse	Jakusco

ZAMFARA

Mustapha Marafa	State AIDS Programme Coordinator	Federal Medical Center, Gusau
Alabi Sunday A.	State Laboratory Scientist	Federal Medical Center, Gusau
Dr. Tajudeen Ayedun	O/G Consultant (HOD)	Federal Medical Center, Gusau
Rabe Mamman	Asst. State Scientist	Federal Medical Center, Gusau
Adbullahi Moh'd	Site Scientist	Federal Medical Center, Gusau
Nana Balarabe	ANC Nurse (ACNO)	Federal Medical Center, Gusau

Luba Moh'd	ANC Nurse (PNO)	Federal Medical Center, Gusau
Dr. Abdulrahaman	Medical Officer	General Hospital, Talata Mafara
Aminu Lawal	Site Laboratory Scientist	General Hospital, Talata Mafara
Aisha Dan Ije	ANC Nurse	General Hospital, Talata Mafara
Umar Zurmi	ANC Nurse	General Hospital, Talata Mafara
Ibrahim S Moh'd	OI/C	Primary Health Center, Kotorkoshi
Labbo Abdullahi	Nurse	Primary Health Center, Kotorkoshi
Kabir Saidu	Site Lab. Technician	Primary Health Center, Kotorkoshi
Yusuf Ahmed	OI/C	Primary Health Center, Ruwa Doruwa
Aminu Ibrahim	Nurse	Primary Health Center, Ruwa Doruwa
Sani Moh'd Kanoma	Site Lab. Technician	Primary Health Center, Ruwa Doruwa