NATIONAL HIV/AIDS EPIDEMIOLOGY AND IMPACT ANALYSIS (NHEIA) REPORT

2014

National Agency for the Control of AIDS (NACA)
The Presidency

Contents

LIST OF FIGURES

LIST OF TABLES

ACRONYMS

AIDS	-	Acquired Immune Deficiency Syndrome
ANC	-	Ante-Natal Clinics
ART	-	Anti-Retroviral Therapy
ARV	-	Anti-Retroviral
BBFSW	-	Brothel Based Female Sex Workers
BSS	-	Behavioural Sentinel Survey
CSO	-	Civil Society Organization
FCT	-	Federal Capital Territory
FLHE	-	Family Life HIV/AIDS Education
FMOH	-	Federal Ministry of Health
FSW	-	Female Sex Workers
GFATM	-	Global Fund for AIDS, TB, Malaria
HAPSAT	-	HIV/AIDS Program Sustainability Analysis Tool
HCT	-	HIV/AIDS Counselling and Testing
HEAP	-	HIV/AIDS Emergency Action Plan
HIV	-	Human Immunodeficiency Virus
IBBSS	-	Integrated Biological and Behavioural Surveillance Survey
ICAP	-	International Centre for AIDS Care and Treatment program
IDU	-	Injecting Drug Users
LACA	-	Local Action Committee on AIDS
LGA	-	Local Government Area
MDA	-	Ministries, Department and Agencies
MDG	-	Millennium Development Goals
M & E	-	Monitoring and Evaluation
MARPs	-	Most at Risk Populations
MNCH	-	Maternal, Neo-natal and Child Health
MOT	-	Modes of Transmission
MPPI	-	Minimum Prevention Package Intervention
MSM	-	Men who have Sex with Men
NACA	-	National Agency for the Control of AIDS
NASA	-	National AIDS Spending Assessment
NARHS	-	National HIV/AIDS Reproductive Health Survey
NBBFSW	-	Non Brothel Based Female Sex Workers
NDHS	-	National Demographic and Health Survey
NGOs	-	Non-Governmental Organization

NNRIMS	-	Nigeria National Response Information Management System
NOP	-	NNRIMS Operational Plan
NSF	-	National Strategic Framework
OI	-	Opportunistic Infections
OVC	-	Orphans and Vulnerable Children
PLWHA	-	People Living with HIV and AIDS
PMTCT	-	Prevention of Mother-to-Child Transmission
STI	-	Sexually Transmitted Infections
TB	-	Tuberculosis
USD	-	US Dollar

Steering Committee

Prof John Idoko	-	NACA
Dr Kayode Ogungbemi	-	NACA
Mr Masauso Nzima	-	UNAIDS
Dr Mary Mahy	-	UNAIDS
Dr Greg Ashefor	-	NACA
Mr Abatta Emmanuel	-	NASCP
Dr Abiodun Hassan	-	ARFH
Dr Rex Mpazanje	-	WHO
Dr Niyi Ogundiran	-	WHO
Mr Akin Atobatele	-	USAID

Technical Study Team

Dr. Kayode Ogungbemi	-	NACA
Dr. Greg Ashefor	-	NACA
Dr. Godwin Asuquo	-	National Lead Consultant
Dr. Ali Onoja	-	Co-Lead Consultant
Dr Oluyemisi Akinwande	-	Zonal Consultant
Dr. Chukwuemeka Nwachukwu	-	Zonal Consultant
Dr Adebimpe Oladeke	-	Zonal Consultant
Dr. Uchenna Onyeonoro	-	Zonal Consultant
Dr Adekunle Salaudeen	-	Zonal Consultant
Mr. Atilade S. Adebayo	-	Zonal Consultant
Dr Anenih James	-	NACA
Dr. Ada Anosike	-	NACA
Mr. Tajudeen Arowolo	-	NACA
Mr. Ali Bukar	-	SFH
Mrs. Oluwayinka Adejumoke	-	SFH
Mr Samuel Udemezue	-	NACA
Dr. Olaifa Yewande	-	NACA
Mr. Sampson Akwafuo	-	NACA
Hajia Lami Maiyaki	-	NASCP
Dr Tolu Oladele	-	NACA
Mr. Ojo, Ola-Mathews	-	NACA
Mr. Awal Yusuf	-	NACA
Mrs Doris Ogbang	-	NACA

Mr. Kenneth Alau	-	NACA
Mr. Ikani Samuel	-	SFH
Dr. Wole Fajemisin	-	ENR
Dr Ogbonna Amanze	-	NACA
Mrs Ronke Adeoye	-	NACA
Mr Akinrongunde Akintunde	-	NACA
Mr. Dozie Ezechukwu	-	NACA
Dr. Matthias Alagi	-	NACA
Dr. Uduak Essien	-	NACA

Foreword

Director General,
National Agency for the Control of AIDS (NACA)

Acknowledgements

Executive Summary

Since the commencement of the multi-sectoral response against HIV/AIDS in Nigeria in 1991, there has been an unprecedented campaign against the epidemic at the national, states and local levels. In spite of this, Nigeria's epidemic has expanded over the past two decades and is currently next to South Africa in terms of global HIV/AIDS burden. An understanding of Nigeria's HIV/AIDS response in terms of epidemiological trends, program coverage and impact, funding gaps and future projections is critical to making informed decisions regarding future priorities and setting national targets for an effective response. In this regard, the National Agency for the Control of AIDS (NACA) with support from the Global Fund commissioned the National Epidemiology and Impact Analysis. The ultimate objective of the analysis is to identify, collate and analyze available evidence that will inform National Policy and Programming for HIV and AIDS interventions in Nigeria, including planning of donors support and resource allocation.

The specific objectives of the study are:

- To review trends of the epidemic through available epidemiological data (disease incidence, prevalence, morbidity and mortality) at the National and State levels and among sub populations (e.g. MARPs, Vulnerable groups)
- To identify and provide plausible explanations for the variations in geographic areas and communities with changing or static HIV prevalence or risk factors.
- To examine the relationship between epidemiological data and programmatic interventions (prevention, diagnosis, treatment) including financing.
- To estimate where possible the number of lives saved and infections averted by modelling of interventions using three different scenarios (maintenance of status quo, scaling up support to meet targets on national plans and scaling up support to meet universal access targets).

Data for the study were sourced from available national and state databases, existing survey reports, policy frameworks and strategy documents on HIV/AIDS epidemic and the response in Nigeria. The procedure involved extensive desk review, data mapping, synthesis and analyses of data, impact analysis and modelling. In the overall, this was a wholly secondary analysis methodology. The tools used for data collection includes data extraction template, a checklist and spectrum tool.

Findings

HIV/AIDS Epidemiology

Nigeria's HIV/AIDS prevalence increased steadily from 1.8% in 1991, to 4.5% in 1995, peaked at 5.8% in 2001 and started to decline to 5% in 2003 and 4.1% in 2010. According to NARHS 2012, the current HIV prevalence in the general population is 3.4%. HIV prevalence is relatively higher in some high burden states, such as Abia (7.3%), Akwa Ibom (10.9%), Anambra (8.7), Bayelsa (9.1%), Benue (12.7%), and Edo (5.3%). On the other hand, some states recorded progressively decreasing HIV prevalence from 2003 to

2010 e.g Bauchi (4.8% to 2.0%), Jigawa (2% to 1.5%), Yobe (3.8% to 2.4%) and Zamfara (3.3% to 2.1%)

Although there has been decline in HIV prevalence among females from 4.0% to 3.5%, and slight increase among men from 3.2% to 3.3%, the burden is still higher for women than men across all age groups, except for the 35-39 years and 40-44 years age groups. In both urban and rural areas, HIV prevalence is currently higher among females. Likewise, incidence of sexually transmitted infection is reportedly higher among women (with rate between 8.3% and 10.6%) compared to men (with a rate of between 4% and 4.6%). Among age groups 15 years and above, annual number of new infections rose from 115,696 in 1990 to 168, 235 in 2013. For ages 0-14, the number of new infections was 10377 in 1990 and 54130 in 2013. Projected AIDS deaths has risen from 141,225 in 2000 to 233,604 in 2013, and this is associated mostly to ignorance, poor access to health and social services including ART, stigma and discrimination, gender issues and poverty. The analysis of data on HIV prevalence among key populations reveal that infection rates are still very high among FSW (27.4% for BBFSW and 21.1% for NBBFSW) compared to 17.2% for MSM and 4.2% for IDU.

According to 2009, Mode of Transmission study, 37% of new infections are attributable to persons perceived as practicing “low risk sex” in the general population, including married sexual partners, 22% through MTCT and 38% by other modes of transmission.

HIV/AIDS knowledge though increasing is still low in the general population, 35.6% for male and 23.6% for females, and low across all sub-populations. Condom use seems to be increasing across all age groups but very far from the expected 100% condom usage. Lowest reported condom use is among young people aged 15-19, and especially young women who had sex with non-marital partners without the use of condoms. Among key populations, knowledge of HIV/AIDS is higher among FSW (41% for BBFSW and 36.1% for NBBSW), compared to 20.8% among MSM and 22.7% among IDU (IBBSS 2010). The analysis of risk behavior among MARPS indicated that FSW are more likely to use condoms with clients (70%) than MSM (52%), IDU (22%) and HIV risk perception is highest among the FSWs.

Impact of the Response to Date and Gaps

Although there has been significant increase in HCT service outlets (from 228 in 2006 to 5,191 in 2013) but overall uptake of HCT service is low and the national targets have never been met. In 2010, 2,434,292 persons were tested, this reduced to 2,056,578 in 2011, before rising to 2,792,611 persons in 2012 and 4,077,663 in 2013.

The number of people currently on ART increased from 51,000 in 2005 to 639,000 in 2013 and the number of ART sites is currently 820. However, an unmet need for ART has been decreasing from 69% in 2010 to 59% in 2013. Low adherence is one of the primary factors impeding effective HIV treatment in Nigeria. Number of people living with HIV receiving adherence support increased from 253,374 in 2010 to 447,697 in 2012, but declined to 155,558 in 2013.

The number of PMTCT sites increased from 33 in 2005 to 5,622 in 2013. Between 2010 and 2013, the total number of HIV positive pregnant women who received ARV

prophylaxis for PMTCT rose from 26,133 to 57,871. Current unmet need for PMTCT stands at 73% in 2013. A significant proportion of HIV exposed infants do not get EID services and ARV prophylaxis. In 2012, 42.1% of HIV exposed infants received ARV prophylaxis out of the total deliveries among HIV positive women.

For key populations, service coverage remains low- number of FSW reached with MPP rose from 17,717 in 2001 to 53,991 in 2013 while 17,158 IDUs were reached in 2011. However, this decreased to 4,525 in 2013. The number of out-of-school youths reached with preventive messages also decreased from 600,000 in 2011 to about 160,000 in 2013. Hence, the MPPI coverage is still very low among young people. FLHE program has been implemented in 4,810 schools with increased knowledge about sexuality and reproductive health. However, the number of students reached with FLHE decreased from 1,271,222 in 2012 to 755,272 in 2013. The services coverage of orphans and vulnerable children (OVC) declined to 483,800 in 2013 from 761,105 in 2012.

Funding Landscape

Main funding source of HIV expenditure is international source, mostly bilateral and multilateral agencies. The total HIV funding from all sources increased from USD 415,287,430 in 2009 to USD577, 432,903 in 2012. HIV funding sourced domestically has been very low and unstable, and largely dependent on international funding source. HIV spending by both public and international sources in the country has declined. Out-of-pocket HIV expenditure has increased steadily over the years, though HIV expenditure by private funding source is low. Treatment and care, program management and human resources accounts for more than 85% of HIV expenditure in the country. The total funding gap increased from USD50 million in 2010 to USD87.5 million in 2011 and then decreased to USD51.6 million in 2012.

Service Cascade

Based on 2012 HCT service cascade, less than half of those who desire HIV testing are currently being covered. This underscores the relative inaccessibility of HCT to over half of the population. The cascade also shows a significant drop between those who undergo HIV counselling and testing and those who eventually get their test result. The national HIV prevalence rate shows that HCT services are relatively well targeted towards populations or states with higher HIV burden.

There is low ANC and HIV testing coverage at 65% and 30% respectively (NARHS 2012). Indeed, as at end of 2013, PMTCT services were only in 5,622 of the over 20,000 health facilities that deliver MNCH services in the country. Antenatal attendance at 65% reflects an improvement from that of 58% documented in DHS 2 years earlier. Half of the estimated HIV positive pregnant women in 2013 were aware of their status due to the persisting low coverage of PMTCT services. There is a large gap between the number of women who tested HIV positive and those who received antiretroviral drugs during pregnancy and delivery. Only a third of HIV paediatric infections were averted in 2013.

Funding Scenario

Three future funding scenarios were analyzed and discussed viz

- Baseline
- National targets (80%), and

- Universal targets (100%).

If baseline (current investment status) is maintained, the cost of scaling up will stabilize, with a marginal decline from 2014 to 2020. With a moderate response the cost of scaling up HCT will decrease from USD165 million in 2014 to USD150 million in 2020. Similarly, the cost of scaling up PMTCT services will decrease from USD43 million in 2014 to USD38 million in 2020. Conversely, the cost of scaling up ART will increase from USD2.2 billion in 2014 to USD2.5 billion in 2020. Scaling up at full response will follow the same trend with moderate response with minimal increases. With full investment in the national response, number of new infections per year is likely to have sharp decline by almost half in 2015, and this may reduce the number of HIV related deaths per year. The annual cost of scaling up paediatric ART, could decline marginally between 2014 and 2020 on the three scenarios.
The priority state scenarios are presented here as well.

Recommendation

1. Based on geographic focus, three tiers responses options are suggested:
   i. Tier 1: 6 states which account for 41% of the burden and 51% of new infections;
   ii. Tier 2 : 12+1 states which account for 60% of the disease burden; and
   iii. Tier 3: Nationally in all states, by mobilizing state level resources and ownership specifically, it is recommended to:
   - Focus the HIV response and roles of partners according to three geographic tiers by state.
   - Focus partner financing on tier 1 of 6 states (Kaduna, Akwa-Ibom, Benue, Lagos, Oyo and Kano) to achieve rapid high coverage, impact to cover and reduce 50% of new infections.
   - National funding to focus on tier 2 of 12+1 state. In addition to consider Oyo, Sokoto, Taraba, and assess states identified with increasing HIV on a regular basis.
   - Increase state level funding needed elsewhere to cover the full epidemic.

2. On treatment coverage and link to prevention, the recommendation is two folds. First, to focus ARV/TB treatment on key states to achieve high coverage more rapidly, link to prevention and demand, and support greater prevention benefits of the program. Second, to strategically use treatment and VCT in key groups to reach higher, earlier coverage, again to better link to prevention benefits. These are to:
   - Rapidly improve treatment coverage strategically in key states and populations to strengthen links of treatment and prevention.
   - Focus ARV/TB treatment to achieve high and early coverage in key states and to leverage benefits with prevention, including links to community outreach and demand.
   - Ensure strategic use of VCT and ARVs in key population groups to ensure early, higher coverage – prioritize high coverage of treatment in key population groups for prevention, HIV positive pregnant women at first point of contact, HIV/TB, FSWs, clients and their communities.

3. Reprogram PMTCT to effectively leverage the ANC platform. This is to:

- Reprogram PMTCT to effectively leverage the ANC platform, with a first point of contact for pregnant women that provides testing and where possible treatment.
- Reprogram to effectively leverage the ANC platform to provide one stop primary, maternal and child health, including early infant diagnosis.
- Ensure that the first point of ANC contact has testing capacity – the first care provider gives testing and where possible treatment, including links to private and community care.

4. Prioritize prevention to address key drivers of new infections, through the following:
   - Intensify prevention to tackle the high level of new infections to address gender dynamics and condom use among transactional sex.
   - Gender dynamics – address high male risk behaviours and links to girls and youth with intensified and continued prevention and BCC.
   - FSW condom use – improved programming for condom use with all partners and their communities. This should include BCC among partners and assessing the changing dynamics of transactional sex.

5. Prevention to address key population transmission and improve size estimates by:
   - Strengthening programming and policy focus on key population interventions – including involvement of key populations and improved size estimates.
   - Strengthening MARPS intervention programming and policy focus, with involvement of key populations.
   - Careful extrapolation of size estimates – to revise national figures, using benchmarks, existing data and state comparisons.

6. Mobilize national funding and incentivize state level response. This is to:
   - Focus on mobilizing and incentivizing national and state level funding, including supporting state level investment returns
   - Implement state profiles, including state level analytical capacity and investment cases
   - Introduce innovative state funding, results based funding to incentivize states which prioritize and spend HIV funds, including linkages with MDG fund and HSS spending

7. Strengthen key linkages for the HIV program. This is to:
   - Strengthen key linkages to improve the impact of the HIV program.
   - Strengthen key program linkages in the areas of HIV/TB, Gender, Youth and the Private Sector, which should be reviewed in national and state level program reviews every two years.
   - Generate priority operations research to strengthen programming on PMTCT linkages, ARV cohorts to measure adherence outcomes, Gender dynamics, MARPS, and strengthen state analytical capacity with oversampling of surveys to provide estimates for key state

SECTION ONE: BACKGROUND AND CONTEXT

1.1 Background

Nigeria is located on the West Coast of Africa latitude 4°16´ and 13°53´N, and between longitude 2°40´ and 14°41´E and is bordered by Niger Republic (north), Chad (north-east), Cameroon (east), Benin Republic (west) and Atlantic Ocean (south). The country is the most populous country in Africa with an estimated population of 168.8 million (NBS, 2012), making it one of the ten most populous countries in the world with over 255 tribes and dialect. Administratively, the country has 36 states and a Federal Capital Territory (FCT). The states and the FCT are further divided into administrative units called Local Government Areas (LGAs) with a total of 774 LGAs in the country. In addition, the states are grouped into six geopolitical zones namely: North-West (NW), North-Central (NC), North-East (NE), South-West (SW), South-South (SS) and South-East (SE). This study covers all 36 states of the federation and the FCT.

Figure 1 provides basic demographic and health index data.

Figure 1: Country Profile; Source: NBS, 2013

Since the first AIDS case was reported in 1986, the AIDS epidemic has expanded in Nigeria over the past three decades. Currently Nigeria has the second largest AIDS epidemic burden in the world (UNAIDS, 2014). The National Response to HIV AIDS commenced in 1991 while a rapid scale up of the response commenced in 2004 with funds and technical assistance from Global Initiatives. Over this period, Nigeria has experienced massive expansion in diagnostic, treatment and maintenance mechanisms for people living with and affected by HIVAIDS with increased policy guidance and health systems strengthening efforts.

This epidemiology and impact analysis is to provide an understanding of the progress made towards the targets defined in the National HIV/AIDS Strategic Plan 2010-2015 and inform the development of the Concept Note for the Global Fund New Funding Model.

1.2 Objectives and Analytical Questions

1.2. 1 Specific Objectives

- To review temporal trends and geographic patterns of the epidemic through available epidemiological data (disease incidence, prevalence, morbidity and mortality) at the National and State levels and by sub populations (e.g. age, gender, urban/rural, MARPs, vulnerable groups)
- To identify and provide plausible explanations for the variations in geographic areas and communities with changing or static HIV prevalence or risk factors.
- To examine the relationship between epidemiological data and programmatic interventions (prevention, care and support, treatment) including programmatic gaps and finance landscape.
- To estimate where possible the number of lives saved and infections averted up to 2013, and under three different future scenarios (status quo, scale up in 6 states and in 12+1 states). This will be based on three different scale-up scenarios: scale up at current level; scale up to 80% of national targets; and 100% scale.
- To assess the quality of data systems and availability of data for impact assessment

1.2.2 Analytical Questions

In addressing the above objectives, the analysis is guided by the following analytical questions:

- To what extent can we explain the trends in epidemiological data in relation to the variations observed in prevalence, incidence, mortality and morbidity and coverage of HIV/AIDS interventions?
- To what extent has available strategic information and epidemiological data shaped program direction and efforts at the national and state levels?
- Does there exist any correlation between the level of investment in HIV/AIDS and available epidemiological data across states?
- What are the gaps in data, financial and human resources and program implementation to address as we scale up the response?
- To what extent has the national HIV/AIDS response impacted on the communities in terms of lives saved and infections averted.
- What is the level of investment and efforts required to avert new infections and save lives over the next 7 years.

SECTION TWO: ANALYTICAL METHODOLOGY

2.1 Scope of Work

The analysis covers epidemiological and programmatic aspects of HIV/AIDS data emanating from the national response from 1990 to 2013, review of quality and availability of data and the investments needed to improve measurement of disease burden. A joint review of trends of available epidemiological data from 1990 to 2013 (disease incidence; prevalence; mortality) was undertaken for national, sub-national areas and sub-populations. An assessment to explore behavioral patterns, observed trends in disease burden and their relationship with programmatic efforts (e.g. service delivery and coverage). Also, modeling was done to estimate lives saved and infections averted.

2.2 Methodology

The analysis was carried out in three interrelated phases:

2.2.1 Phase 1: Desk Reviews/Data Mapping

This involves a comprehensive review of documents, policies, guidelines, reports and studies from the inception of the epidemic in Nigeria to date. This enabled an understanding of the trend of the epidemic, guiding the road map of the national response and drawing the picture of the policy and legislative environment under which the response thrived at both the National and state level. This activity commenced with an initial meeting and orientation of all key stakeholders in HIV AIDS. The stakeholders included HIV implementing partners, donor agencies (CDC, USAID, World-Bank), UN Agencies (UNICEF, UNAIDS, WHO, UNFPA), key National (NACA and NASCAP), state and local government level personnel. A meeting between members of the national technical committee and the study consultants was organized to reach consensus on indicators to be used for the study, sources of data, scope of work and research plan. This included the determination of data on epidemiology and behaviours, coverage of key interventions, and the size of key affected populations. Details of the data sources can be found in Appendix 1.

2.2.2 Synthesis of the HIV/AIDS Response Data

Routine service data on health and non-health sector response were obtained from past reports and from implementing partners. These data were analyzed for trends and patterns. A structured data collection tool (Data Extraction Tool) was used to collect service data across all variables and data elements of interest which were summarized for each state and at the federal level.

Analysis was conducted to assess coverage, programmatic gaps and effectiveness of the interventions including cost effectiveness and resource effectiveness using the available data and surveys along the different HIV thematic /service areas and focusing on HIV diagnosis, treatment and prevention.

2.2.3 Phase 3: Impact Analysis & Modeling

To estimate and project the impact of the National response of the HIV/AIDS epidemic in Nigeria, Spectrum modeling software (AIM module) was used to determine the number of lives saved, infections averted, etc. across three (3) scenarios depending on the direction the national response takes. The first scenario was the impact of the epidemic if the scale at status quo were to be maintained; the second scenario will show the impact if investments were made to achieve national plans/targets and the third if universal access targets were achieved. These scenarios were projected from 1990 as first year to 2020 as the projection year

The impact achieved as of December 2013 was also estimated through modeling. Key areas of higher impact and areas needing further strengthening were identified. In the same vein, the number of lives that would be saved and infections averted at different scenarios of the national response were also modeled.

In summary, the tools used for data collection included:

- Data extraction template
- Checklist developed for capturing data that could not be accommodated in the data extraction template- policy environment, data quality, institutional capacity, gender etc. This checklist was basically to elicit information from the states on the state response.
- Spectrum tool

The following table provides the priority interventions, key indicators with their numerators and denominators for ease of reference.

Table 2 – Priority interventions and services in Nigeria, with definitions of denominators and numerators of each intervention or service

Interventions and services		Numerator	Denominator
HIV Counselling and Testing (HCT)		Number of persons who received HIV testing and their results	Number of persons in need of HCT
		Number of facilities providing HCT	Number of facilities in Nigeria
Prevention of Mother To Child Transmission (PMTCT)		Number of pregnant women tested and received results	Number of women attending ANC
		Number of HIV positive pregnant women who received antiretroviral drugs to reduce the risk of MTCT during pregnancy and delivery	Estimated number of HIV positive pregnant women who delivered within the past 12months
		Total number of health facilities that offer PMTCT	Total number of health facilities in Nigeria.
Early Infant Diagnosis (EID)		Number of infants who received an HIV test within 2months of birth	Number of HIV positive pregnant women giving birth in the last 12months
Adult (Adult 15+) and paediatric (0-14) ART		Number of adults currently receiving ART in the country	Estimated number of eligible adults
		Total number of facilities that offer ART (adult and paediatric)	Total number of health facilities in Nigeria
		Number of children currently receiving ART in the country	Estimated number of eligible children
Prevention intervention for key populations	FSW	Number of FSW reached with MPPI	Estimated number of FSW
	MSM	Number of MSM reached with MPPI	Estimated number of MSM
	IDU	Number of IDU reached with MPPI	Estimated number of IDU
Prevention intervention for young persons (in school youth)		Number of students reached with FLHE	Estimated number of students
		Number of secondary schools providing FLHE	Number of secondary schools in Nigeria
Care and Support		Number of patients provided with adherence support	Number of PLHIV currently on ART
TB/HIV		Number of TB patients who had an HIV test result recorded in the TB register	Number of TB patients registered
		Number of HIV-positive registered TB patients given anti-retroviral therapy during TB treatment	Number of registered HIV positive TB patients
		Number of HIV-positive registered TB patients given co-trimoxazole preventive therapy during TB treatment	Number of registered HIV positive TB patients
		Number of HIV-positive patients who were screened for TB in HIV care or treatment settings	Estimated PLHA
		Number of PLHIV without active TB who receive Isoniazid preventive therapy	Estimated PLHA without active TB

2.2.4 Training and Capacity building:

A 5 day training and capacity building exercise was carried out for the members of the core technical team to reach consensus on methodology, finalize the tools and plan for zonal meetings. Thereafter 3 days zonal meetings in which the state teams actively participated took place at three locations: Kaduna, Lokoja and Calabar. The data collection templates were also populated at these meetings.

2.2.5 Data Collection:

In summary, data collection process involved the following:

- Desk review to map data and analyse the response, using data extraction tool and the checklist
- Access current service data obtained from the state databases and validated data
- Extracting national data for cost benefit and impact analysis
- Data extraction tool for modeling projections and trend analysis

SECTION THREE: KEY FINDINGS

3.1 HIV/AIDS Epidemiology

Objective 1: To review temporal trends and geographic patterns of the epidemic through available epidemiological data (disease incidence, prevalence, morbidity and mortality) at the National and State levels and by sub populations (e.g. age, gender, urban/rural, MARPs, vulnerable groups)

Objective 2: To identify and provide plausible explanations for the variations in geographic areas and communities with changing or static HIV prevalence or risk factors.

Analytical Question: To what extent can we explain the trends in epidemiological data in relation to the variations observed in prevalence, incidence, mortality and morbidity and coverage of HIV/AIDS interventions?

3.2 HIV/AIDS Prevalence in General Population

Since the first case of AIDS was diagnosed in 1986, Nigeria's HIV/AIDS prevalence, based on ANC trends, increased steadily from 1.8% in 1991, to 4.5% in 1995, peaked at 5.8% in 2001 and declined to 5% in 2003 and stabilized at 4.1% in 2010 (Figure 2). In spite of the stabilization of Nigeria's HIV prevalence in the past decade, the epidemic still presents a major public health challenge that requires revolutionary action in prevention, treatment, care and impact mitigation generally in order to make a difference. The prevalence when compared to other African countries over the past decade may seem low but in terms of absolute numbers of people infected and affected, Nigeria has an estimated 3.4 million people living with HIV, second only to that in South Africa. In this regard, Nigeria bears nearly 10% of the global burden of HIV/AIDS (UNAIDS, 2012).

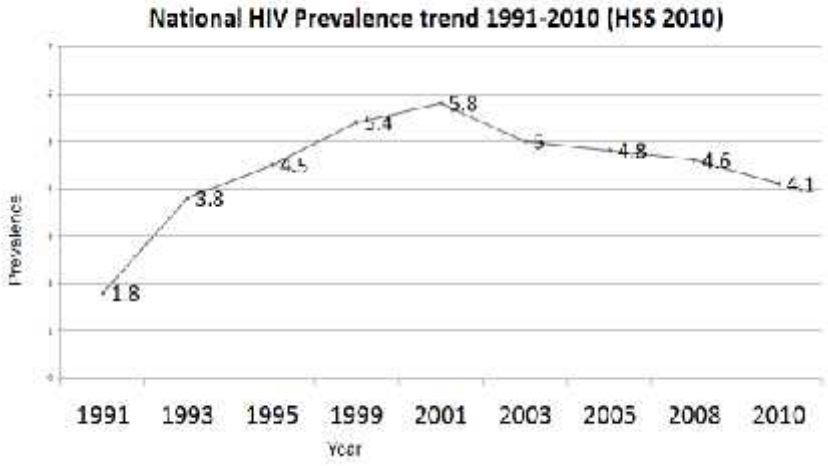


Figure 2: National HIV/AIDS Prevalence trends, 1991- 2010; Source: ANC, 2010

For comparison, find below also the spectrum projection of prevalence in the general population

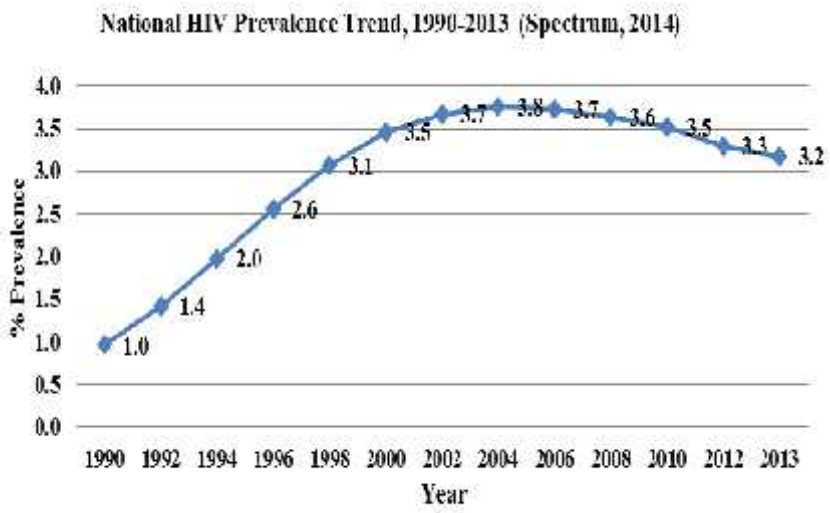


Figure 3: National Projected HIV Prevalence, Source: Spectrum Outputs 2014

Nigeria has a huge HIV/AIDS burden with an estimated 3,459,363 people living with HIV/AIDS in 2013 and an estimated 388,864 new infections occurring in 2011, 240,374 as of 2012 and 222,315 as of 2013. The current NARHS data (2012), Figure 4 shows HIV/AIDS prevalence of above 8% in 4 states: Rivers, Taraba, Nassarawa and Kaduna and a prevalence of between 3% to 8% in ten states: Yobe, Benue, Cross River, Akwa Ibom, Abia, Ondo, Oyo, Sokoto Gombe and the FCT. Ekiti still remains the state with the lowest HIV prevalence of less than 1% in the country. From this analysis, it is clearly evident that 21 states (20+1) contribute to 81% of the national HIV burden while 20 (19+1) states contribute 81% of the HIV new infections in the country. This shows that by intensifying interventions in these states, the burden and incidence of HIV will be averted to a great extent. From further analysis done on tier 1 six states in terms of incidence and burden, it is clearly evident that these 6 states are responsible for 41% of HIV burden and 42% new HIV infections annually. This further depicts that with limited resources, focusing on these 6 states will avert or reduce the disease burden and incidence by about 41%. Also, the 12+1 states were responsible for 65.9% of the HIV incidence and 63.4% of the burden

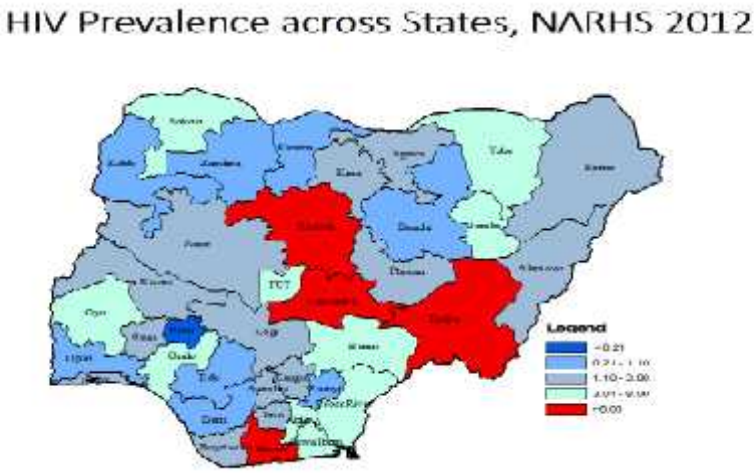


Figure 4: HIV Prevalence across States; Source. NARHS 2012

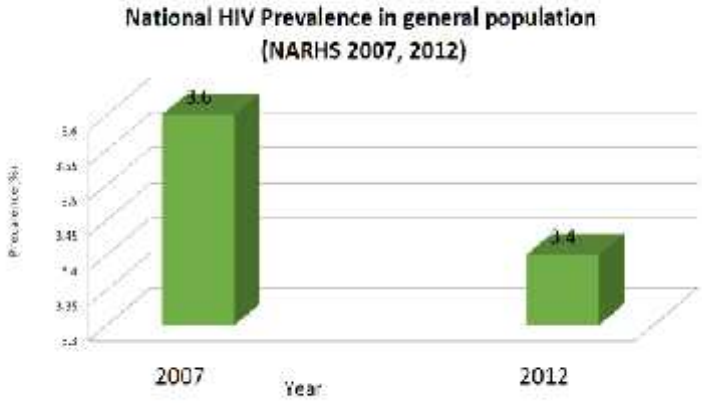
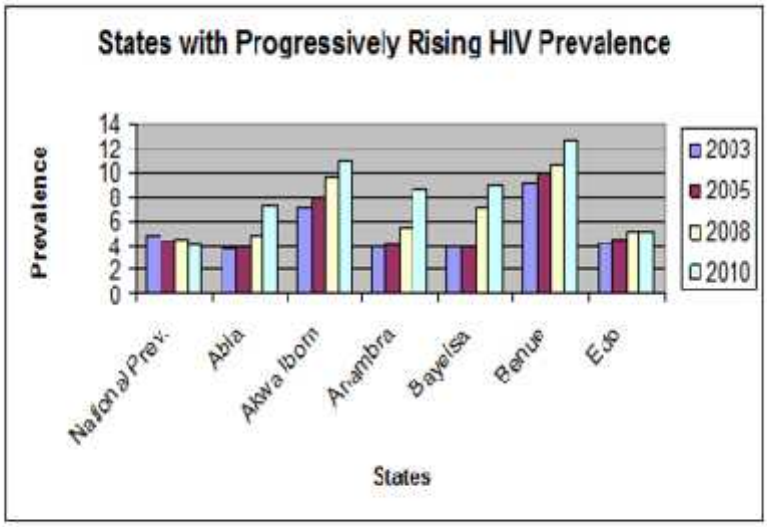


Figure 5: National HIV/AIDS Prevalence in General Population: Source: NARHS 2007/2012

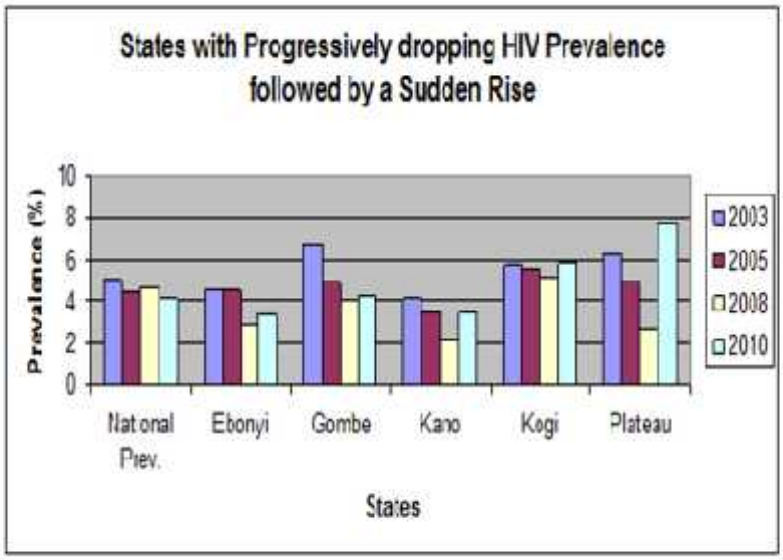
Of particular interest are the states with progressively rising HIV prevalence from 2003 to 2010. In this fold includes: Abia (4% to 7.3%), Akwa Ibom (6.5% to 10.9%), Anambra (4% to 8.7%, Bayelsa, (4% to 9.1%), Benue (8.5% to 12.7%) and Edo (4.1% to 5.3%) (Figure 6). A number of reasons have been alluded to this, for instance all the states except Benue and Anambra are coastal states where economic activities of migrant fishermen and petroleum oil businesses have favoured high levels of transactional sex in the coastal cities. Anambra for example, as a major national trade centre hosts major junction towns and businesses and a resultant high influx of people on a daily bases which makes its towns and villages hotbeds of transactional sex. For instance, Obioha (2008), in examining the correlation between culture and high HIV/AIDS prevalence in Benue and some other high burden states identified permissive sex, lack of commitment to marriage institution by many, polygamy, unsafe blood transfusion and quack medical practice as major associated factors. In terms of risk settings, commercial sex workers, truck drivers, youths and migrant traders combine to sustain the epidemic in the high burden states. Another perspective that should be mentioned regarding the states with progressively rising or declining prevalence is AIDS deaths. In Akwa Ibom State for instance, where the prevalence has risen from 6.5% in 2003 to 10.9% in 2010, AIDS deaths have also increased from 1,508 to 16,339 in 2013. It would seem that the prevalence could have been higher but for the large numbers of AIDS deaths. This might be the same situation in Anambra where the HIV prevalence, currently at 8.7% would have been higher but for rising AIDS deaths (from 1,116 in 2006 to 1,678 in 2012).



Source: HSS 2010

Figure 6: States with progressively rising HIV Prevalence: Source: HSS 2010

Some states have recorded progressively dropping levels of prevalence which were then followed by a sudden rise (Figure 7). Looking at prevalence data at three points: 2003, 2008 and 2010, the following states are included in this bracket viz Ebonyi (from 4.3% down to 2.5% and rose to 3.3%), Gombe (from 6.5% declined to 4% and rose to 4.2%), Kano (from 4% declined to 2% and rose to 3.4%),Kogi (from 5.9% declined to 5.3% and rose to 5.8%) and Plateau (from 6% declined to 3% and rose to 7.7%). A possible explanation for this is inappropriately targeted HIV/AIDS interventions and inadequate investment in combating the epidemic in these states (Asuquo,



Source: HSS, 2010

Figure 7: States with progressively dropping HIV prevalence followed by a sudden rise; Source: HSS, 2010

Some other states have however, recorded continuous decrease HIV prevalence from 2003 – 2010. This includes the states of Bauchi (4.8% to 2.0%), Jigawa (2% to 1.5%), Katsina (2.8% to 2.0%), Yobe (3.8% to 2.4%) and Zamfara (3.3% to 2.1%). To explain this, studies have pointed at socio-cultural and religious practices which favour chastity and less promiscuous sexual behaviour in the communities. According to a study done by UNICEF in 2012 on HIV vulnerabilities in Nigeria, "religion and culture influence HIV-related vulnerabilities." The mainly Christian southern regions have a higher HIV prevalence than the mainly Muslim northern regions. This can be attributed partly to lower alcohol consumption and to circumcision practices in the north (Obioha, 2008).

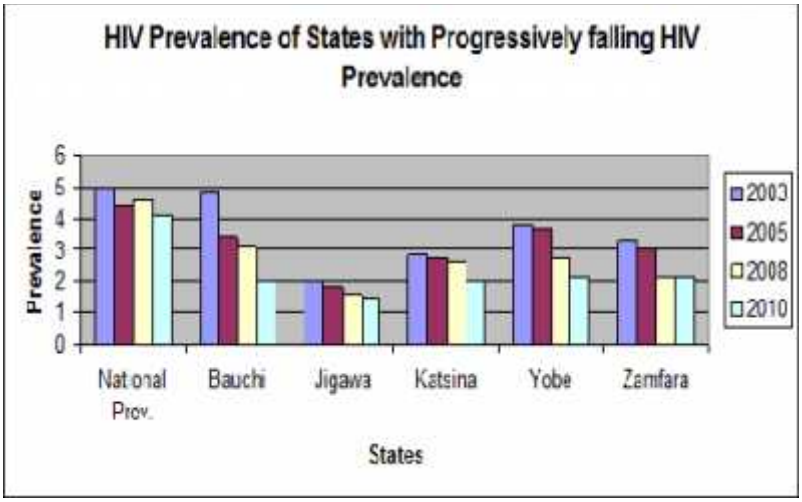


Figure 8: HIV Prevalence of States with Continuous Decreasing HIV Prevalence

There seems to be a distinctive finding in rural-urban distribution of HIV/AIDS prevalence in Nigeria when compared to other countries, Kenya and Uganda for example. Urban HIV prevalence started dropping from 5.1% in 2003 to 4.4% in 2005 and then began to rise to 4.5% in 2008 and up to 4.8% in 2010. Conversely, rural prevalence which is lower than the urban has been consistently reducing from 3.7% to 3.2% between 2003 and 2005; a spike to 3.5% in 2008 and reduced to 2.6% in 2010. Prevalence is not only lower among the rural population but the declines are phenomenal, In general, the prevalence is on the average slightly higher in urban (3.8%) than in rural (3.5%) areas (FMoH, 2009). However, there are many states, including Adamawa, Yobe, Jigawa and Kaduna, which have overall higher HIV prevalence in rural than in urban areas.

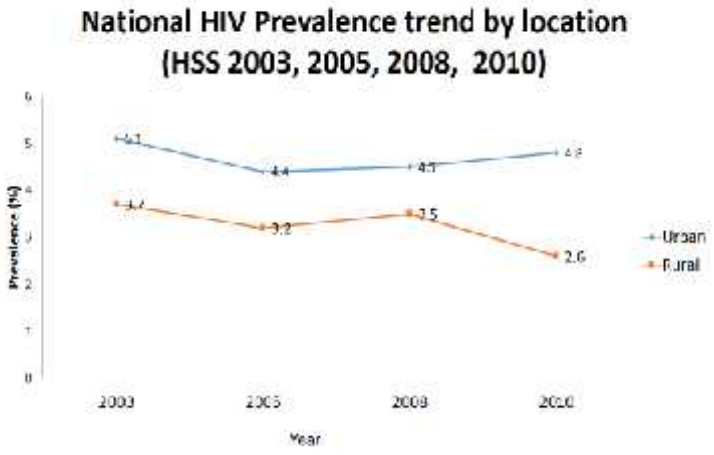


Figure 9: HIV Prevalence by location, Source: HSS 2003, 2005, 2008, 2010

3.2.1 Feminization of the Epidemic

From the analysis of the prevalence trend from NARHS 2007 and 2012, the epidemic in Nigeria is feminized. The HIV prevalence for females in 2007 and 2012 was 4.0% and 3.5% respectively, and a leveling of prevalence for men from 3.2% to 3.3% respectively. The burden is higher for women than men across all age groups except 35-39 years and 40-44 years age groups in 2012. In both urban and rural areas, HIV prevalence is consistently higher among females when compared to males. In 2007, it was 4.6% and 3.6% respectively for female while it was 3.0% and 3.3% respectively for male with rural prevalence being higher than urban. Also in the same year, prevalence was higher for females in all geopolitical zones except North West. In 2012, it was higher for females in four zones except North West and South South.

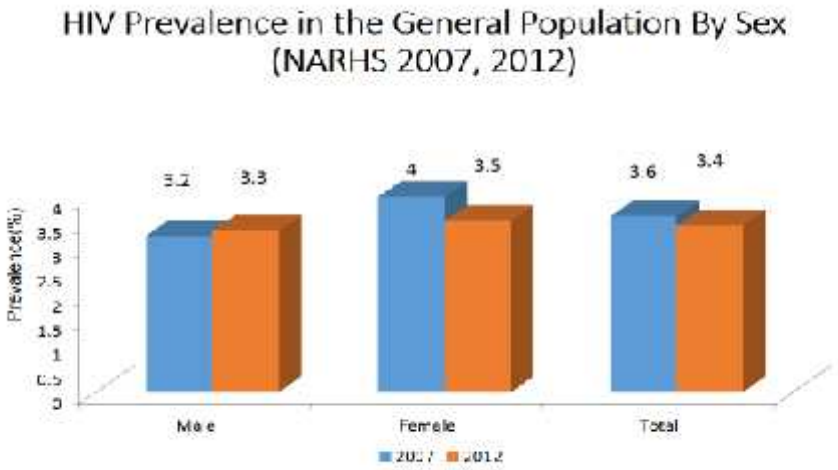


Figure 10: HIV Prevalence in General Population by Sex, Source: (NARHS 2007, 2012)

From available NARHS reports for years 2003 to 2012, the incidence of sexually transmitted infections, a neglected syndrome, has consistently been higher among women than men. While 4-4.6% of men reported symptoms of STI during the period, the number of women reporting symptoms increased to 8.3-10.6%.

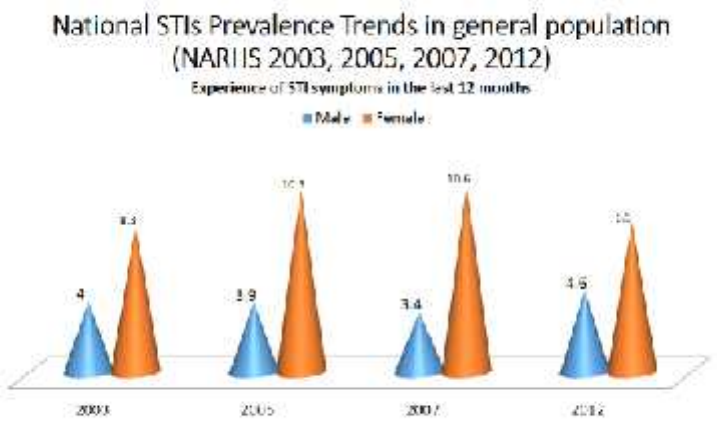


Figure 11 National STIs Prevalence Trends in General Population: Source: NARHS, 2003,2005,2007,2012

Specifically among women aged 15-24, there seems to be a steady decline in HIV prevalence from 6% in 2001 to 4.3% in 2005 and 4.1% in 2010. However, the persistently high prevalence of HIV/AIDS among this youth population raises questions about the reach and impact of the national response as it affects young people.

In explaining the disproportionate burden of HIV/AIDS among women and girls in Nigeria, the issues of poverty, child marriage, gender-based violence, masculinity and femininity norms, disabilities and harmful traditional practices have frequently been cited as predisposing factors (Samuels et al, 2012).

Also important are human right, legal and political factors which have negatively affected access to information and services by women, girls and young people. This is explained in more details in section 3.14 below.

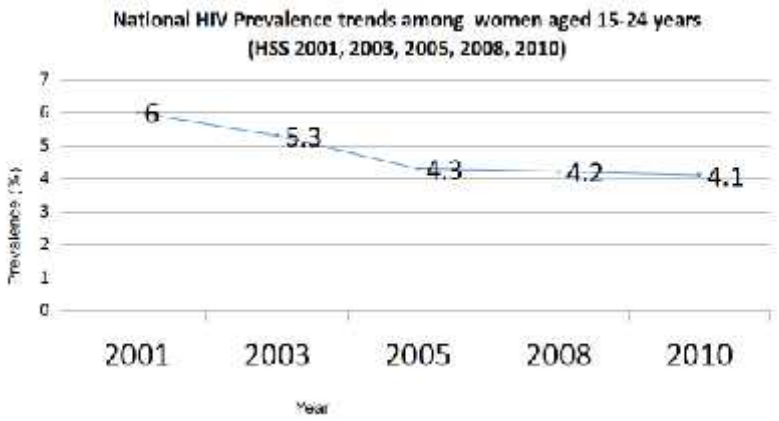


Figure 12: National HIV Prevalence trends among Women aged 15-24, Source: HSS, 2001, 2003, 2005, 2008, 2010

3.2.2 HIV Prevalence in Key Populations

Nigeria's HIV and AIDS epidemic has been described as generalised but there are concentrated epidemics among key populations, i.e. female sex workers (FSWs), men who have sex with men (MSM) and injecting drug users (IDUs) (FMoH, 2007; 2010b). Among female sex workers, HIV prevalence is consistently higher among the brothel-based sex workers although there were some declines between 2007 and 2012 (37.2% to 27.4%) and non-brothel-based (30.2% to 21.1%). This seemingly encouraging decline may be attributed to the prioritization of prevention interventions for these groups of key population by implementing partners and donors in the past five years. There has also been some notable declines among IDUs (5.6% to 4.2%), Armed Forces (3.1% to 2.5%), Police (3.5% to2.6%) and transport workers (3.7% to 2.4%)

The story is different among MSMs where the prevalence is rising from 13.5% to 17.2% during the same period. The increasing prevalence among MSMs is of grave concern to stakeholders especially as the recent promulgation of the same sex bill by the federal government has driven them underground making it very difficult to reach them with prevention information and services. The prohibitive and restrictive environment has also severely affected programming by implementers working with MSMs. This, in addition to the criminalization of sex work by a number of states including the FCT is major impediments which continue to fuel the epidemic among this population.

However, the declining prevalence among the armed forces and the police may be an indication of improved targeted program efforts by the national response.

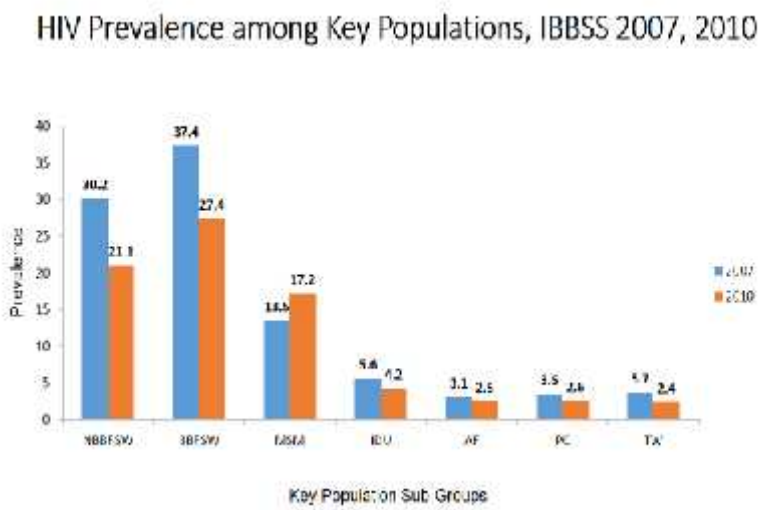


Figure 13: HIV Prevalence among key populations, Source: IBBSS 2007, 2010

Of the 27 states, where the HIV Epidemic Appraisal was done in 2013, the highest density of key population greater than 5000 is in 8 states: Gombe, Adamawa, Nasarawa, FCT, Benue, Cross River, Abia and Ondo. It is important to note that these are also states with progressively rising HIV/AIDS epidemic as shown in figure 15. The distribution of the hotspots as shown in table 4 below indicates that Lagos state has the highest number of key population hotspots followed by Abuja (14%) and Nasarawa 12%.

Number of Hot Spots by Most-at-Risk Population Group				
State	FSW (%)	IDU (%)	MSM (%)	Total (%)
Abuja FCT	1,446 (14%)	22 (5%)	120 (24%)	1,588 (14%)
Anambra	618 (6%)	24 (5%)	50 (10%)	692 (6%)
Benue	825 (8%)	32 (7%)	57 (12%)	914 (8%)
Cross River	692 (7%)	8 (2%)	15 (3%)	715 (6%)
Gombe	348 (3%)	254 (57%)	36 (7%)	638 (6%)
Lagos	4,056 (38%)	95 (21%)	191 (39%)	4,342 (38%)
Nassarawa	1,409 (13%)	12 (3%)	19 (4%)	1,440 (12%)
Ondo	1,187 (11%)	0	7 (1%)	1,194 (10%)
Total	**10,581 (100%)**	**447 (100%)**	**495 (100%)**	**11,523 (100%)**

Table 4: Number of Key Population Hot Spots. Source: Local Epidemic Appraisal, 20

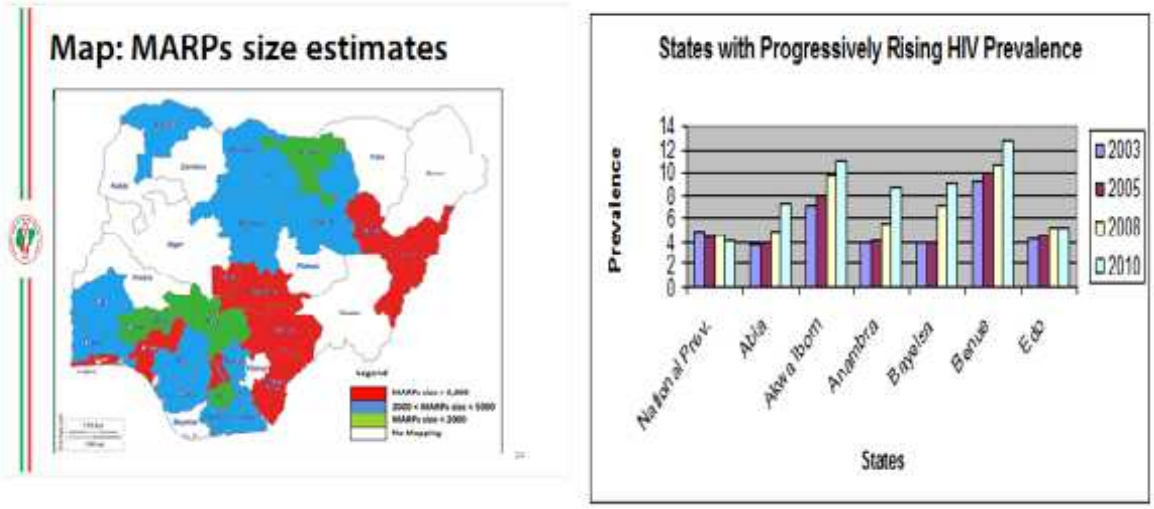


Figure 14: Comparing MARPS size estimates and States with progressively rising HIV prevalence, Source: National Epi Appraisal 2013

3.3 HIV Incidence

3.3.1 Modeled New Infections in the General Population

Among age group 15+, annual new HIV infections rose from 115,696 in 1990 to 310, 347 in the year 2000 and declined to 245,301 in 2005. There was a spike to 259, 141 in 2007 but a steady decline to 168,235 in 2013. For age group 0-14, the number of new infections rose from 10,377 (1990) to 66,142 in 2005 and only a slight decline to 54,130 in 2013. According to various studies, new infections are higher in women than men (NACA, 2012). The large numbers of new infections pose a serious challenge to national response efforts as it could wipe out the gains of the national treatment and prevention programs and a disincentive to HIV/AIDS behavioural change efforts. This is suggestive of persistent high risk sexual behaviour, low knowledge and

inadequate focused interventions (Samuels, 2012). The figure below shows annual new HIV infections among age 0-14 and 15 years and above for the period 1990 – 2013. The contributions of the priority 6 and 12+1 states to new infections are further discussed in Chapter 5 of this report.

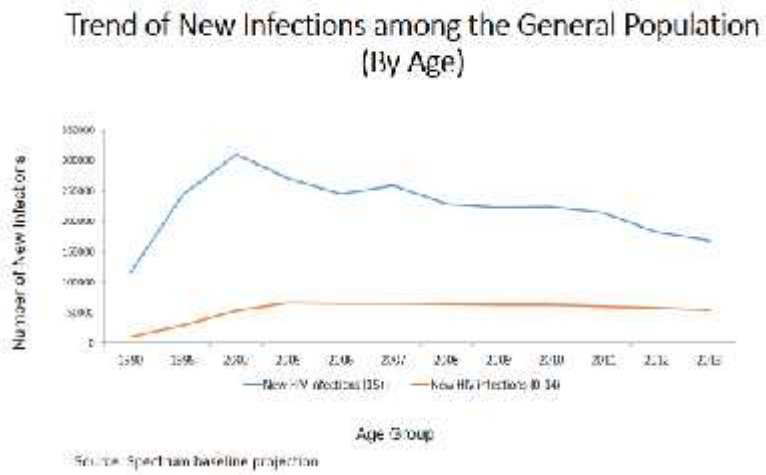


Figure 15: Comparing MARPS size estimates and States with progressively rising HIV prevalence, Source: National Epi Appraisal 2013

3.3.2 TB/HIV Co-infection

In spite of current efforts, Nigeria has a huge TB burden, for instance in 2013 alone, the total number of TB notifications was 100,401. Out of this number, 88,317 was tested for HIV and 22% were positive for HIV. HIV is known to increase the risk of reactivation in people with latent tuberculosis and also increases the risk of subsequent episodes of TB from exogenous reinfection. Service data collected in 2012 indicates about 18,000 TB/HIV co-infections and 28,000 in 2013. From studies carried out in Nigeria, Pennap et al (2010) reported the highest rate of HIV/TB co-infections. Of the 257 TB patients tested for HIV infection, 106 were positive giving a prevalence of 41.2% infections. Furthermore, the study reported 12.0% of TB/HIV co-infection rate in Ile-Ife, 10.0% in Kano, 10.5% and 14.9% among children and adults respectively in Sagamu and 28.12% in Ibadan (Pennap et al, 2010). The variations in TB prevalence among HIV clients across states are in the attached state profiles.

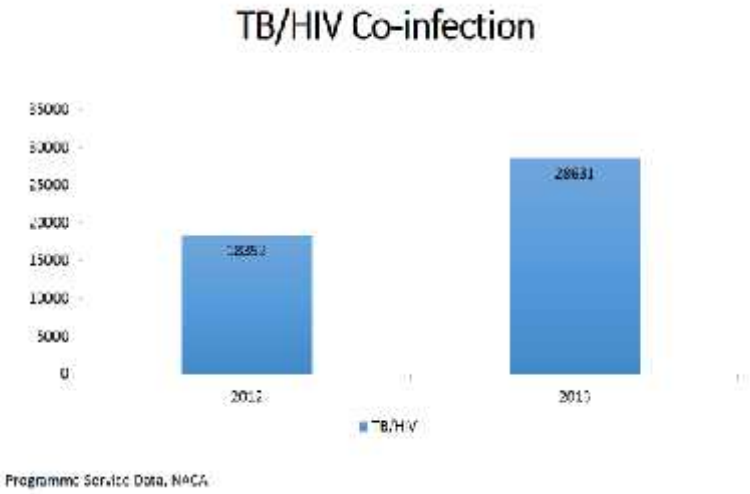


Figure 16: TB/HIV Co-infection, Source: Health Sector Validated Data, NACA, 2012, 2013

The table below indicates the current TB/HIV co-infection rates, the number of HIV clients and proportion screened for TB. Also, the number eligible for INH therapy and percentage covered are shown below. It is evident as in the table below that only 8.1% of HIV clients on care were screened for TB in 2013. This therefore suggests the need for increased screening of HIV clients for TB. Another area of significance is the INH therapy where only 0.19% of those eligible were placed on treatment.

TB/HIV Co-Infection Details		
TB/HIV Co-infection	Number of TB/HIV Co-infected	28631
	% TB Patients that are HIV +	22%
HIV Patients Screened for TB	Number of persons enrolled for HIV care who screened for TB	339945
	% of HIV Patients screened for TB 2013	8.1%
TB/HIV Patients placed INH	Number Eligible	4199573
	Number Covered	7973
	% Covered	0.19%

Table 3: TB/HIV Co-infection rate, patients screened and INH coverage, Source: TB Program data, NTBLCP, 2014

3.4 Modes of Transmission (MOT)

The 2009 MOT study missed (inadvertently or otherwise), vertical transmission in its analysis of modes of transmission for the country. As part of this study, we recomputed the modes of transmission data to include vertical transmission and figure 17 below shows the values: 37% of new infections occur among persons perceived as practicing “low risk sex” in the general population including married sexual partners, MTCT, 22%, anal sex, 8%, casual heterosexual sex 8% , IDUs, 7% and clients, 5%. Medical injections, blood transfusion, partners of IDUs, and female partners of MSM account for 1% respectively. Sex workers and partners account for 4% of infections respectively. This has implications on knowledge, attitude and practice.

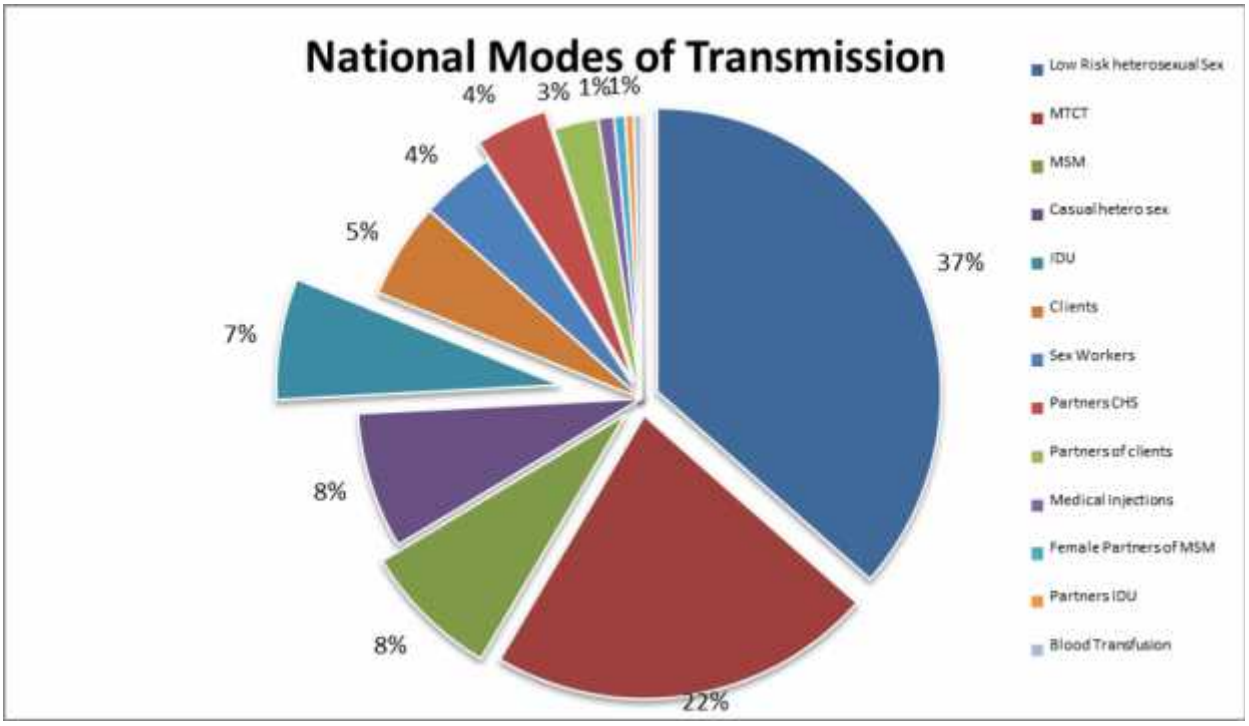


Figure 17: Modes of Transmission, Source MOT 2009

3. 5 AIDS Mortality

AIDS remains a major cause of deaths in Nigeria among adults and children, the National Bureau of Statistics in 2012 estimated deaths caused by HIV/AIDS at 170.2 deaths per 100,000 populations. Lack of accurate death records has been a major barrier to estimating the deaths from HIV/AIDS and other diseases. For instance, a recent analysis by NBS (2012) revealed that records of deaths caused by the epidemic were not available in Benue, Ekiti, Kaduna, Niger States and FCT. On the other hand, Kogi and Kwara have no data available for all the six years reviewed. However, estimated AIDS death per 100,000 population for 2006-2012 were between 5-18 in Edo, 2-10 in Nassarawa, 2-9 in Niger and lowest in FCT at 0.5 (NBS, 2012).

Spectrum outputs from this study indicates that AIDS deaths rose from 141,225 in 2000 to 209,340 in 2006 to 218,996 in 2012 and 233,604 in 2013. Death from HIV/AIDs has been associated with ignorance, poor access to health and social services including ART, stigma and discrimination, gender issues and poverty (NBS, 2012)

The 6 priority states (Kaduna, Akwa Ibom, Benue, Lagos, Oyo and Kano) jointly contribute 26% of annual AIDS deaths while the priority 12+1 states (Kaduna, Akwa Ibom, Benue, Lagos, Oyo, Kano, Rivers, Sokoto, Taraba, Nasarawa, FCT, Imo, and Cross River) are jointly responsible for 51% of annual deaths.

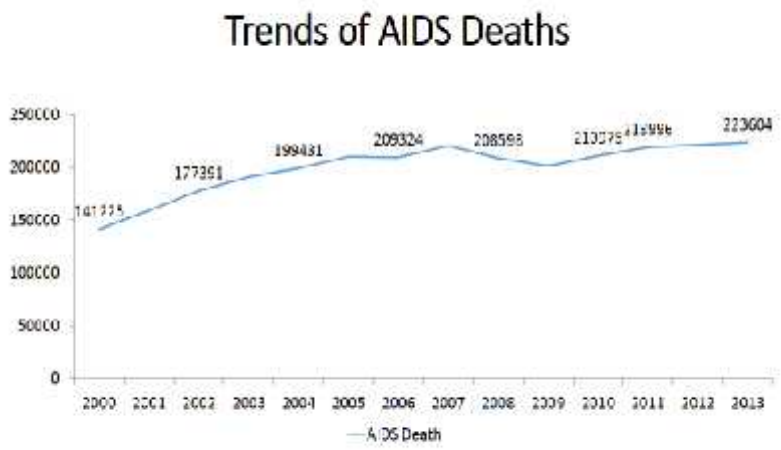


Figure 18: Trends of AIDS Deaths in Nigeria, Source: Spectrum Outputs, 2014

3.6 Risk, Attitudes and Behaviours

3.6 .1 Sexual partnerships, early sexual debut and risk measurement

According to NARHS (2012), more men (27%) reported having had more than one sexual partner compared to women (6%) in the 12 months preceding the survey. The percentage of women and men aged 15-49 who had more than one partner in the past 12 months, who used a condom during their last sexual intercourse is higher for the men than the women while the lowest reported users were found to be amongst the 15 to 19 age group. This indicates that large numbers of young people especially young women had sex with non-marital partners without the use of condoms. Deep seated cultural norms and other socio-cultural and religious practices continue to affect condom use in Nigeria. For instance there is no policy that limits condom access to adolescent and young people in Nigeria, yet the FLHE lacks condom messaging and does not emphasize condom use by young people. The common reasons for not using condom by adolescent and youths include shyness, fear, reduction in sexual pleasure, and concern about their reputation among partners and parents or society. This indicates that there is a growing youth population becoming infected and displaying behavioral patterns that place them at risk of HIV infection.

Among young people aged 15 – 24 years, 16% females as against 6% males had sexual debut before 15 years in 2008. Prevalence of multiple sexual partnerships (MSP) is 14% - 66% among in-school youth and higher among males (6% - 57%) than females (2% - 15%). Some socio-economic factors such as unemployment, poverty and lack of education have been cited in various studies (UNICEF, 2012; Population Council, 2013) as major predisposing factors to risky sexual behaviours, including transactional sex. Also, the proliferation of uncensored information and images via ICT have also been cited in some studies as responsible for high level of transactional sex

Across the six geopolitical zones more males engaged in high risk sex than females, ranging from 8% – 38% for males and 3% – 31% for females. Condom use at high risk sex is less than 70% for males and less than 60% for females. The median age for sexual debut is less than 18

years for both males and females. The trend is fairly the same across the two NDHS studies carried out between 2008 and 2012.

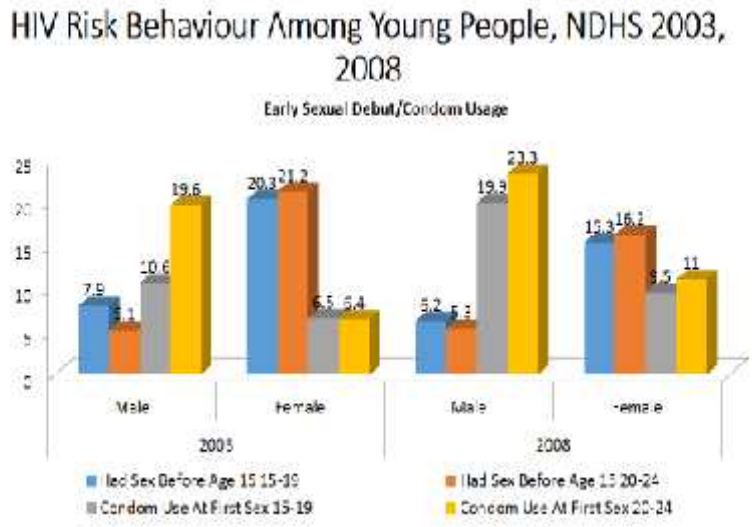


Figure 19: HIV Risk Behaviour among Young People, NDHS, 2003, 2008)

The figure below shows HIV risk perception by sex indicating higher perception of risk by men than women from 2005 through 2012: 31% of men, 29.7% of women (2005); 37.8% men, 35.5% women (2007) and 46.4% men, 43.3% women (2012).

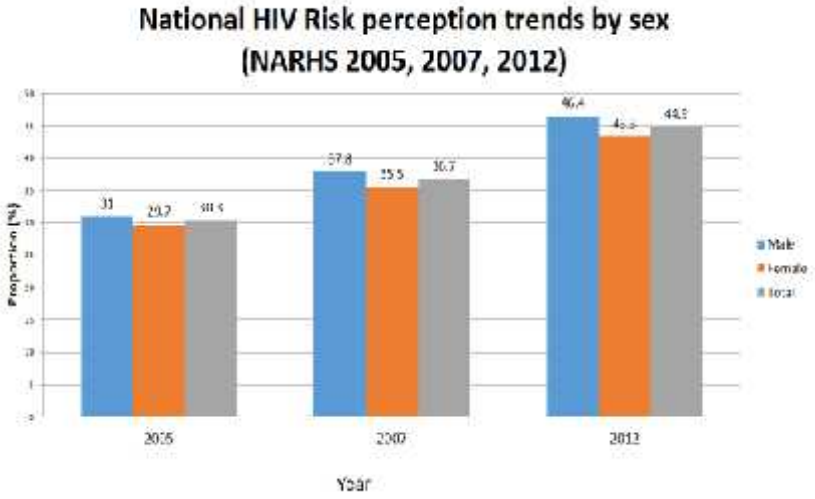


Figure 20: Risk perception of HIV by Sex, Source: NARHS, 2005. 2007, 2012

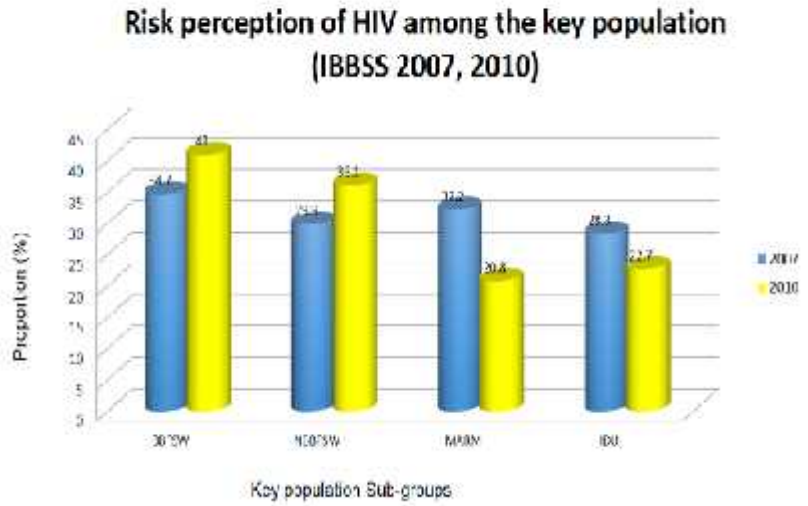


Figure 21: Risk perception of HIV among the key population, Source IBBSS 2010

A common finding in both the general population and among key populations is low risk perception, especially in sex with regular partners. This corroborates the 2009 MOT study which attributes 46% of all infections to supposedly "low risk normal sex among partners." This has implications for our BCC interventions in particular and HIV prevention approaches generally.

3.6.2 HIV Prevention Knowledge

HIV/AIDS knowledge though increasing is still unacceptably low in the general population and across all sub-populations. The NDHS 2008 puts knowledge among the general population at 35.6% for male and 23.6% for females. In the general population especially among the youth, males seem to have a more accurate knowledge of prevention methods compared to their female counterparts. The findings from NARHS 2013, corroborate this as slightly more males (27%), reported correct knowledge compared to females (22%) of the same age group. The proportions significantly rise when respondents report on two prevention methods, with male accounting for 63% compared to 52% by females.

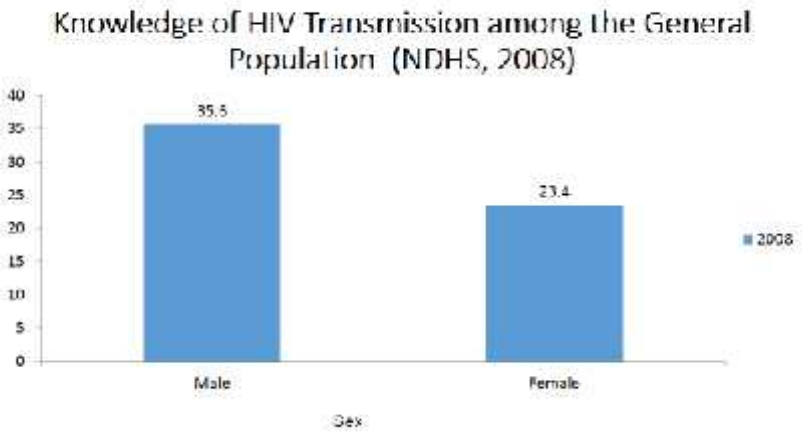


Figure 22: Knowledge of HIV Transmission among general population, Source: NDHS 2008

In the northern states, knowledge is higher especially among men in FCT (75.6% for men; 61.6% for women), Taraba (73% for men and 16% for women, and Kaduna (66% for men and 63.9% for women). Knowledge is generally low around 10%-20% in Benue, Niger, Yobe, Sokoto and Zamfara. A distinctive finding for which further research is needed is the higher levels of knowledge among women than men in Zamfara and Kebbi states where the opposite should be expected in predominantly Islamic states. In most of the southern states, HIV/AIDS knowledge ranges from 40%-70% for males and 15%-40% for women.

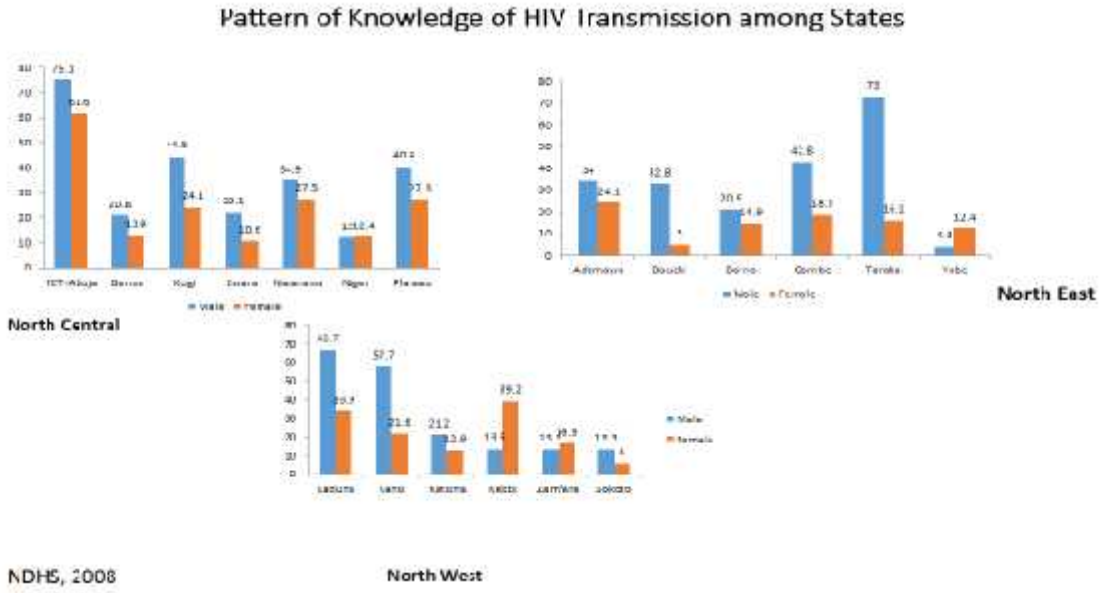


Figure 23: Pattern of knowledge of HIV Transmission among States. Source: NDHS, 2008

3.6.3 HIV Prevention Knowledge among Key Populations

Among key populations, the armed forces seem to be more knowledgeable in HIV prevention issues. According to IBBSS, this accounted for 52%-57% of the respondents compared to 36.5% and 41.3% of the non-brothel based sex workers and 38% and 43% of the MSM for the year 2005 and 2010 respectively. More BBFSW (34%-41%) believe that they are at risk of being infected with HIV than the NBBFSW (30% and 36%) while only (21%-32%) of most-at-risk men and (22%-38%) of IDUs believe they were at risk. This scenario might explain the falling prevalence of HIV/AIDS among sex workers between 2005 and 2010 while that of IDU remain stable and the MSM prevalence rates actually increasing.

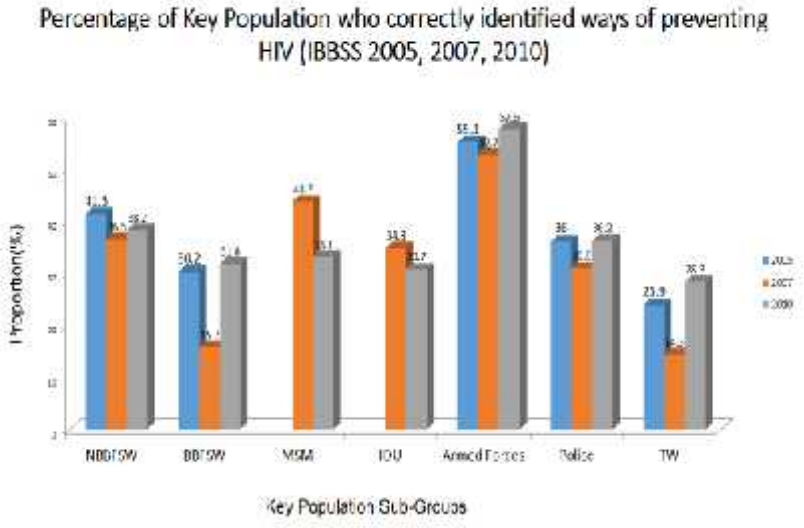


Figure 24: Percentage of Key Population Who Correctly Identified Ways of Preventing HIV

3.6.4 Sexual Intercourse and Condom Use

It is also evident from the study that condom use seems to be increasing across all age groups but very far from 100% condom use advocated by condom programming advocates. Sex workers are more likely to use condoms especially with casual partners and clients (70% and 90% respectively for BBFSW) and less likely with their boyfriends (20.7%). Only (15.7%) of the non-brothel based female sex workers report condom use with regular partner or spouse. The pattern is similar among IDUs, as up to 78% and 71% respectively, reported they were likely to use condoms with sex workers and casual partners in 2010. Fewer (22%) reported condom use with their regular partners in 2010, while as little as 13% did so in 2007.

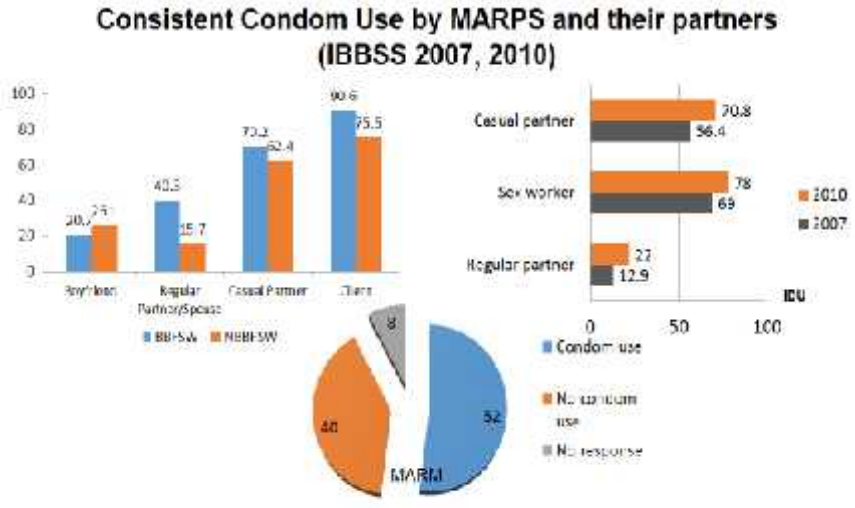


Figure 25: Condom use among MARPS and their partners

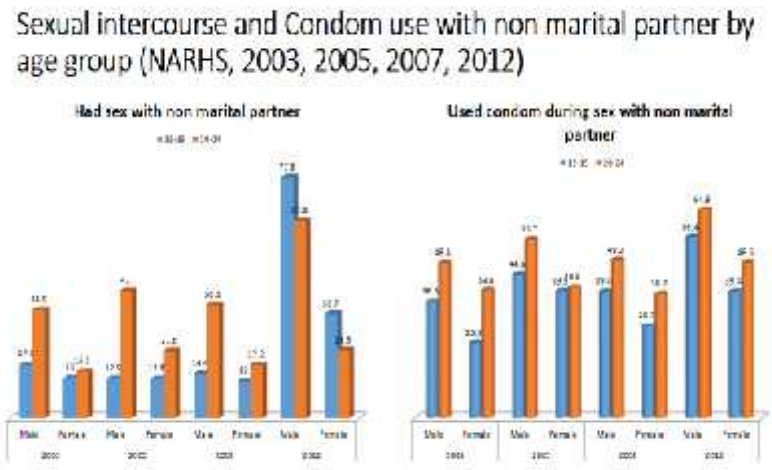


Figure 26: Sexual intercourse and condom use among non- marital partners.

3.7 Male Circumcision

Male Circumcision is almost universal in Nigeria and shows little variation across age groups, location, ethnicity, zones, and educational levels. NDHS data (2008) shows that 97.9% of men aged 15-59 years are circumcised. The figure below indicates percentage circumcised in the different zones of the country. It is widely practiced for traditional, health, and other reasons and often serves as a rite of passage to adulthood. Male circumcision has been shown to be associated with lower STI transmission, including HIV (WHO and UNAIDS, 2007) but in Nigeria further research is necessary to establish correlation between male circumcision and protection from HIV.

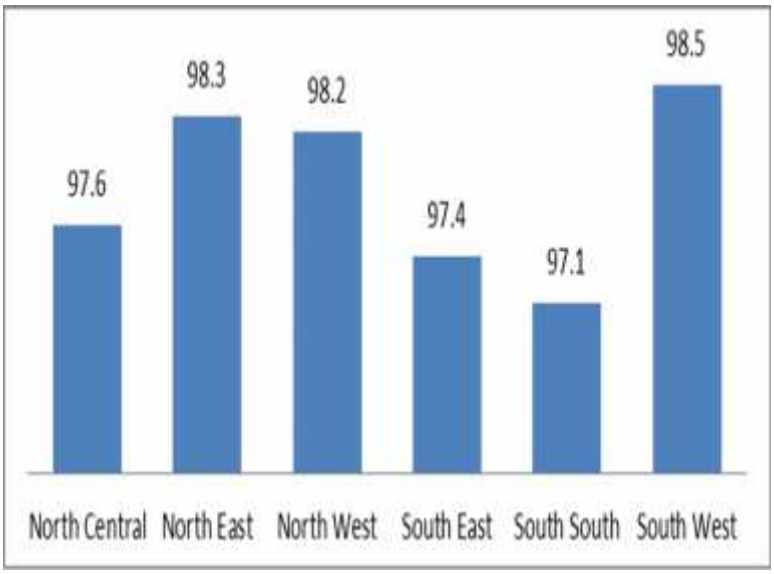


Figure 27: Male circumcision across zones; Source: NDHS, 2012

3.8 Stigma and Discrimination of PLWHA

Stigma and discrimination has undoubtedly continued to pose a serious barrier to HIV/AIDS prevention, treatment and care. Figure 28 below shows that the proportion of people demonstrating accepting attitude to PLWHAs is still very low in spite of an increase from 3.3% in 2003 to 12.8% in 2008 (NARHS, 2003 and 2008). In trying to provide an understanding to the scope of stigma and discrimination against PLWHAs, several studies have been carried out over the past decade in different parts of the country. Fawole, et al, 1990; Uwakwe 2000; Alubo et al 2002; Oyediran 2005 have all classified stigma and discrimination into individual, community, institutional and self-stigmatization. Monjok et al, 2009 categorized the predominant stigma and discrimination against PLWHAs in Nigeria as: negative attitudes to PLWHAs, reluctance by health workers to treat PLWHAs, and perceived stigma of PLWHAs. Gender, social class, geographical area are some of the identified factors related to stigma and discrimination and in the Nigeria context all geographical zones seem to be affected the same way. Research has shown that interventions to reduce stigma in the national response is very palliative, poorly coordinated and inadequate. This is an important area for which more concerted effort is required as the national response is being scaled up under the PCRP.

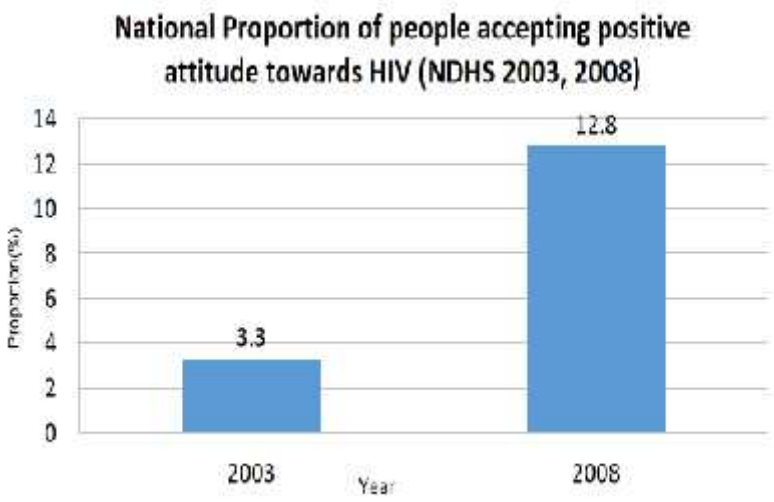


Figure 28: National Proportion of people accepting positive attitude towards HIV, Source: NDHS, 20

3.9 Direct Service Interventions

3.9.1 Targeted Interventions for Key Populations

Regarding key populations, the main thrust of the 2010-2015 National HIV Strategic Plan is on behaviour change communication strategy for HIV prevention among key populations. The national target was to reach 67.0% of FSW and MSM respectively, and 60.0% of IDUs by 2012. As at 2007, 37.0% of FSW and 25.0% of MSM and IDU respectively, had been reached with HIV prevention programs. The number of FSW reached with the minimum prevention package (MPP) rose from 17,717 in 2011 to 41,747 in 2012 and 53,991 in 2013. However, MPP coverage for this population remains low in spite of the increases in service uptake recorded during the period. For the corresponding period, the MPP coverage for IDUs which increased from 17,158 (2011) to 20,548 (2013) reduced drastically to 4,525 in 2013. The reduction might be connected to a not-

too-favourable enabling environment for programming in this vital area. Interventions for this population include: biomedical, behavioural and structural programmes that would not only prevent new HIV infections but also reduce their vulnerability.

There seem to be an increasing interest in addressing HIV prevention among key populations in spite of the enormous social, political and legal challenges working against programming in this setting. Stakeholder engagements and partnerships in this vital area have continued to improve. The local epidemic appraisal including the geographical mapping of key populations and size estimation in 27 states was a landmark activity in 2013. Also in 2013, over 4,000 health workers were trained during the period under review to provide services to these target groups (National Joint Annual Program Review, 2013) and national guidelines for the implementation of HIV prevention programmes for FSW workers have been developed.

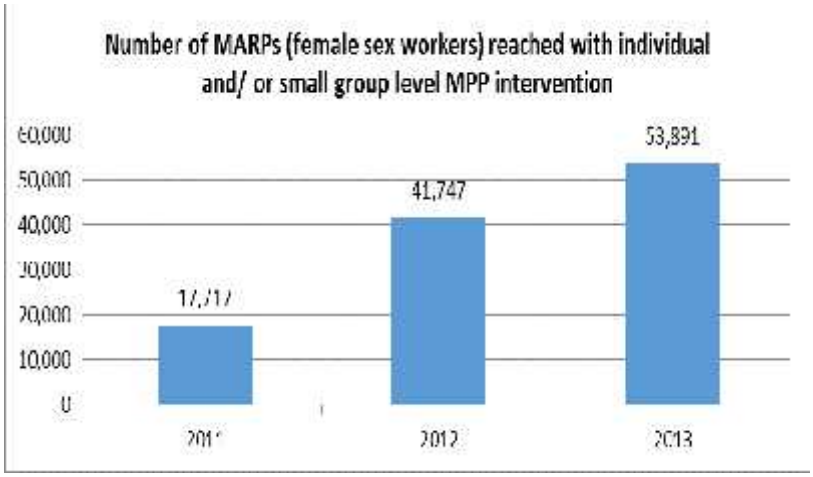


Figure 29: Number of MARPS reached with individual or small group MPP, Source: Service Data, NACA, 2013

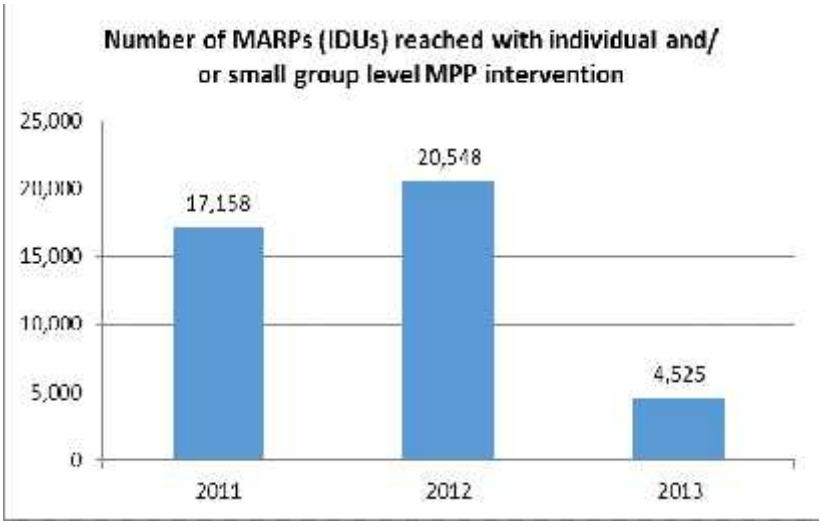
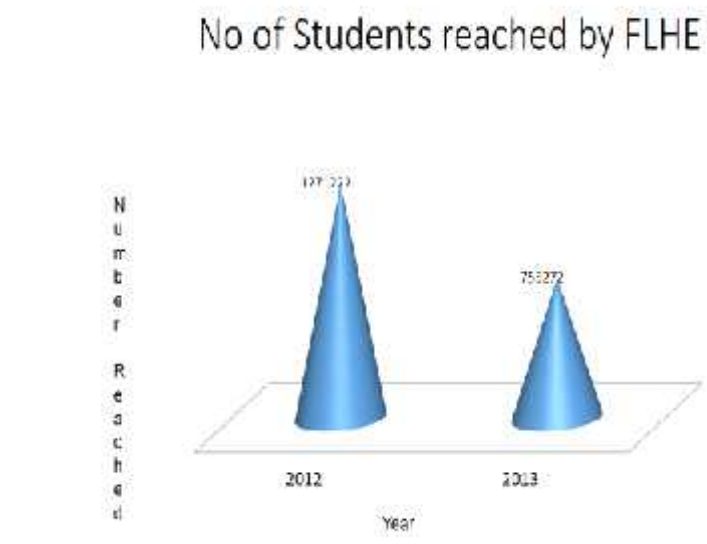


Figure 30: Number of MARPS (IDUs) reached with individual or small group level MPP interventions, Source: NACA, 2013

3.9.2 Targeted Interventions for Young People

1) Family Life and HIV/AIDS Education

The Family Life and HIV/AIDS Education Program evolved from the POP/FLE pioneered by UNFPA and NERDC in 1995. This effort led to the development of the National Adolescent Reproductive Health Policy (FMOH/WHO) 1996, the National Guidelines for Comprehensive Sexuality Education in Nigeria (AHI/CSOs/FME/FMOH) 1998 and the Life Planning Education in Oyo State (ARFH/DFID). In 1999, the National Conference on Adolescent Reproductive Health (FMOH/AHI) was convened marking the commencement of Comprehensive Sexuality Education. So far, 4,810 schools are implementing the FLHE program across the country since its inauguration. Available data suggests that the program has increased knowledge about sexuality and reproductive issues, enabled students to express gender equitable attitudes (i.e Boys said they will less pressure girls to have sex) and (Girls felt they have ability to say no to boys in intimate situations).Unfortunately, the program has been plagued by limited number of trained teachers,crowded and inhospitable classrooms that undermine particip atory teaching methods,insufficient teaching and learning materials,persisting diffusion of the mis conception that access to FLHE will encourage young people to become sexually active. In 2011, only 1,387 male and 2,039 female teachers were trained. This has made, FLHE difficult to sell in northern Nigeria where a “watered down” version of FLHE is being implemented. Figure 34 below indicates that the number of students reached with FLHE in 2012 declined from 1,271,222 to 755,272. Furthermore there is inadequate data on FLHE to allow for a proper trend analysis of the impact of FLHE over time.



+

Figure 31: No. of students reached by FLHE; Source: Service Data (Non- Health Sector), NACA, 2013

2) Preventive Education/Services for Out of School Youth

In Nigeria, youths aged 15-24 years account for as high as 19.3% of its population based on an estimated population of 174 million in 2013. A significant proportion of these youths are out of school due to the economic hardship within the country, poor infrastructure, harmful cultural and religious values just to mention a few. In 2010, an estimated 10.5 million, about a third of the population of youths were out of school. It is universally agreed that these youths are

disproportionately at a higher risk of HIV due to several factors. Such factors include lack of access to health, sexual and reproductive education provided in schools; an increased tendency for experimentation with alcohol and drugs; inadequate social and economic capacity thus increasing susceptibility to coercive and abusive situations. There is a need thus to find innovative ways to reach out to these youths in terms of HIV/AIDS prevention and treatment. In recognition of this, some efforts have been made to reach these youths in Nigeria.

A review of data available from the non-health sector between 2011 and 2013 showed that in 2011 about 600,000 out of school youths were reached, in 2012 about 200,000 and in 2013 about 160,000 were reached.

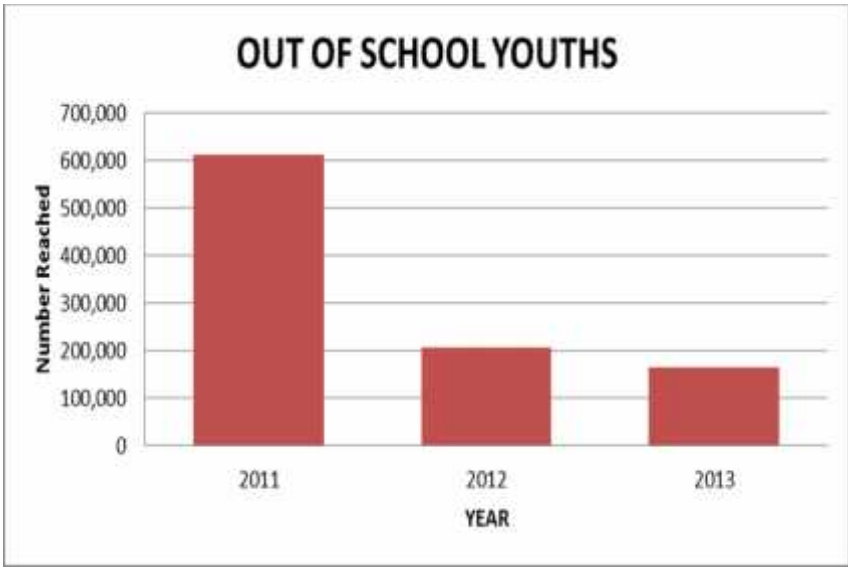


Figure 32: Out of School Youths Reached with Preventive Services: Source: Non-Health Sector Data, NACA, 2013

The trend shows a sharp decline in number reached over the years. Thus is there an urgent need to step up efforts in view of the huge population of these youths and their disproportionate risk of HIV infection.

Table 5 shows the number of young people reached with various Youth-friendly services between 2007 and 2013. The detail in the table indicates a low patronage of the services offered by these centers.

TOTAL OF ACTIVITIES & SERVICE DATA FOR ALL THE YFCs								
					HCT & allied services			No of Peer Educators volunteering to work in YFC during reporting month
	Use more than one (1) facility	Games only	Library/HIV/AIDS materials only	CD/Video/Computer systems & internet café only	No of Persons Counselled	No of Persons willing to go for HIV test after counseling	No of Persons post-test counseled	
2007	**2,120**	**1,689**	**480**	**4,240**	**588**	**321**	**214**	**22**
2008	**17,353**	**9,688**	**3,743**	**20,958**	**5,792**	**4,960**	**4,933**	**464**
2009	**13,837**	**5,706**	**2,717**	**13,590**	**2,754**	**2,085**	**1,399**	**154**
2010	**18,680**	**5,829**	**2,518**	**13,909**	**3,080**	**2,408**	**2,211**	**210**
2011	**27,337**	**12,836**	**5,403**	**23,371**	**8,822**	**6,483**	**3,665**	**233**
2012	**30,926**	**6,966**	**4,919**	**22,287**	**9,468**	**7,032**	**3,996**	**100**
2013	**12,302**	**3,045**	**3,696**	**7,430**	**4,318**	**3,059**	**3,059**	**38**
TOTAL	**122,555**	**45,759**	**23,476**	**105,785**	**34,822**	**26,348**	**19,477**	**1,221**

Table 5: Number reached with services in YFCs

3.10 HIV Counselling & Testing

Though national targets for HCT are consistently not being met, there is however a significant increase in HCT uptake. From available service data, 2,434,292 persons were tested in 2010. This reduced to 2,056,578 in 2011 and rose to 2,792,611 persons in 2012 and 4,077,663 in 2013. The number of men counseled and tested who received their results was 1,279,801 in 2012 and 1,745,048 in 2013. Corresponding data for women was 1,512,810 in 2012 and 1,706,552 in 2013. In the overall, the uptake of HCT is still low, notwithstanding the fact that the proportion of people who had tested and received their results had doubled between 2003 and 2007 (GAPR, 2012). NARHS report for the year 2007 indicates that only 11.7% of all women and men aged 15 to 49 years received an HIV test and know their results. Similarly, as at December 2011, the number of women and men aged 15 and older who received HIV testing and counseling in the past 12 months and know their results were 2,056,578. A positive development in 2010 was that women constituted 71% of those who tested meaning that more women than men are now embracing HCT especially when compared to corresponding data in 2003 and 2007 which showed higher uptake of HCT among men. In terms of HCT service outlets; there has been an exponential increase in the number of sites from 228 in 2006 to about 1074 in 2009 and a decrease to 1046 in 2010. This was due to the closure of HCT sites funded by the USG. According to the GAPR 2013 report “this number was scaled up in 2011 by 21.6% to 1357 due mainly to new sites activated with funding from the Global Fund Round 9 grant” currently the number of sites is estimated at 5,191 at the end of 2013.

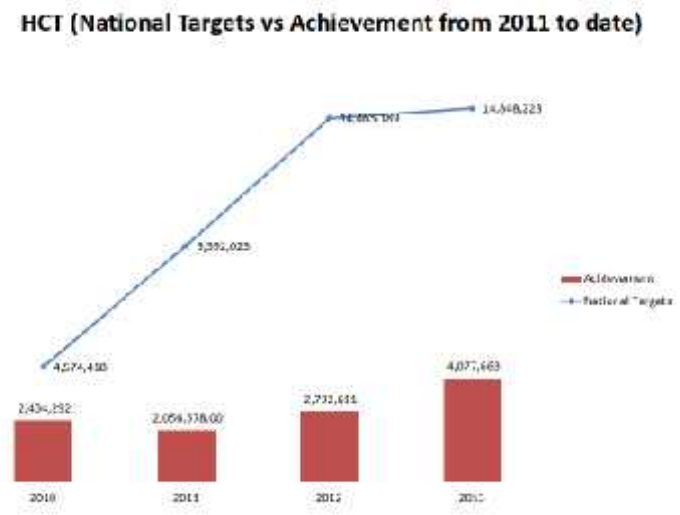


Figure 33: National Targets vs. Achievement to date; Source; Service data, NACA, 2013

On the trend of HCT service coverage, the number of people counseled and tested with results increased from 2,287,805 in 2010 to 4,077,577 in 2013. Even though the data for the previous years are not shown in the figure below, the rate of increase of access to HCT services for both men and women is similar: from about 7% in 2003 to 11% in 2005 to 14% in 2007. These contrast sharply with the intent of 50% of Nigerians to access quality HCT services by 2010 and falls far short of the country's commitment to universal access target of at least 80%. This is because the number of HCT services delivery points are abysmally inadequate to meet the needs of the population, and most services are still facility-based and located in secondary and tertiary health facilities, often inaccessible to hard-to-reach communities and have insufficient targeting of MARPs.

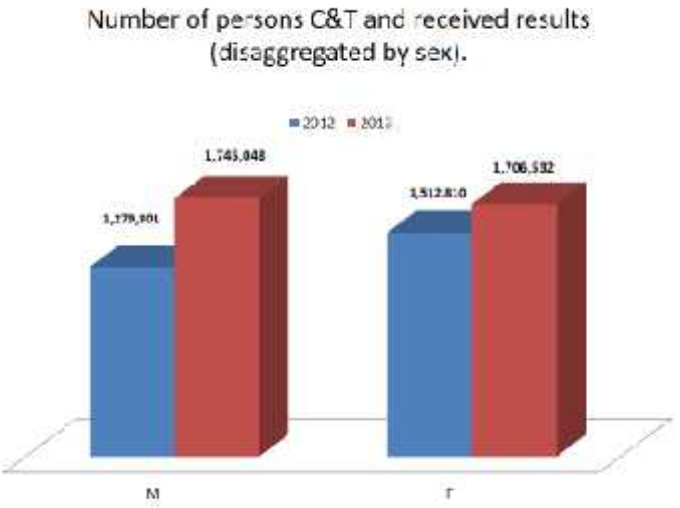


Figure 34: Number of Persons Counseled and tested with Results, Source, NACA, 2013

Indicator	2011	2012	2013
Total No of Individuals Counseled, Tested and Received	2,056,578	2,792,611	4,077,663
Number Tested Positive	185,503	311,516	267,834
% Positive	9.02	11.16	6.57

Table 6: National HCT Data Analysis, Source: Service Data, NACA, 2013

3.11 PMTCT- National Target, ANC Attendees, HIV testing, Initiation on Treatment

PMTCT is a critical component of the national response plan. In 2010, 26,133 clients accessed PMTCT from a national target of 32,250 while in 2012; only 15,575 ANC clients accessed PMTCT out of the national target 55,575. In 2012 about one half (40,465) of the estimated target of 80,262 accessed the service and a similar pattern was recorded in 2013 with about half (57,874), the estimated national target of 118,065 accessing PMTCT services. The Joint Annual report 2012 indicates that "only about a third (30.3%) of pregnant women who attended ANCs in 2012 received a HIV test in the country. In 2012, 39,364 of the 487,921 (13.6%) pregnant women were tested during labour and 1.0% was tested after delivery in the 1,320 PMTCT sites in Nigeria. In 2012, 40,465 (56.2%) of the 71,986 HIV positive pregnant women who gave birth in health care facilities received anti-retroviral drugs to reduce the risk of mother to child transmission of HIV. The coverage is a 3.0% increase over the coverage in 2011. This represents population coverage of 20.2%; well below the 50% target for 2012". Figure 29 below highlights performance of the response on key PMTCT indicators from 2010- 2013.

PMTCT Analysis

Indicator	2010	2011	2012	2013
Number of new ANC Clients			1,094,729	1,623,386
Number Pregnant women tested for HIV	907,387	1,054,816	1,155,050	1,653,680
Number Pregnant women who tested Positive	31,577	69,249	71,968	63,652
% Positives amongst the pregnant women that tested for HIV	3.5%	6.6%	6%	4%
Total no. of HIV positive pregnant women who received ARV prophylaxis for PMTCT	26,133	37,868	40,465	57,871
% of pregnant positives on Prophylaxis	82.76%	54.86%	56.7%	91%

Table 7: National PMTCT Analysis, Source: Service Data, NACA, 2013

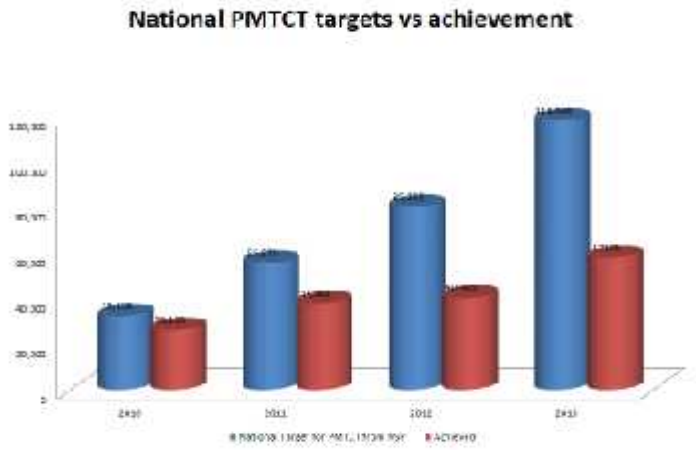


Figure 35: National PMTCT targets and achievements; Source: Service Data, NACA, 2013

A significant proportion HIV exposed infants are still not getting EID services. As observed in figure 31 below, the proportion of infants born to HIV+ women whose blood samples were taken for DNA PCR within 2 months was 47% in 2012 and 53% in 2013 respectively. For those whose blood samples were taken at 12 months, the proportion was same 50% for 2012 and 2013 respectively. Although more children were tested within 2 months of life, the exposure from breast feeding practices makes it important to strengthen the test after 12 months. Strategies to screen breastfeeding mothers and their infants should be strengthened. PCR labs should be saturated in states with high HIV prevalence to enable ease of access to the testing centers. Logistic support for EID services would need to be strengthened also.

In 2012, out of the 12,185 deliveries by HIV positive women, 5,128 (42.1%) of HIV exposed infants received ARV prophylaxis. This is an increased performance when measured against the 50% NSP target. However, when seen against the national requirements, the figure represents a 6.2% population level coverage and a 0.2% increase over the achievement made in 2011. It is evident that large numbers of HIV exposed infants do not receive ARV prophylaxis (NACA, 2012)

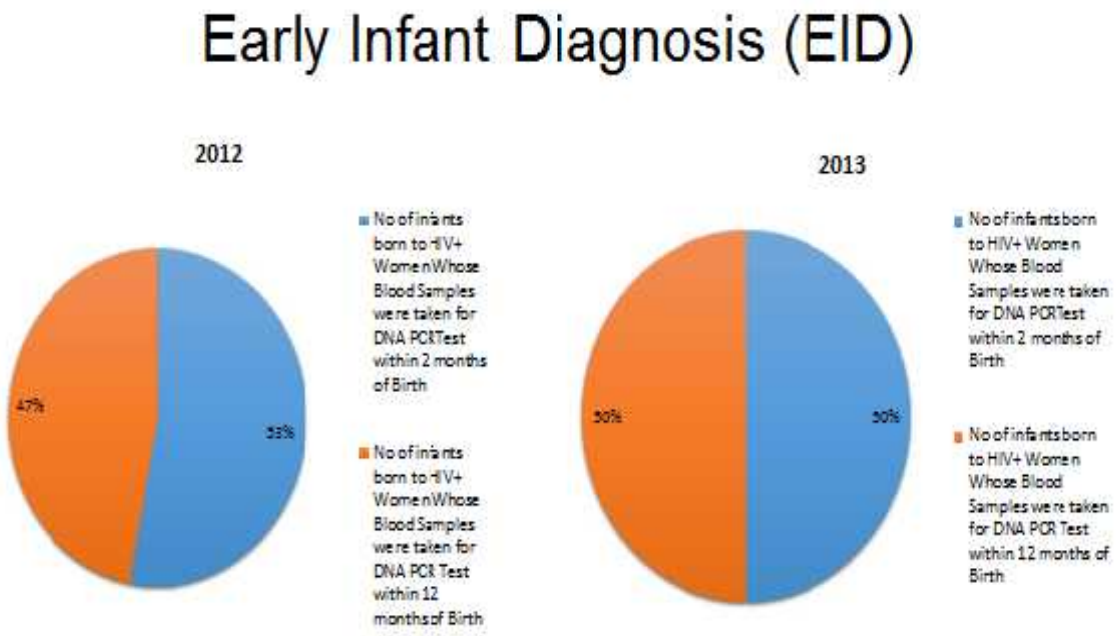


Figure 36: Early Infant Diagnosis, Source: Service Data, NACA, 2013

3.12 Antiretroviral Therapy (ART)

The number of people currently on ART increased from 51,000 in 2005 to 639,000 in 2013 and the number of ART sites is currently 820. However, an unmet need for ART has been decreasing from 69% in 2010 to 59% in 2013. Low adherence is one of the primary factors impeding effective HIV treatment in Nigeria. Number of people living with HIV receiving adherence support increased from 253,374 in 2010 to 447,697 in 2012, but declined to 155,558 in 2013. The figure bellows the trend of service coverage for ART from 2005 to 2013.

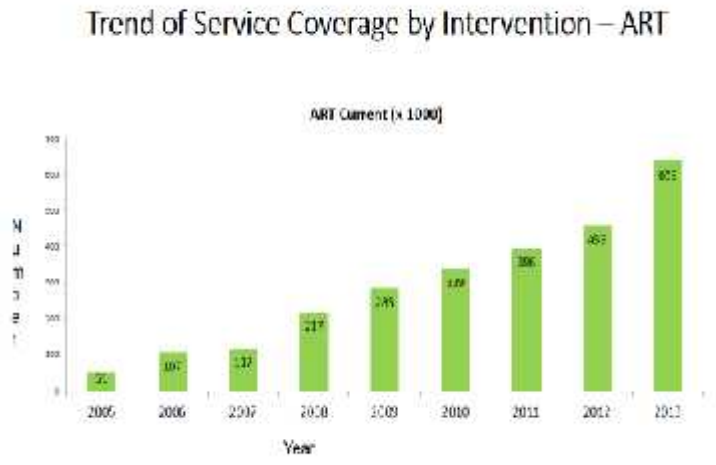


Figure 37: Trend of Service Coverage by Intervention - ART

A critical factor impeding effective HIV treatment in Nigeria is adherence. Several people are switching to the second line drugs because their erstwhile combination is proving ineffective because the virus has since developed resistance. Drug adherence is important to effective treatment. Studies have shown that in patients whose viral load has become undetectable, they have over 95% adherence level. For this reason adherence support is important to keep people on treatment. According to the figure below, 253,374 clients received adherence support in 2011, 447697 in 2012 and this reduced to 155,558 in 2013. There is need for adherence support to be fully integrated and funded as part of the ART treatment program.

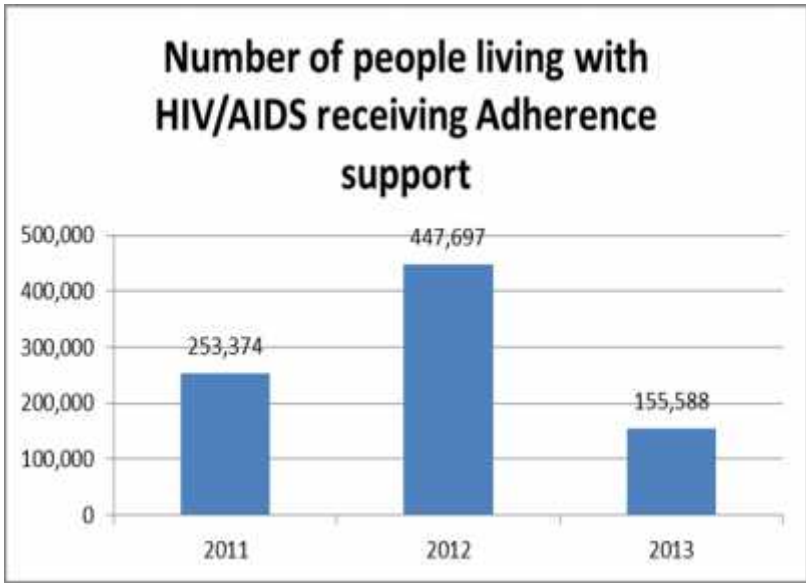


Figure 38: Number of People living with HIV/ AIDS receiving Adherence Support; Source: Non-health Sector Service Data, NACA, 2013

Of importance also is the need to proper follow up of cohorts of adults and children on ART, for instance in 2011, 73.7% of adults and children initiated on ART were known to be alive and on treatment after 12 months. The corresponding data for 2012 and 2013 were 77.5% and 80.7% respectively.

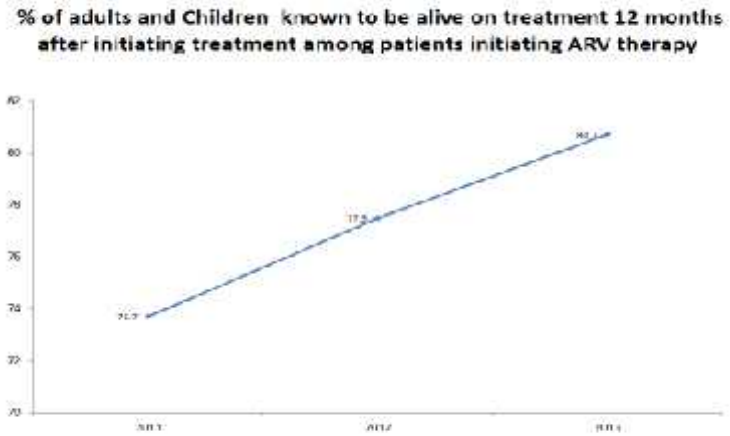


Figure 39:Percentage of adult and Children known to be alive on treatment 12 months after initiating treatment among patients initiating ARV Therapy; Source: Service Data, NACA. 2013

The figure below indicates that about 3.6%-4% of ART clients are transiting from 1st line to second line regimens. This has implications on the need to strengthen adherence support for PLWHAs. In 2011, 96.4% were on first line and 3.6% on second line, while in 2012, 96% were on first line and 4% on second line and for 2013, 96.4% were on first line while 3.6% were on second line.

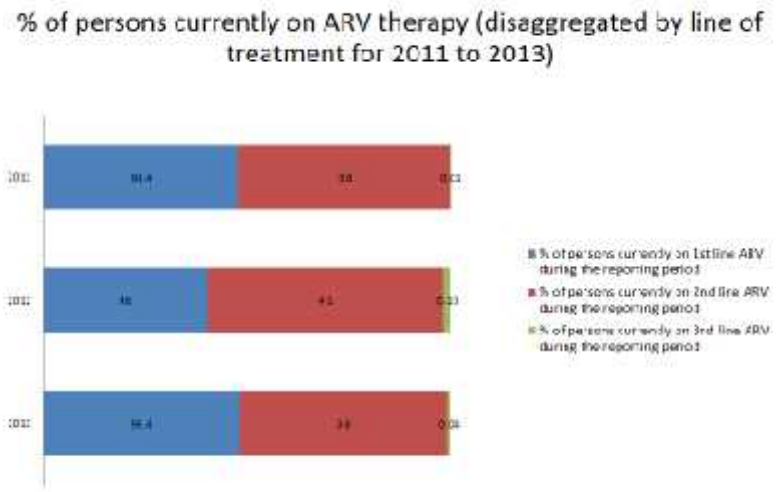


Figure 40: Percentage of person currently on ARV therapy (disaggregated by line of treatment for 2011 to 2013

3.13 Unmet Needs of the Direct Interventions

In general, unmet need for HIV/AIDS services have been a steady decline from 2002. However, the rates fluctuate for the different treatment: Adult ART; PMTCT and pediatric ART. The following figure compares the trends of unmet by the above treatment. The lowest rate (46%) of unmet need is on adult ART in 2009, and as of 2013, unmet need for adult ART was lowest at 59%. The highest rate record is on unmet need for PMTCT service, 100% between 2002 and 2005, and started on a slow decline to 73% in 2013. Unmet need for pediatric ART started below adult ART and PMTCT in 2002, at 94% but the rate has since not changed much as it fluctuate not less than 80% as at 2013.

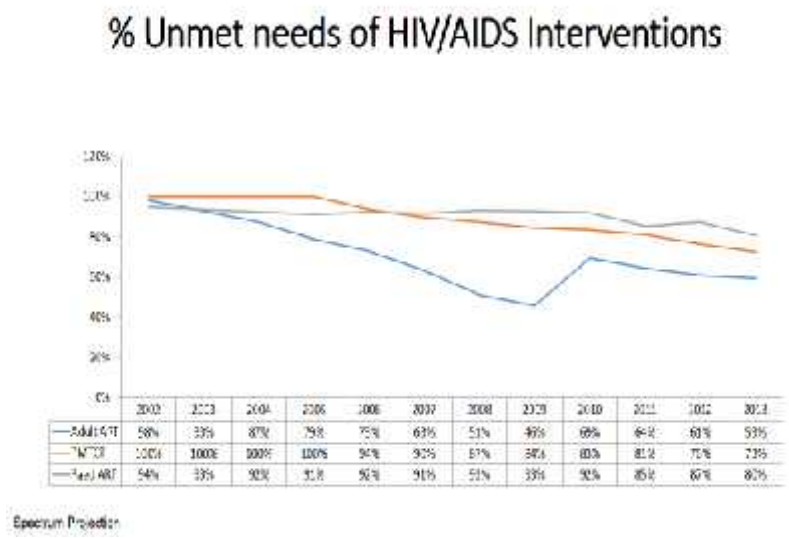


Figure 41: Percentage Unmet needs of HIV/AIDS Interventions; Source; Spectrum Outputs, 2014

1) Unmet needs of adult ART

Unmet need for adult ART has steadily declined from a high rate of 98% in 2002 to lowest point 46% in 2009. In 2010, this increased to 69% before it stabilized with a slight decline trend from 2011 to 2013. This slow decrease in unmet need depicts the low ART service uptake in the country. The ART program priority in Nigeria from 2010-2015 is that all eligible People Living with HIV (PLHIV) to receive quality treatment services for HIV and opportunistic infections (OIs) as well as Tuberculosis (TB) treatment services for PLHIV co-infected with TB; but the challenge of meeting this goal stems from inadequate number and geographical spread of sites providing ART services (NACA, 2011).

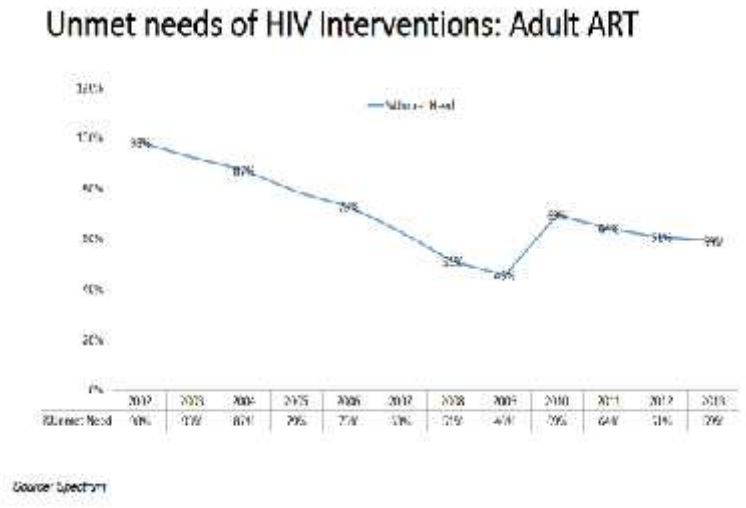


Figure 42: Unmet needs of HIV Interventions: Adult ART; Source: Spectrum Outputs, 2014

2) Unmet needs for PMTCT

Unmet needs for PMTCT services have been on slow decline from 2006 to 2013. Even though PMTCT programming commenced in 2001, not until 2006, unmet needs for PMTCT services was 100%. Between 2006 and 2013, there was 27% reduction in unmet needs for PMTCT services.

Unmet needs for PMTCT first decreased to 94% in 2006 and progressively to 73% in 2013. Unmet needs for PMTCT has declined by an average of about 3.4% from 2006 to 2013. The highest decline in unmet needs for PMTCT services in a year is 6% in 2006, and 5% in 2012. Knowing the impact of effective PMTCT services the government has prioritized expansion of PMTCT services, and decentralization of PMTCT programming. In 2001 PMTCT programming commenced in Nigeria with establishment of 6 PMTCT sites, which increased to 684 PMTCT sites in December 2010, resulting in the decrease in PMTCT coverage from 11% in 2010 to 5.3% in 2012. However, 6% of infants born to HIV infected women received ART prophylaxis for PMTCT. The proportion of health facilities providing PMTCT services was 2.9% and 4.7% respectively, ANC services was also provided (NACA, 2011). As of 2010, number of pregnant women who tested positive was 31,577; number of HIV positive pregnant women who received Antiretroviral (ARV) prophylaxis was 26,133.

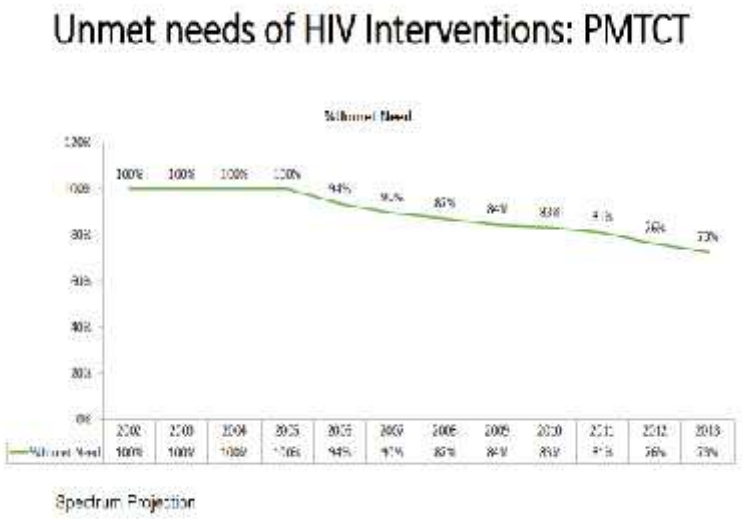


Figure 43: Unmet needs of HIV Interventions: PMTCT; Source: Spectrum Outputs, 2014

The rate of unmet need for paediatric ART has fluctuated from 94% to 80% between 2002 and 2013. From 2002 to 2005, the unmet need for Paediatric ART declined by 1% each year. In 2006 the rate increase by 1%, and stabilized with slight increase in 2008 and 2009. There was a sharp decline by 7% each in 2011 and 2013 respectively for unmet need for Paediatric ART service. This trend is evidenced by the fact that as of December 2010, 6% of infants born to HIV infected women received ART prophylaxis for prevention of PMTCT, and was 14,573 infants that received ARV prophylaxis (NACA, 2011). The following figure demonstrates the rate of unmet needs for paediatric ART.

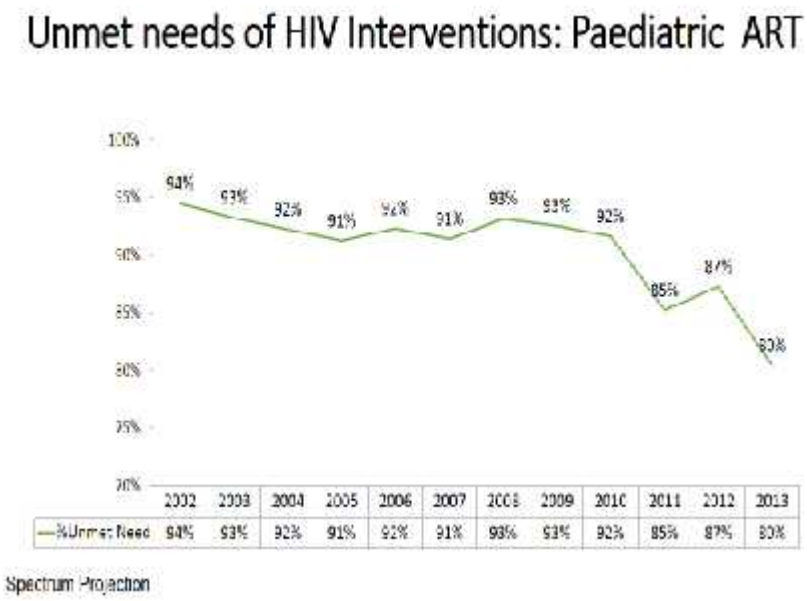


Figure 44: Unmet needs of HIV Interventions: Paediatric ART: Source: Spectrum Outputs, 2014

3.14 Structural and Enabling Interventions

1) Policy Environment (Legislative, Gender & Human Rights)

One area in which the Nigeria's HIV/AIDS response has fared well over the years is in development of policies and guidelines which are predicated on national and state legislations, national development plans, and Nigeria's international legal and human rights commitments. It developed the National Policy on HIV/AIDS in 2009. This policy document provides regulations and guiding principles and describes the main thrust of the national response and its management for results.

It also developed NSF I (2005- 2009) and NSF II (2010 —2015) to provide strategic direction and ensure consistency in the development of HIV/AIDS strategic plans by all stakeholders in the national response. In the same vein, the National Strategic Plan (NSP) was developed with appropriate targets and interventions to guide the implementation of the National Strategic Framework 2010-15 (NSF II). Other national policy documents also developed to guide the response include the National Action Plan on Orphans and Vulnerable Children, the National HIV/AIDS Prevention Plan and the National Health Sector Plan. Several guidelines and manuals have been developed at the national and states levels including those national documents adapted for use by the states. These include the National ART Guidelines, National PMTCT Guidelines and Scaling up Plans, National HCT Guidelines, and National RH/HIV Integration Guidelines. Others include the National Framework for HIV Prevention in Sex Work Settings, National Guidelines for key population etc. In the list also included were several manuals and Standard Operating Procedures (SOPs) in various thematic areas.

Realizing that the pace of the national response was too slow to meet national and universal targets, the President His Excellency. Goodluck Jonathan in 2013 directed NACA to develop a two year intervention plan with a view to rapidly scaling up HIV/AIDS interventions to meet urgent and critical demands for HIV/AIDS services by the people living with HIV/AIDS and those

affected by it. This resulted in the development of the Presidents Comprehensive Response Plan with ambitious targets which if well pursued would dramatically impact on the response.

Unfortunately the impact of the numerous policies and plans is not well felt by the various constituencies as they are usually not fully implemented, poorly funded and poorly disseminated. The national policy and plans stipulate unfettered access to services by everyone in a right-based non-discriminatory and non-stigmatizing manner but in practice, it neither clearly holds duty bearers accountable to results nor has it prevented human rights abuses and discrimination against some groups for example, key populations. In actual facts, some states have enacted and implemented laws and policies that violate rights to care contrary to national HIV/AIDS policies. For instance, under the cover of some laws against wondering or indecent behaviors, sex worker have frequently been abused by law enforcement agents. This has driven this category of health-seeking Nigerians underground making it difficult to reach them with services. The Same Sex recently promulgated by the government is an example of a piece of legislation that has far-reaching implications to national HIV response efforts. The law prescribes up to 14 years imprisonment each for gay couples who decided to solemnize their union while witnesses to the marriage or anyone who assisted the couples to marry could be sentenced to 10 years behind bars. The Bill also makes operation or registration of gay clubs or organizations a criminal offence. Also punishable by the new law is “public show of same-sex amorous relationships directly or indirectly” with 10 years imprisonment stipulated as punishment. This law, originally designed to outlaw gay marriage in Nigeria, has turned out to criminalize gay groups and organizations and promote the discrimination and persecution of persons on the basis of their sexual orientation and gender identity.

In the 12 northern states that have adopted Sharia law, anal intercourse is punished with 100 lashes (for unmarried Muslim men) and one year imprisonment and death by stoning for married or divorced Muslim men.
In view of the feminization of the epidemic and the attendant social status dynamics, appropriate legal framework and policies are important consideration in curbing the HIV/AIDS epidemic. The federal and some states government have in place laws and policies to encourage inclusive women participation, access to services and the prevention of harmful traditional practices that expose women to HIV infections. Efforts in this direction include:

- Development of a 5 year National Gender Policy Strategic Implementation Framework and Plan.
- Review of the National Gender Policy.
- The Institutionalization of the Gender Technical Committee (GTC).

The following policies/ guideline exists at the National level

- National Policy and Plan of Action on Elimination of Female Genital Mutilation in Nigeria (2002).
- National Guidelines and Intervention Strategies on Gender Based Violence in Nigeria (2008).
- Gender policy for the National Police Force - Nigeria police Force.

Not less than 12 states have laws and policies in place to promote gender mainstreaming and protect women from harm resulting from punitive traditional and cultural practices.

2) Orphans and Vulnerable children (OVC)

The National response package for OVCs include: access to health, education, psychosocial support, shelter and social protection. In 2011, 467,295 orphans were reached with these

services. This increased to 761,105 in 2012 but declined to 483,800. The data available, particularly on orphans, is scanty and as such does not allow for a complete trend analysis.

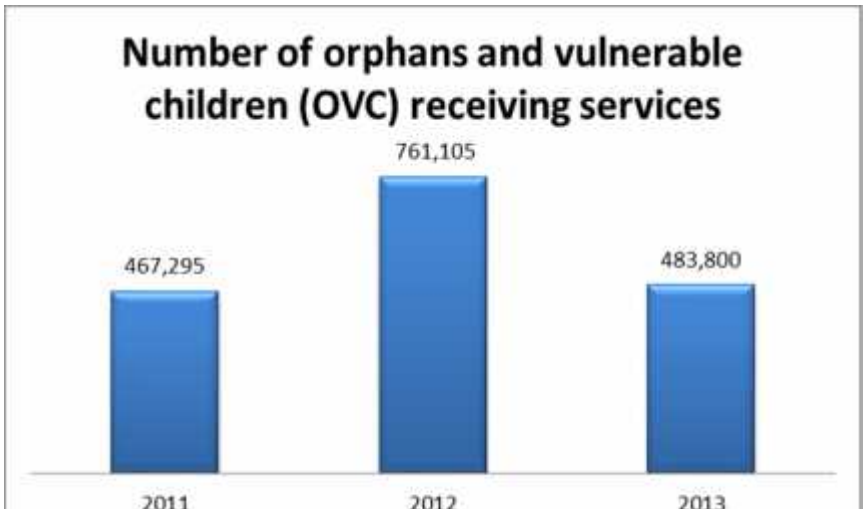


Figure 45: Number of orphans and vulnerable children (OVC) receiving services: Source: Non-Heath Sector Data, NACA, 2014

3.15 Institutional Capacity Assessment

A key initiative in the national response is to strengthen institutional capacities of the entities on HIV response. This includes capacity assessment and development of institutional capacity building plans by the entities, upgrade of State Action Committees on AIDS (SACA) to agencies and establishment of LACAs in local government councils where they do not exist. To date, SACAs in all the states have transformed to agencies, with about 73% established Board. To enhance interventions, relevant technical working groups (TWGs) have also been established. These include 97% TWG for M&E, 83% TWG for prevention, and 30% TWG for care and support. However, greater efforts still need to be put to establish significant number of the TWGs for PMTCT, gender, advocacy and policy activities, and resource mobilization, as the available data show that few TWGs have been established for these interventions. The following figure presents the institutional capacity assessment for the national response.

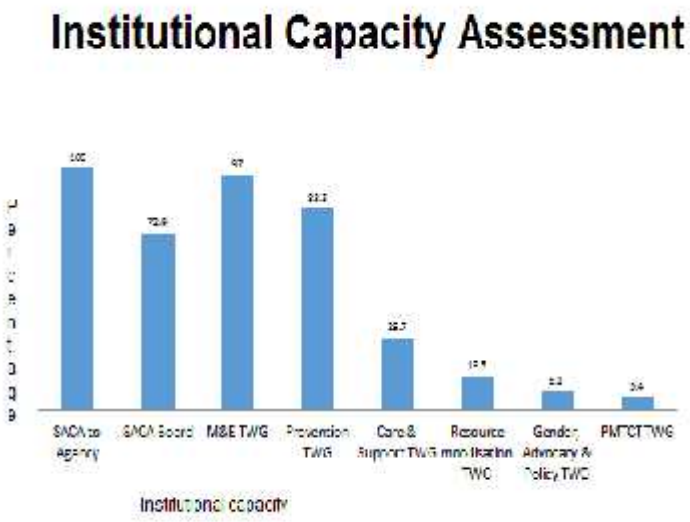


Figure 46: Institutional Capacity Assessments: Source: Service data, NACA, 2014

3.16 Human Resource Capacity for Service providers

The majority of Health care workers have been trained till date in providing HIV services in the country. The trend in training of Health care workers who provide HIV service is similar across the zones. The total number of trained health care workers increased from 2,466 in 2010 to 8,686 in 2013 respectively. In the South West zone, the number of health care workers providing HIV services increased from 522 in 2010 to 1,569 in 2013.

In the South East zone, 1836 of health care workers were trained in providing HIV services in 20 13 which is more than those trained in the south west zone. Also in the south east zone, of those trained 1430 were already providing HIV services in the zones.
In the North East zone, the number of health care workers trained in HIV services as at 2013 encourage increased from 94 in 2010 to 780.

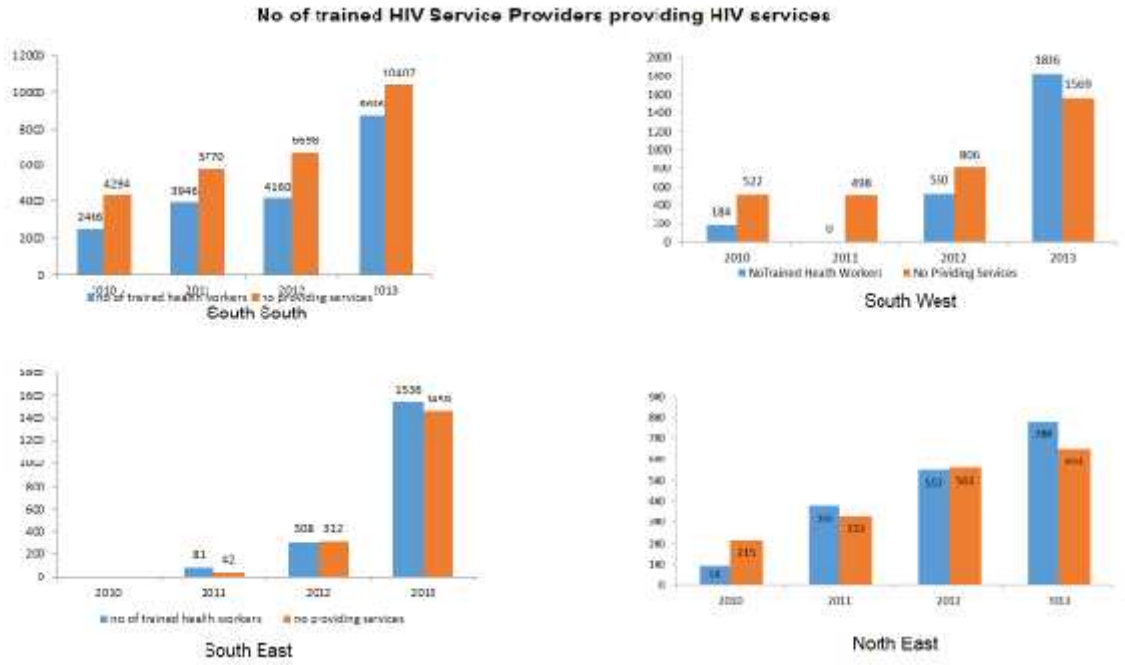


Figure 47: No of trained HIV service providing HIV service; Source: Service data, NACA, 2014

3.17 Service delivery (by key interventions)

1) Service Delivery Outlets and Service Coverage

In terms of service delivery outlets, the number of ART, HCT and PMTCT sites has been on the increase from 2006 to 2013. In particular, PMTCT sites increased from 33 in 2005 to 5,622 in 2013. The increase in PMTCT sites is no doubt a result of government prioritization and expansion of PMTCT services, and decentralization of PMTCT programming with assistance from development partners and donors. HCT sites increased from 226 in 2006 to 5,191 in 2013.

While there has been a relatively massive increase in PMTCT and HCT sites, the increase in ART sites has been slow. The establishment of ART sites started in 2005 and the number as at

2013 was under 1000. This has implication for coverage of ART to people who have needs for the service. These trends fall far short of the country's commitment to universal access target of at least 80%. The reality however is that the uptake for PMTCT compared to ART is not concomitant to the degree of scale-up in the former. ART has experienced relatively higher uptake than PMTCT. For example between 2012 and 2013, the increase in uptake was over 120,000 for ART when compared to a little over 9,000 for PMTCT during the same period.

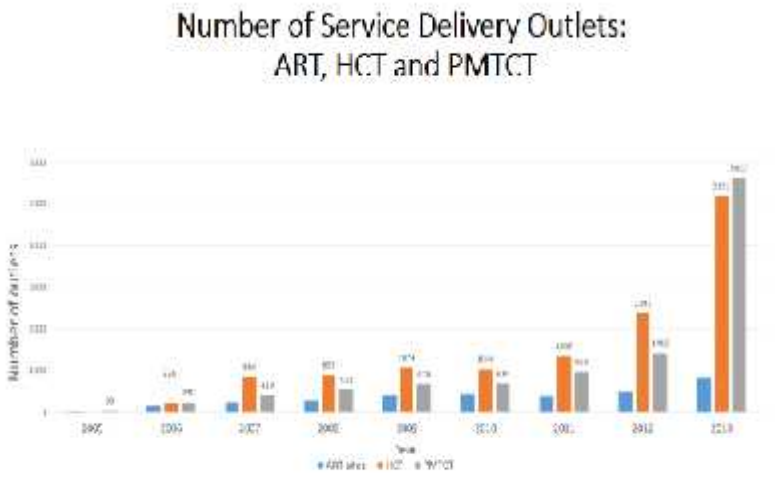


Figure 48: Number of Service Delivery Outlets: ART, HCT and PMTCT

The trend shows that ART service has increased from 51 persons per 1000 population in 2005 to 639 persons per 1000 population in 2013. This translates to about 64% coverage in 2013 and less than 80% level of coverage expected in 2015. With one year to this target, it may be difficult to realize the set target in 2015.

On average, the ART service grow annually by about 84 new coverage, and if this rate is maintained, the target may be met only by 2017. The availability and use of cost-effective anti-retroviral drugs for treatment of HIV/AIDS (ART) has increased. The treatment program of the national response has received significant funding and technical supports of the United States President's Emergency Plan for AIDS Relief (PEPFAR) and the GFATM in addition to government commitments. This support enabled the provision of comprehensive care and support services in all 36 states and the Federal Capital Territory through an increasing number of ART facilities in the country.

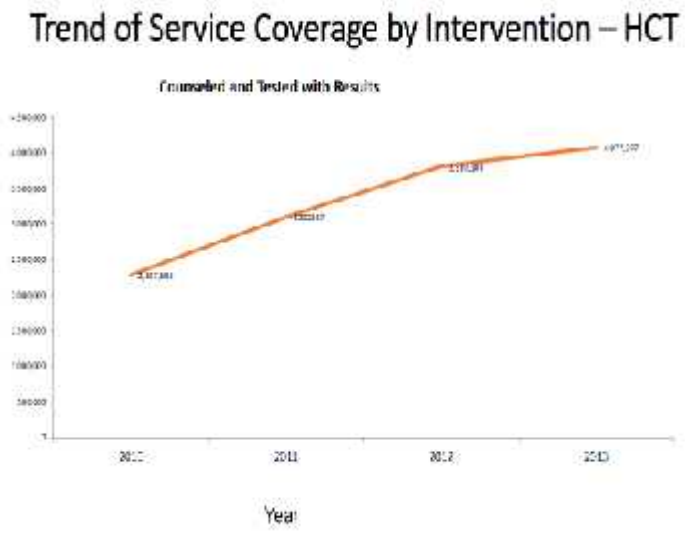


Figure 49: Trend of Service Coverage by Intervention - HCT

3.18 Service Cascade

The service cascade for HCT below is based on NARHS 2012 data. The cascade reveals that less than half of those who desire HIV testing are currently being reached with this intervention. This result clearly underscores the relative inaccessibility of HCT to over half of the population. Reflecting the fact that only 7,075 of the over 30, 000 existing health facilities were providing HCT services as at end of 2013. The cascade also shows a significant drop between those who undergo HIV counseling and testing and those who eventually get their test result. Considering that the country primarily uses rapid HIV test kits for HIV testing, the difference depicts a very high and costly missed opportunity for those that get tested but never get their testing results.

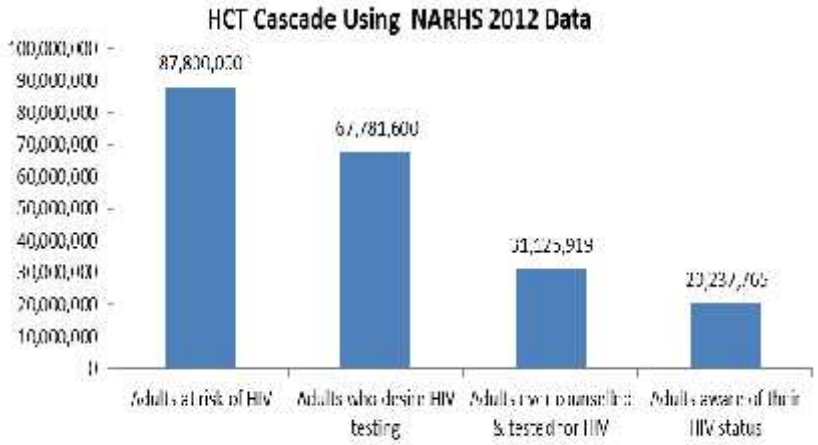


Figure 50: HCT Cascade Using NARHS 2012 Data

The service cascade for ART is based on NARHS 2012 data projected to 2013 and national 2013 GARPR report. The cascade echoes what has already been depicted by the HCT cascade, i.e. that HCT is the rate limiting step to ART scale up. Specifically, the cascade shows that almost all

ART eligible HIV positive clients identified till date were through HCT. Another salient issue depicted between the HCT and ART cascade is 7% HCT positivity rate. This rate which is twice the national HIV prevalence rate shows that HCT services are relatively well targeted towards populations or States with higher HIV burden. The number of adults in need of ART is based on current national guidelines eligibility criteria adapted from WHO 2010 guidelines.

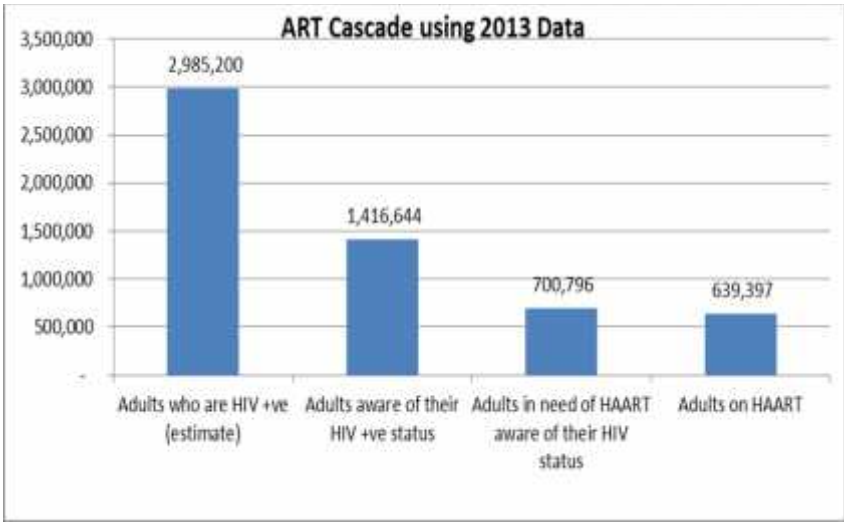


Figure 51: ART Cascade using 2013 Data

The two PMTCT service cascade graphs below confirm the existing low ANC and HIV testing coverage at 65% and 30% respectively. Indeed, as at the end of 2013, PMTCT services were only in 5,622 of the over 20,000 health facilities that deliver MNCH services in the country. Antenatal attendance at 65% (NARHS, 2012) reflects an improvement from that of 58% documented in DHS 2 years earlier.

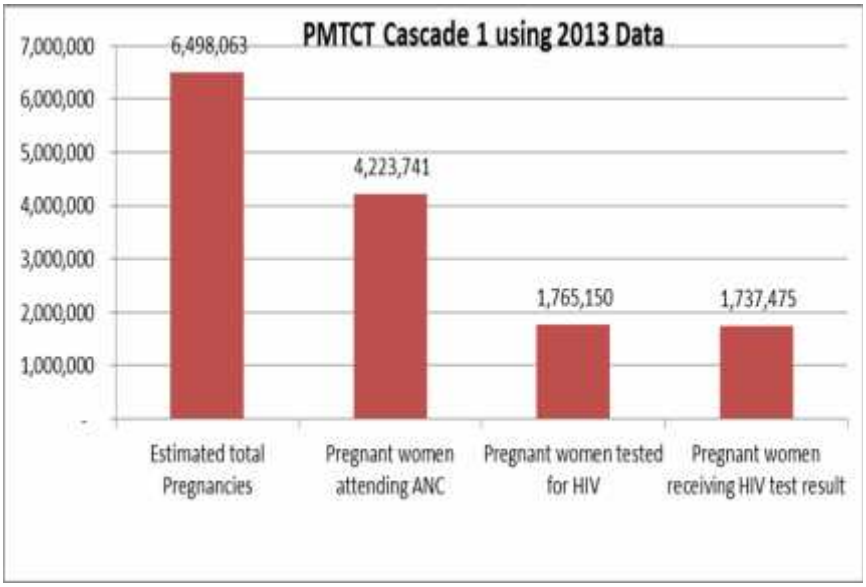


Figure 52: PMTCT Cascade 1 using 2013 Data

Data reflected in the cascade graph below is from the 2013 national GARPR report. Only half of the estimated HIV positive pregnant women in 2013 were aware of their status due to the persisting low coverage of PMTCT services: in terms of health facilities delivering the service and number of pregnant women reached with HCT. There also is a large gap between the number of

women WHO tested HIV positive and those who received antiretroviral drugs during pregnancy and delivery. This difference in largely unexplained, though in part reflects 14,741 HIV positive women identified during L&D and postnatal care. The cascade indicates that only a third of HIV paediatric infections were averted in 2013.

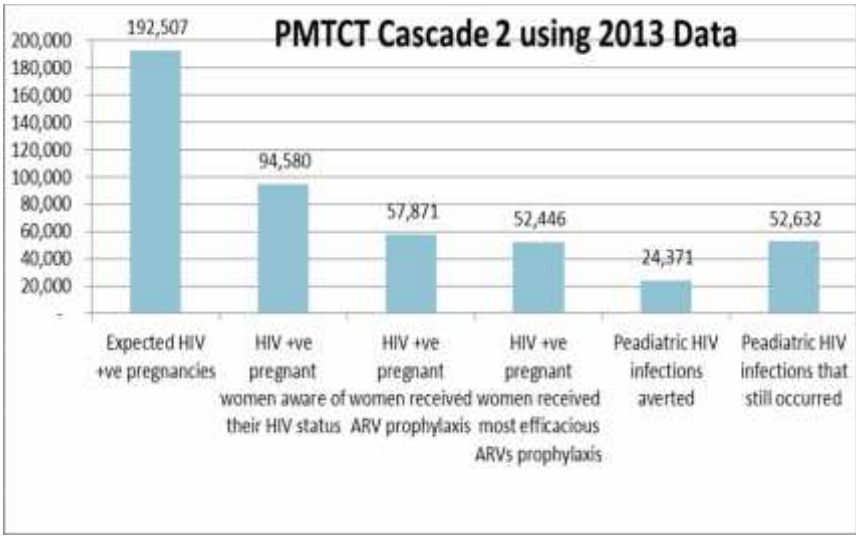


Figure 53 : PMTCT Cascade 2 using 2013 Data

3.19 HIV Financing Landscape

1) Current Funding

Analytical Question: What are the gaps in data, financial and human resources and program implementation to address as we scale up the response?

This section discusses the funding sources and expenditures on HIV/AIDS interventions in the country. In 2010, it was proposed that the Government of Nigeria will start to contribute 50% of the total fund for HIV/AIDS interventions by 2015. To achieve this the government was to contribute USD241 million in 2013, USD 373 million in 2014 and USD 470 million by government at all levels. In 2011, total share of Government contributions to HIV/AIDS expenditure was USD88.9 million (17.7%) and in 2012 it was USD123 million (21.2%). In 2013 the PCRP was launched in the country with a total budget of USD1, 695 million.

From all sources of HIV/AIDS expenditure in the country, as at 2012 total HIV/AIDS expenditure was about USD577.4 million, and this translates to about 39% increase in total HIV/AIDS expenditure from all sources between 2009 and 2012. The highest increase in total HIV/AIDS expenditure was in 2010 by about USD81.6 million. In 2011, increase in HIV/AIDS expenditure declined significantly to about UDS4.5 million. The expenditure peaked in 2012, increasing by about USD76.0 million

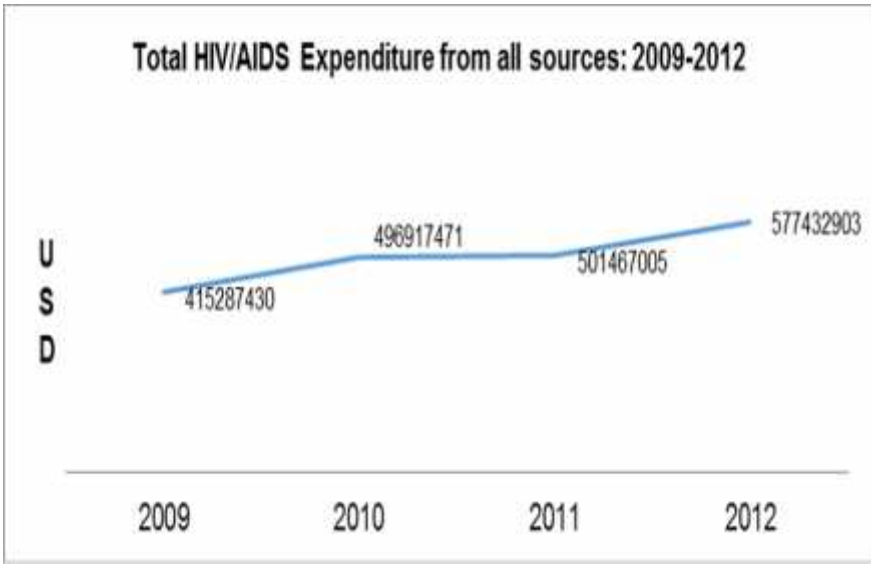


Figure 54: Total HIV/AIDS Expenditure from all Sources 2009-2012: Source. NASA, 2012

Total HIV fund sourced domestically and expended by Federal MDA has been unstable from year to year. Between 2006 and 2009, total HIV fund from domestic sources ranged high to about USD74.1 million in 2008, and low to about USD16.2 in 2009. The total fund also dropped significantly in 2007 from a relatively higher amount in 2006. This suggests the need to ensure steady domestic contribution to HIV expenditure by Government.

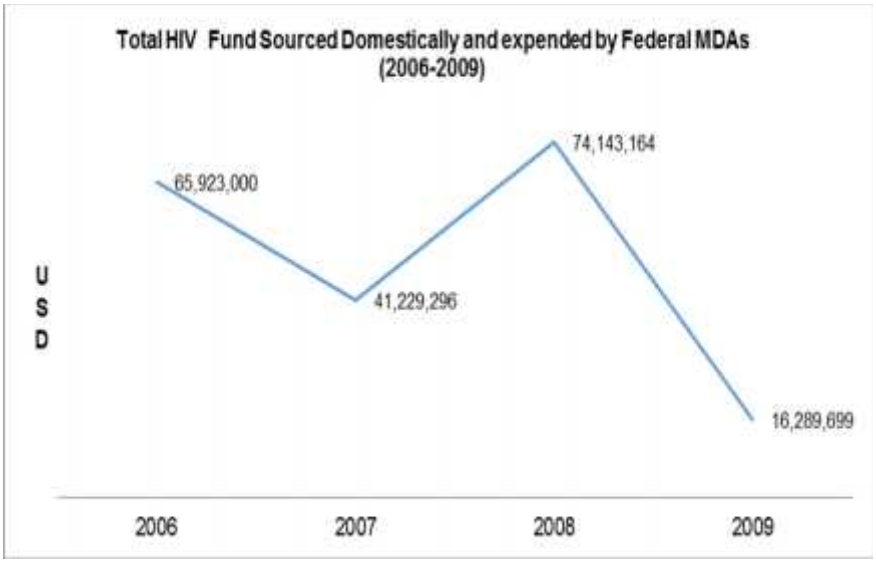


Figure 55: Total HIV/AIDS Expenditure from all sources 2009-2012 Source: HAPSAT, 2009

The funding sources of HIV expenditure are public, private and international source. Evidently, the main funding source of HIV expenditure in the country is international source. From the figure below, HIV expenditure by international funding source remains steady over the expenditure period of 2009 to 2012, though with a slight peak at 82.04% in 2011. The maximum contributed by public funding source is 25.2% in 2010, which is far less than international funding source, and as at 2012 the domestic contribution dropped to 21.3%. Private funding source is very low. Between 2009 and 2011 HIV expenditure by private funding source was less than half percent,

until 2012 that it increased to 1.61%. Considerable efforts need to be made to encourage reasonable HIV funding.

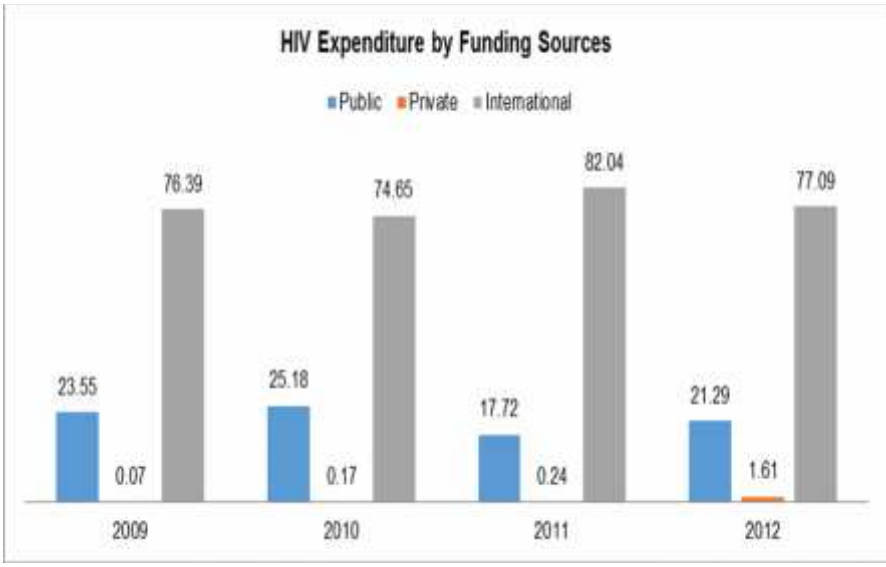


Figure 56: HIV Expenditure by Funding Sources: Source: NASA, 2010, 2012

Between 2009 and 2012, HIV spending by international source steadily increased to USD445.2 million in 2012 from USD317.2 million in 2009. HIV spending by public source ranged from about USD97.8 million in 2009 to about USD123.0 million in 2012. Public sector source has not increased significantly over the reported years. There is clearly a need for the public spending component to be significantly increased, to reduce the country's dependency on bilateral and multilateral agencies for HIV funding.

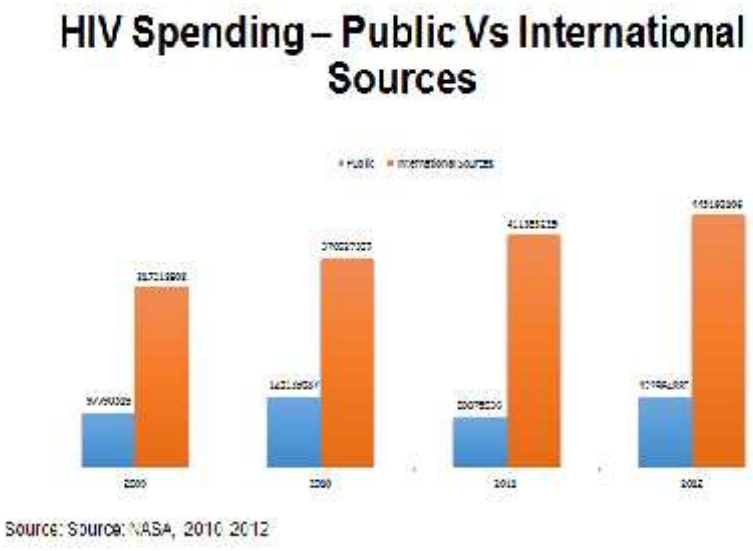


Figure 57: HIV Spending – Public Vs International Source NASA, 2010, 2012

In general there has not been a large increment in HIV spending in the country. The international contribution has grown steadily over the reporting years, while the domestic contribution has remained low and in subsequent years (i.e 2010-2011). Expenditure variance over the reporting period depicts a varied picture by source, while the trend is downward (from USD53, 708,729 between 2009 and 2010 to USD33, 808,877 between 2011 and 2012) for international that of

domestic fluctuates rather marked. For instance between 2010 and 2011 the variance drops by close to 30 percent (i.e a variance of up to USD36, 263,651). Obviously, while increment in HIV spending by international source has been higher than public source, in 2011, there was no increment at all in public source of HIV spending, and then public source dropped deep in negative. As usual, highest increment in HIV spending is by international source in 2010 by over USD53.7 million. However, between 2011 and 2012 expenditure variance in by public source was slightly higher than international source.

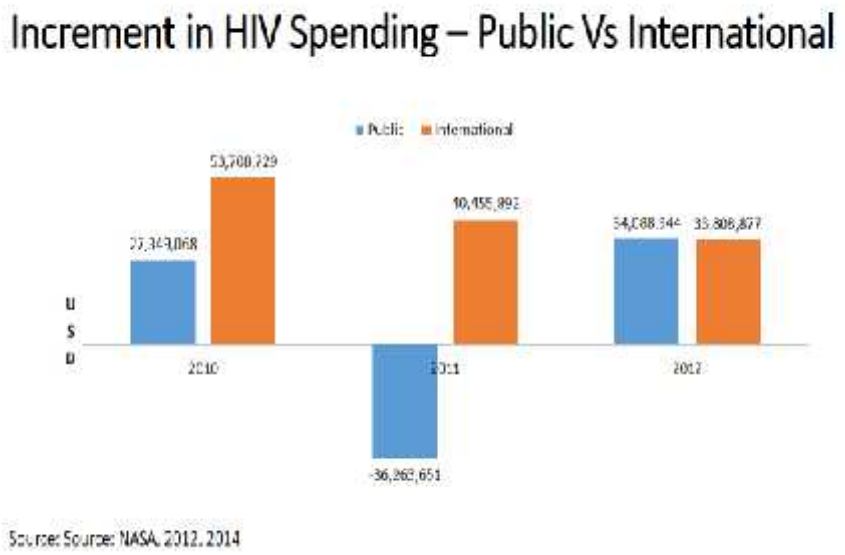


Figure 58: Increment in HIV Spending – Public Vs International, Source NASA, 2012

In terms of percentage increase in HIV spending, international source has declined steadily from about 17.0% in 2010 to 8.2% in 2012. The percentage increases in HIV spending by public source has been higher compared to international source in 2010 and 2012, but public source was negative in 2011. There is the need to explore additional or expanding other sources of HIV/AIDS funding. Evidence above shows even though funds from International sources are increasing, rate of increase is declining. The Presidential Comprehensive Response Plan (PRCP) is one of such opportunities for increasing HIV/AIDS funding.

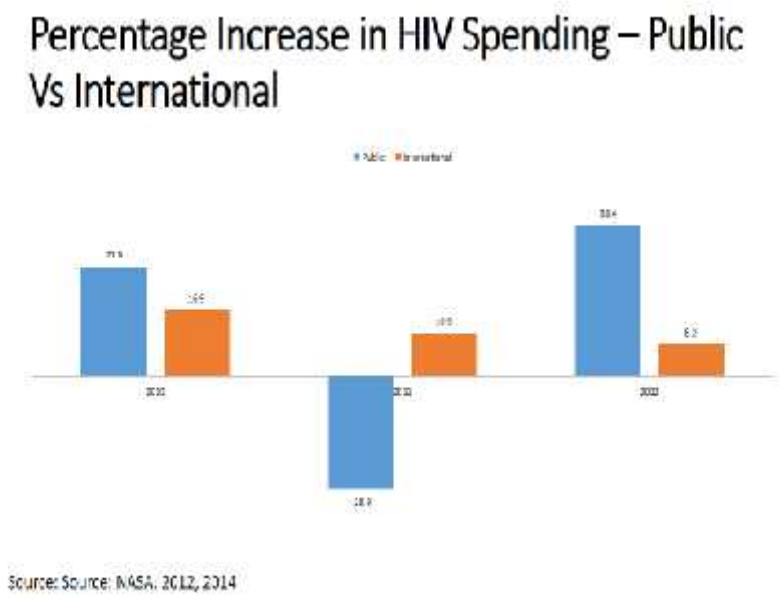


Figure 59: Percentage Increase in HIV Spending - Public Vs International, Source NASA, 2012

On HIV expenditure by programmatic areas, treatment and care, program management and human resources accounts for more than 85% of HIV expenditure. Accordingly, the figure below indicates that care and support has largest share of HIV expenditure, the rate has been declining. From highest share, care and support is followed by expenditure on program management, human resource, and prevention. Other programmatic areas: OVC, social protection, enabling environment and research activities have the least share of HIV expenditure, ranging from 0.02% to 4.4%, in 2009 and 2012 respectively. While expenditure on prevention and research activities increase slowly, expenditure on treatment and care has been declining steadily.

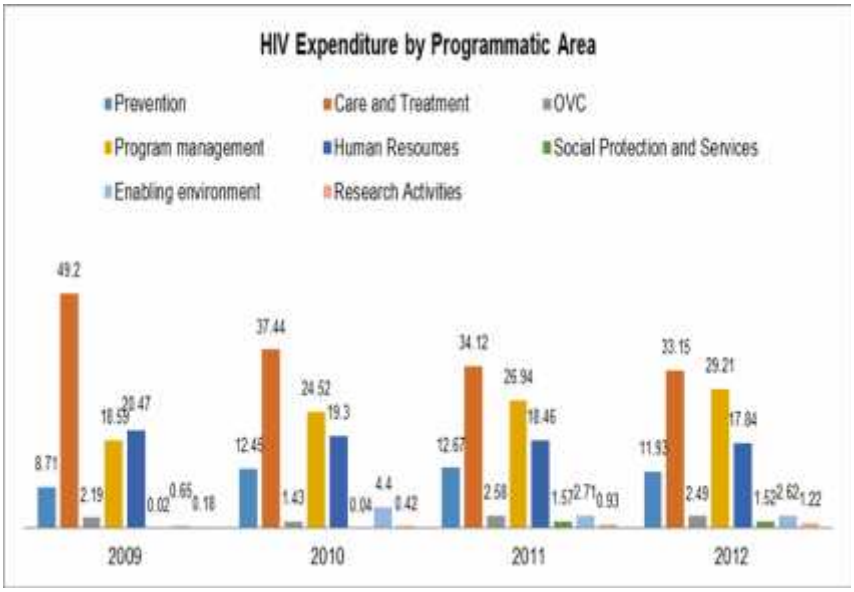


Figure 60: HIV Expenditure by Programmatic Areas, Source NASA, 2012

2) HIV Expenditure

PLHIV are mainly beneficiaries of the direct bilateral funding spent on care and treatment, while private fund has been spent largely on general population. The figure below shows that main beneficiaries of HIV expenditure are PLHIV and non-targeted interventions. The larger proportion of public fund was spent on non-targeted interventions. HIV expenditure on non-targeted interventions increased steadily from 38.4% in 2009 to 49% in 2012. Expenditure on PLHIV is highest, about 50.0% in 2009, and second largest proportion of HIV expenditure. While expenditure on Key Population increased by 50% between 2011 and 2012, the total rate is rather low. Expenditure on key populations was the least in 2009 and 2010, but up to 3% in 2012. There was no expenditure on specific accessible population in 2011 and 2012. Expenditure on general population fluctuated between 4.9% and 12.5% from 2009 to 2012. Expenditure on other key populations stabilized at 6% up till 2012, from about 4.6% in 2010.

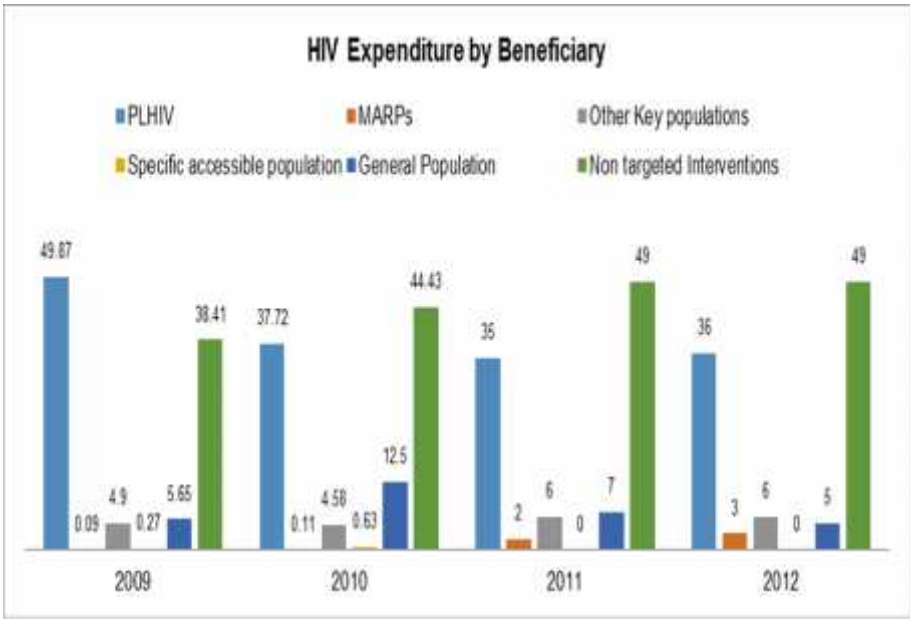


Figure 61: HIV Expenditure by Beneficiary, Source NASA, 2012

The comparison of out-of-pocket expenditure to total HIV expenditure shows that out-of-pocket expenditure represent over 40% of total HIV expenditure from 2009 to 2012. Out-of-pocket HIV expenditure has increased steadily over the years, as total HIV expenditure increases.

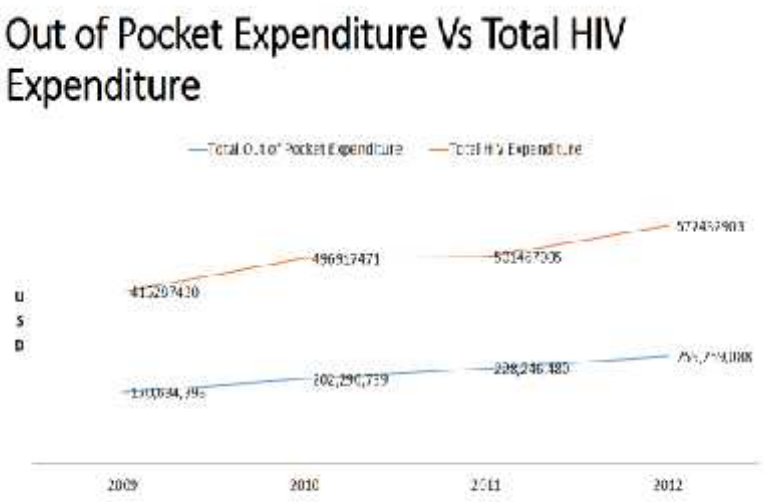


Figure 62: Out of Pocket Expenditure Vs Total HIV Expenditure: Source NASA, 2012

Funding gaps still exists at present and will widen if the present level of spending is compared with requirements for attainment of National and Universal targets. The figure on HIV funding gap indicates that there has been gaps in HIV/AIDS funding from 2010 to 2012. This is over USD50 million in 2010; USD87.5 million in 2011, and about USD51.6 million in 2012.

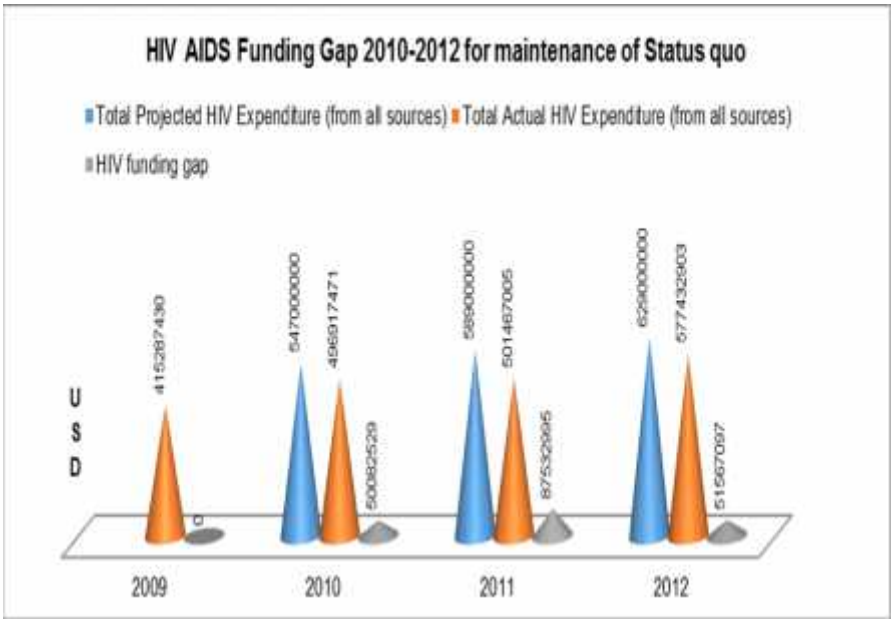


Figure 63: HIV AIDS Funding Gap 2010-2012 for maintenance of Status quo: Source NASA, 2012

The total funding gap that affected the attainment of national target in 2010 is about USD302.0 million, USD523.0 million in 2011, and USD903.4 in 2012. This gap analysis is based on projected HIV expenditure required to achieve the national target scenario, from all funding sources, and the total actual HIV expenditure from all sources.

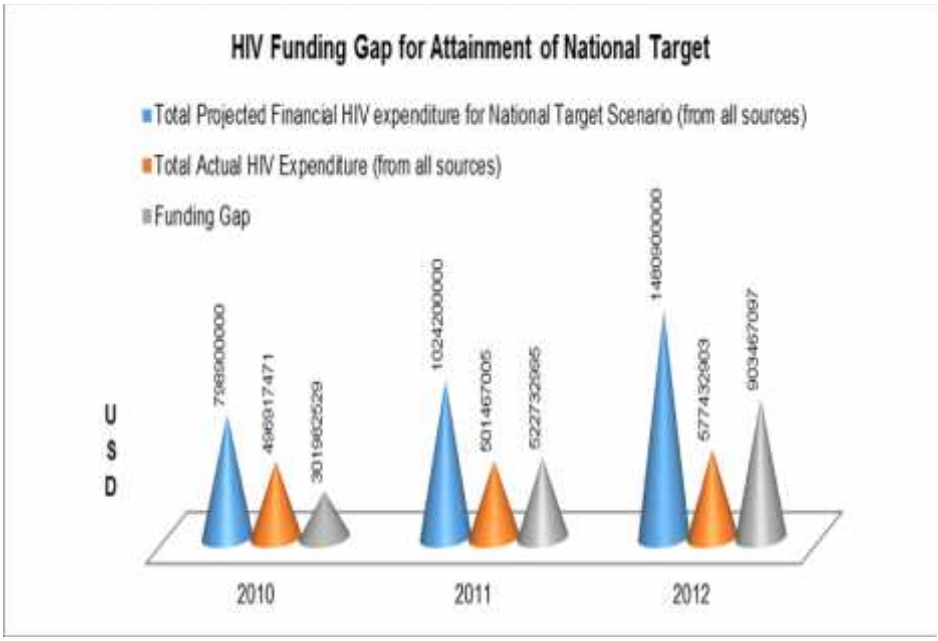


Figure 64: HIV Funding Gap for Attainment of National Target: Source NASA, 2012

The gap analysis of funding for attainment of Universal Access target indicates that USD603,682 was required in 2010, USD800,933 was required in 2011, and over USD1.0 million was required in 2012.

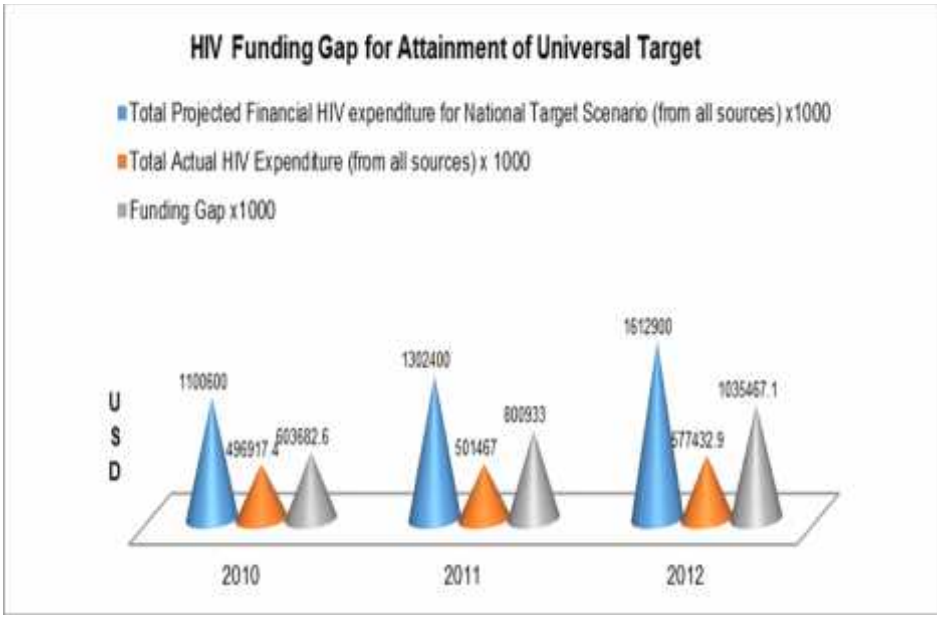


Figure 65: HIV Funding Gap for Attainment of Universal Target

3) Future HIV/AIDS Funding Projections

Research Question: What is the level of investment and efforts required to avert new infections and save lives over the next 7 years?

The analysis of the level of investment and efforts required to avert new infections and save lives in the next seven years is based in the three scenarios of Universal Access (100%), National Access (80%) and Baseline. For HCT, it will cost about USD16.6 Million in 2015 to scale up the

service towards achieving the universal access. This will decrease to USD16.4 million in 2020. For ART, the amount of investment will increase from USD2.3 billion in 2015 to USD2.9 billion in 2020. In the same vein, PMTCT scale up will gulp USD41 million in 2015 and USD34 million in 2020. Comparing this with investment required to achieve national target as in figures 67, 68 and 69 below, the difference in financial requirement is not significant, but in terms of the new infections averted and lives saved, investing in universal access scenario seems to be the most cost effective approach. Although, continuing on the baseline (status quo) will cost less, the impacts in terms of new infections averted and lives saved will be minimal.

As shown in the figures below, greater impact will be made if invested in full response (Universal Access) to HIV/AIDS, based on the PCRP. The number of new infections per year will decline sharply by almost half in 2015 from over 300 in 2012. The impact of investing in full response is far better than moderate response and from maintaining current funding pattern. Similarly, funding full response will greatly reduce number of HIV related deaths per year, compared to investment in moderate response and by maintaining current investment in HIV response. By 2015, investment in full response would have reduced number of HIV related deaths per year to about 150, compared to about 200 deaths with moderate investment and 250 by maintaining current HIV funding pattern.

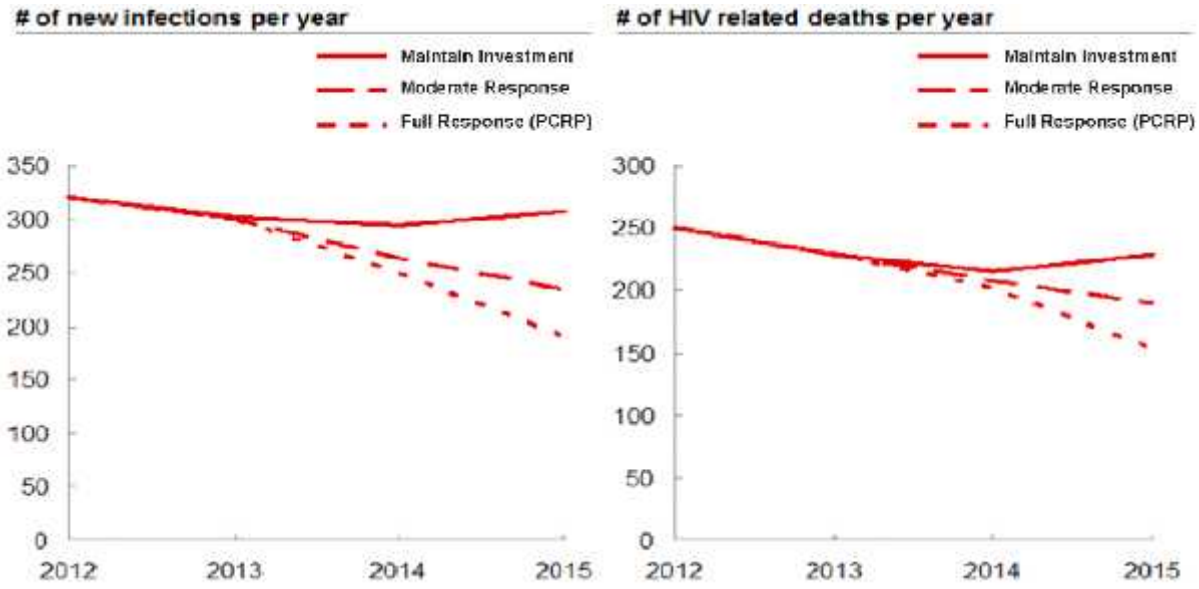


Figure 66: No of New Infections and No of AIDS Related Deaths for the Various Response Scenarios

It will cost less in future to scale up PMTCT coverage. The figure below shows that annual cost of scaling up PMTCT coverage declines steadily from 2014 to 2020, by all scenarios: maintaining baseline; National target and Universal target.

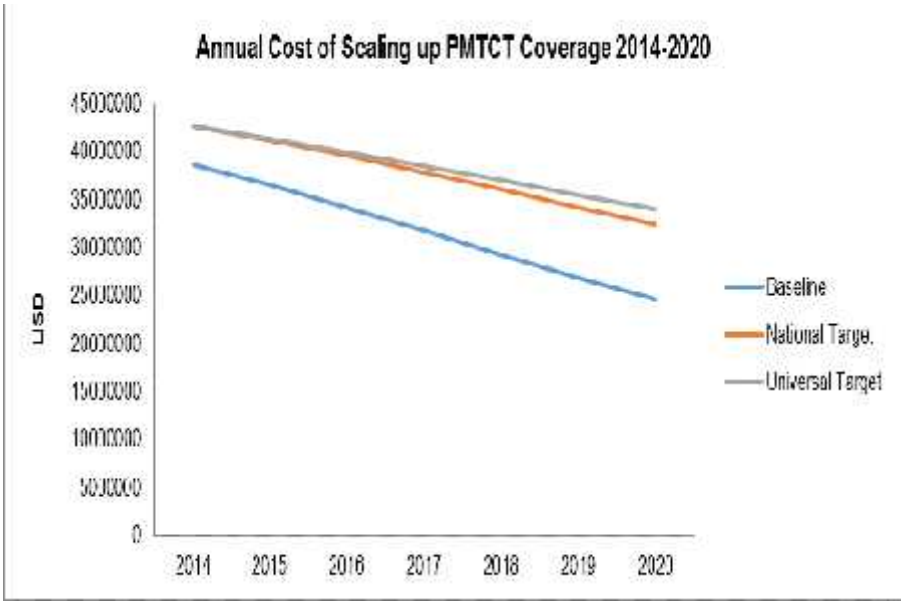


Figure 67: Annual Cost of Scaling up PMTCT Coverage 2014-2020

Annual cost of scaling up adult ART coverage increases steadily from 2014 to 2020, based on National target and Universal target for scaling up adult ART coverage. But if baseline is maintained, the cost stabilizes, there may be a marginal increase on the National target from 2014 to 2020.

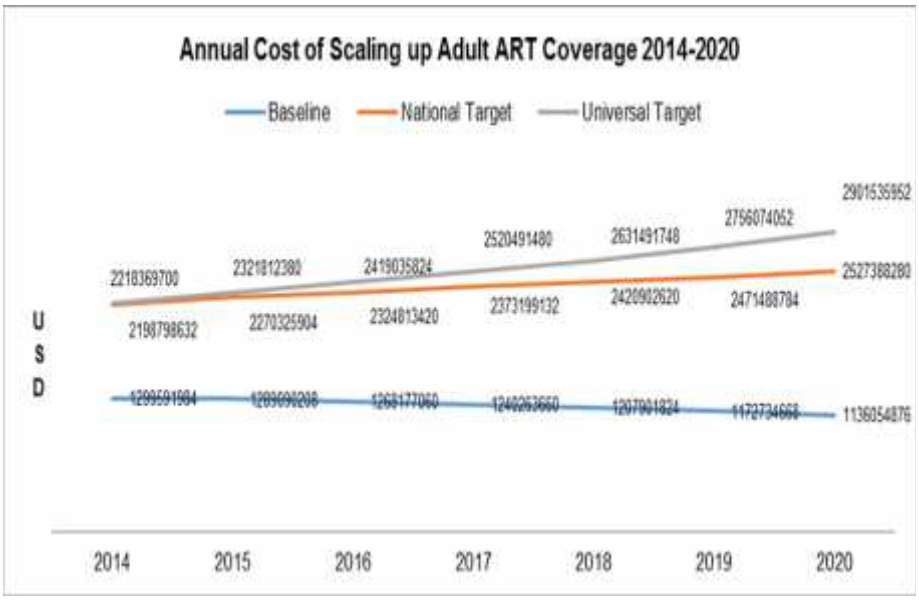


Figure 68: Annual Cost of Scaling up Adult ART Coverage 2014-2020

Annual cost of scaling up paediatric ART declines marginally from 2014 to 2020. If baseline is maintained, cost of scaling paediatric ART coverage will be less if based on National target and Universal target. The cost of scaling paediatric ART coverage based on National target is less than Universal target in 2020, but the cost is mostly the same at other years.

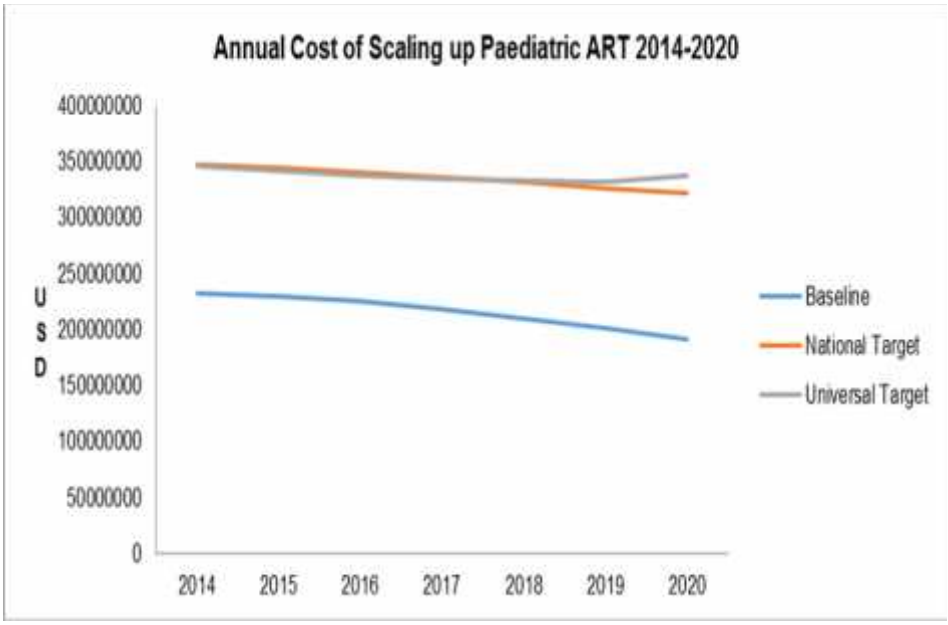


Figure 69: Annual Cost of Scaling up Paediatric ART 2014-2020

Annual cost of scaling up HCT coverage declines significantly from about USD14.9 million in 2014 to about USD10.7 million in 2020. The cost based on Universal target stabilizes over USD16 million from 2014 to 2020. The cost based on National target declines slightly from over USD16 million to about USD15.3 million in 2020. This pattern of the cost of scaling HCT coverage is similar to above costs of scaling up paediatric ART coverage and PMTCT coverage.

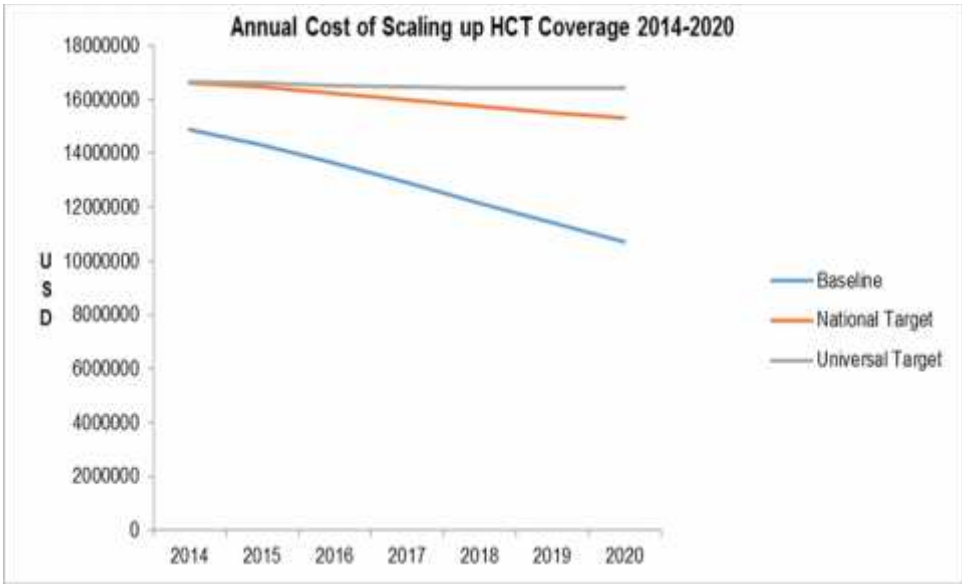


Figure 70: Annual Cost of Scaling up HCT Coverage 2014-2020

SECTION FOUR: DISCUSSIONS AND IMPACT ANALYSIS

4.1 Introduction

Objective 3: To examine the relationship between epidemiological data and programmatic interventions (prevention, care and support, treatment) including programmatic gaps and finance landscape

Analytical Questions:

- To what extent has available strategic information and epidemiological data shaped program direction and efforts at the national and state levels?
- Does there exist any correlation between the level of investment in HIV/AIDS and available epidemiological data across states?

In this section, findings related to current HIV/AIDS interventions in the major thematic areas will be summarized including an analysis of service coverage, unmet needs, impacts of interventions-deaths and new infections averted and daily life years gained from HIV/AIDS intervention. Towards the end of the section an attempt will be made to respond to the relevant research questions.

Impact Analysis to date: An Overview Nigeria's HIV prevalence in the general population had been on the decline since 2001 (5.8%) and now fairly stable over the past years at 4.1% (2010) according to the national ANC Sentinel Surveillance surveys. The stability of prevalence is probably due to the massive scaling up of ART services which has resulted in improved quality of life and reduced mortality among PLWHAs. However, the incidence, though decreasing, has continued to be high and also affects the prevalence. There are increasing evidence that key populations and MTCT contribute enormously to the high HIV prevalence and high disease burden. This is clearly evident as all the states with high HIV prevalence and high MTCT rates also recorded high concentration of key populations. That the incidence of TB/HIV co-infections is also on the increase is also a major concern. It is observed that that high rates of new infections could negate the progress being made in ART delivery and can pose a serious challenge to prevention, care and support. The HCT program has only recorded modest achievements with about 4 million people tested in a country of about 170,000 million people.

Studies have shown some correlation between prevalence and behavioral change. This may not be as clearly demonstrated in the reductions of infections in the general populations as it is with key populations. For example, in general population, there is higher level of knowledge of HIV/AIDS prevention, increased risk perception over the years, increased condom use and a declining HIV prevalence. Conversely, among the key populations, the opposite is case with the lower knowledge levels, low risk perception and increasing HIV prevalence. The high HIV prevalence among young people is unarguably related to multiple sexual partnerships, low condom use and poor access to HIV prevention education. In some states (mainly northern states) where the HIV prevalence has continued to remain low, religious and cultural influences which promote sexual chastity and low alcohol consumption have frequently been cited to explain this trend while in the southern states especially the oil bearing states with heightened economic activities, inter-city migration, transactional sex, multiple partnerships and low condom use are associated factors.

There are indications that the epidemic has slowed down as a result of the progress in ART delivery and the gamut of preventive interventions; for example, a review of the implementation of the FLHE program by the Federal Ministry of Education has shown that the many in-school

youths now demonstrate more responsible attitudes to their peers and a delayed sexual debut and HIV/AIDS prevalence among young people seems to be declining in locations where they are implemented. The position of the Federal Ministry of Health indicating that ART delivery is significantly reducing deaths rates across the country is corroborated in this analysis as states with high uptake of ART are also reporting lower death rates as per current Spectrum projections. It is also clearly evident that the coverage of preventive services has impacted on behavioral change in many ways. In the general population, states with sustained BCC activities for example Benue, FCT, Bayelsa are also beginning to record some declines in new cases of infections mostly as result of changes in attitudes and behavior. This seems to be the same scenarios with sex workers. As fewer MSMs and IDUs are being reached with services, it is also reflecting on the prevalence among this population.

It has been demonstrated also through Spectrum projections that current investments in the response has helped to avert new infections and deaths and more deaths and new infections will be averted in future depending on the scale and magnitude of the response. For ART, if baseline coverage was maintained, over 59,000 deaths would have been averted by 2013. However, the PMTCT program with coverage of 27%, and 20% for EID means that the unmet need is very high and this speaks volumes about the constraining factors some of which includes -funding, over-dependence on donor funds, inadequate state and local government funding support etc. The same goes for ART with program coverage of 41% based on the 2010 WHO guidelines. From this and other related studies, investing in PMTCT and ART can impact positively on the response.

The specific aspects of the impact analysis are further discussed below:

4.2 Epidemiological and Risky Behaviours Trends

In order to properly situate the action points and recommendations that will follow an attempt will be made in this section to discuss the findings from the analysis in the various thematic areas against the background of the national and universal access targets. The national targets for 2015 for PMTCT, HCT and ART including paediatric ART are all set at 80% while the universal targets is 100% for all component areas.

4.2.1 Understanding Nigeria's HIV/AIDS Epidemiological trend, sexual behaviour and other risk factors

The analysis has helped us to confirm and corroborate other national studies (IBBSS, ANC, NARHS etc) that Nigeria's epidemic is generalized but with somewhat mixed and concentrated epidemics occur across states and sub-populations. The declines in prevalence over the years are encouraging but the gains are not substantial as the burden is heavy because of our large population size and the high numbers of new infections.

4.2.2 Feminization of the epidemic

Feminization of the epidemic is another critical observation as the burdens of the epidemic-HIV/AIDS, HIV/TB co-infections and STIs are more on women. Regarding **Risk-behaviours and risk perception**, high risk behaviours are still predominant especially among young people and women and knowledge of HIV/AIDS prevention methods continue to be low. Risk perception and knowledge is increasing but not yet and acceptable level as large numbers of young people have continued to indulge in high risk-behaviours and are at risks of HIV/AIDS infections. Large numbers of young people continue to have sex with non-marital partners without condom. Generally condom use is increasing but not at an appreciable level and socio-cultural barriers,

myths and misconceptions continued to impede condom programming efforts. More females than males have sex before age 15 without the use of condoms and sex workers use more condoms especially with their clients.

4.2.3 HIV Prevalence among key populations

HIV Prevalence among key populations has continued to be high though knowledge is increasing but not yet at an acceptable level. States with high HIV prevalence of HIV/AIDS also have high Key Population density. There is an increasing interest in HIV prevention in this setting but the scale of interventions and investment does not reflect the magnitude of the problem. Considering **mode of Transmission**, low-risk heterosexual sex, casual sex, and anal sex accounts for 60% of all infections and large numbers of new infections continue to pose a challenge to current national efforts prevention.

Research question:

To what extent can we explain the trends in epidemiological data (prevalence, incidence, mortality and morbidity) in relation to coverage of HIV/AIDS interventions? To what extent has available strategic information and epidemiological data shaped program direction and efforts at the national and state levels?

In the analyses, we attempted also to provide some understanding about the extent to which available epidemiological data has informed the coverage of HIV/AIDS interventions at the national and states levels. Using the six states with the highest HIV/AIDS burdens as an example, we observed that across all the states, the coverage of HIV/AIDS interventions did not seem to correlate with the HIV/AIDS burden and other epidemiological data. Take Rivers State for example, the HIV/AIDS prevalence ranged from 5.3% (2005) to 7.3% (2008) and 6% in 2010. New infections rose from 11,230 in 2012 to 116,780 in 2013 with 112,239 PLHWAs (2012) and 115,578 (2013). As of 2012, the number eligible for ART was 34,671 and 45,397 in 2013 but the number served was 9,632 with a 78% unmet need. The number of ART sites was 12 in 2013 and 16 in 2013. For HCT, 320 sites were set up in 2012 and 365 in 2013; 59,000 were tested in 2012 and 63,000 in 2013. There were 250 PMTCT sites in 2012 and 289 in 2013. Out of 21,769 women eligible for PMTCT in 2011, only 769 women accessed PMTCT while 1,728 accessed PMTCT services out of 29,892 eligible women in 2013.

Similar patterns are replicated for Akwa Ibom, Abia, Benue, Lagos and Kano. Nationally, as observed earlier in the report, there are huge gaps in the national coverage data for HCT, PMTCT, and ART and in the number of sites thus illustrating the fact that the pace of program implementation and program coverage at all levels are not reflective of prevalence, incidence or mortality levels. As of 2013, the PMTCT coverage stood at 27% while ART was 41% for adult ART and 20% for paediatric ARV respectively. Only 4 million people were counselled and tested by 2013 from a general population of about 165 million. Though unmet needs are decreasing, it is still high on all component areas and by the current performance of the national response, neither the national targets nor universal targets will be met by 2015. This level of efforts therefore is not reflective of the trends in national HIV prevalence, incidence and mortality statistics.

It is therefore imperative to rethink the strategy, focus and direction of the response in terms of hitting the “bull’s eye”- redirecting resources and efforts where the most impact and results would be achieved in terms of reducing prevalence and incidence and in improving the quality of lives of PLWHA and those affected by the epidemic. The solutions must be revolutionary, evidenced-based, and pragmatic and aimed at making a difference.

Does there exist any correlation between the level of investment in HIV/AIDS and availability of epidemiological data across states?

Availability of data is a pre-requisite for effective program planning and implementation. It was observed that though some progress was being made in monitoring and evaluation in the response at the national and state level, there were still obvious gaps in data availability and utilization. For example in Rivers State, one of the 6+1 states, about N166.92 million was invested in the state response in 2012 and N169 million in 2013, the national M&E team rated data availability in the state for HCT, ART and PMTCT as "good". In Benue State where the state invested about N46.6 million in 2012 and N56 million, data availability was rated "fair" in 2012 and 2013 respectively. This might indicate that increased funding may reflect positively on availability of data. In Kano state, N238 million was expended on HIV/AIDS in 2012 and N221 million in 2013 respectively, but the rating on data availability was poor for HCT, fair for ART and poor for PMTCT. In this case, it does not seem that the increased funding impacted on availability of data. For example, Abia state also supports this assertion; it expended N779.89 million in 2012 and N602.10 million in 2013 yet it was adjudged fair in data availability.

With an expenditure level of USD 501 million in 2012 and USD577million in 2013, the national level data availability is adjudged fair as of 2013:- ART, 62.3%, PMTCT, 60.4% and HCT, 56.4%. Though it was beyond the scope of this study to ascertain in very strict terms the extent of correlation, what is clearly evident is that monitoring and evaluation should not only be fully integrated in the response, but be well-funded, staffed and prioritized. This is shown in the table below.

	Level of Investment (Million NGN)		Level of Epidemiological Data Availability*		
State	2012	2013	HCT	ART	PMTCT
Rivers	166.92	169	Good	Good	Good
Kano	238	221	Poor	Fair	Poor
Benue	46.6	56	Fair	Fair	Fair
Abia	799.89 (2011)	602.10 (2012)	Fair	Fair	Fair

*0%-39% =Poor; 40%-69% = Fair; 70%-100% = Good

Table 8: Level of Investment Vs Level of Epidemiological Data Availability: Source: NACA, 2014

4.3 Funding Gaps

What are the gaps in data, financial and human resources and program implementation to address as we scale up the response?

HIV/AIDS funding continue to decline in the country, and the funding gap will continue to widen. This is due both to external and internal factors that mark the funding landscape. Obviously, the main funding source of HIV expenditure is international source, mostly bilateral and multilateral agencies and this has remained like that since the commencement of the muti-sectoral response. In the past few years, the international funding source for HIV/AIDS funding has declined, due to impact of the global economic meltdown in donor countries. The proportion of HIV spending by international source declined steadily from about 17.0% in 2010 to 8.2% in 2012. This suggests the need to explore additional or expanding other sources of HIV/AIDS funding.
On the other hand, HIV funding by public source in Nigeria has been abysmally low and unstable. In 2011, for instance, public source of HIV funding was negative, suggesting lack of consistent

domestic commitment to HIV funding, and dependency on international funding source. Government at all levels needs to commit more to HIV funding, and PRCP is one of such opportunities for increasing HIV/AIDS funding.

HIV expenditure by private funding source also has been very low but presents potential opportunity to increase HIV expenditure by private funding source. This review indicates that HIV expenditure by private funding source has been increasing, though at very slow rate. There is need to incentivize private funding source for HIV expenditure.

Equity in HIV programs funding has to be ensured across programmatic areas. While some programmatic areas have received considerable focus, others have been given little attention. Treatment and care, program management and human resources accounts for more than 85% of HIV expenditure. Whereas expenditure on prevention and research activities has been increasing, expenditure on treatment and care is declining. Main beneficiaries of HIV expenditure are PLHIV and non-targeted interventions. The larger proportion of public fund is spent on non-targeted interventions, but expenditure on key population is low and no expenditure in some years on specific accessible population. Expenditure on general population fluctuates from year to year, and at low rate. The strategy of comprehensive response should be implemented across all programmatic areas, and among all beneficiaries. However, particular attention should be focused on ensuring that states with the highest burden receive the highest financial support from internal and external sources.

4.4 Impacts Analysis

Objective 4: To estimate where possible the number of lives saved and infections averted up to 2013, and under three different future scenarios (status quo, scale up in 6 states and in 12+1 states). This will be based on three different scale-up scenarios: scale up at current level; scale up to 80% of national targets; and 100% scale.

Research Question: To what extent has the national HIV/AIDS response impacted on the communities in terms of lives saved and infections averted?

In this section, an attempt will be made to respond in part to objective 4, based on the above research question. However, in the succeeding chapter, number of lives saved and infections averted in the scenarios will be addressed.

4.4.1 Deaths Averted by ART

In terms of impact analysis, the result indicates that if baseline coverage is maintained, deaths averted by ART peaked in 2013 to over 59,000 and declined to about 28,000 by 2030. With the target of 80% by 2020, deaths averted by ART peaked to over 157, 000, and declined to about 33,000 in 2030. With the target of 100% by 2020, deaths averted by ART peaked to about 209,000 in 2020, and declined to almost 100,000 in 2030.

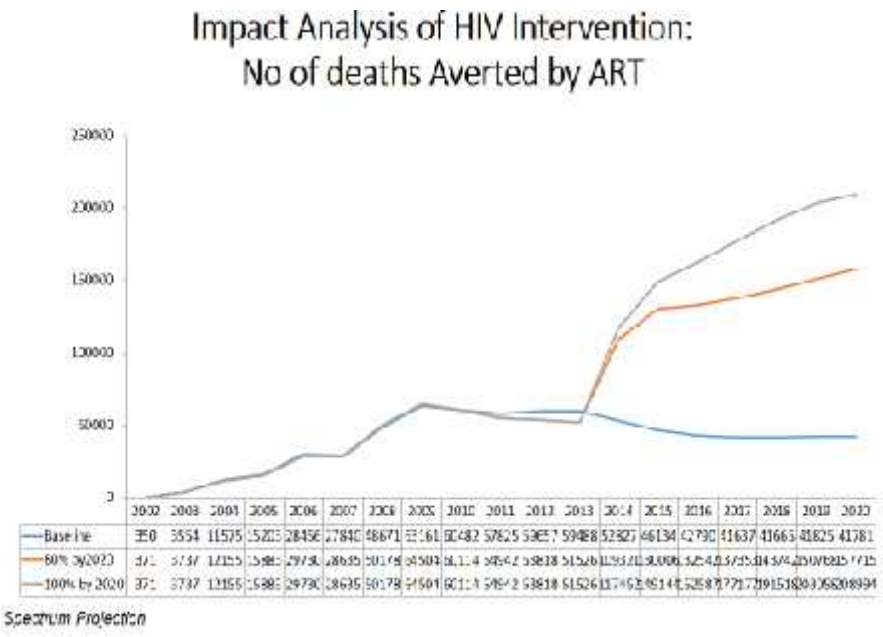


Figure 71: Impact Analysis of HIV Intervention: No of death Averted by ART, Source: Spectrum Outputs, 2014

4.4.2 New Infections Averted by ART

If baseline coverage is maintained number of new infections is about 222,000 by 2013, and declines to about 43,000 in 2030. Based on target of 80% by 2030, number of new infection in 2013 is about 248,000, and declines to about 47,700 in 2030. Based on target of 100% in 2030, number of new infection is about 248,000 in 2013, and decline to about 47,300 in 2030.

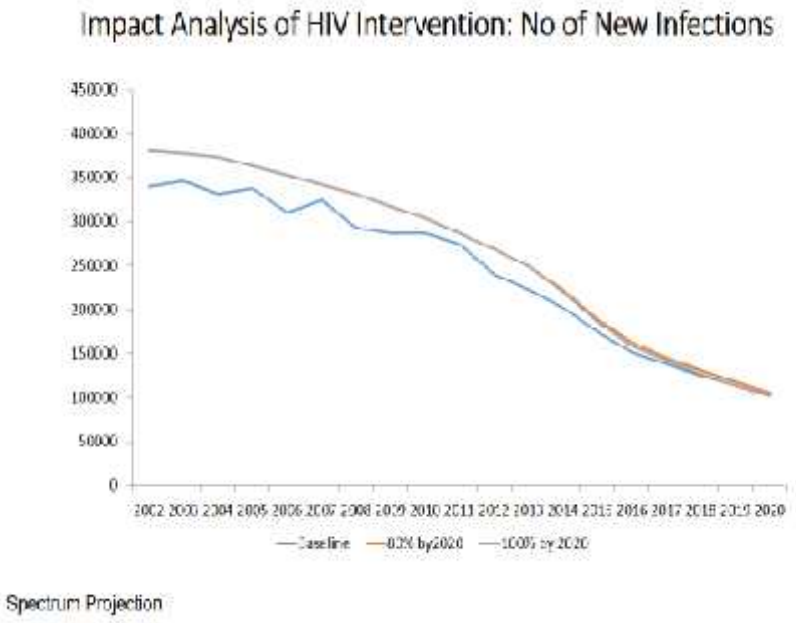


Figure 72: Impact Analysis of HIV Intervention: No of New of New Infection Source: Spectrum Outputs, 2014

On the impact projection of number of new deaths averted by ART (0-4), this peaked in 2014 to 963, and declines to 128 in 2030, if baseline is maintained. This may be so as number of new

infections declines to about 43,000 in 2030. On the other hand, the target of 80% by 2030 suggests that number of deaths averted by ART (0-4), is 2,251 in 2014, and increases to 2,541 in 2030. Similarly with target of 100% by 2030, number of deaths averted by ART (0-4) is 2,383 in 2014, and increases to 8,371 in 2030.

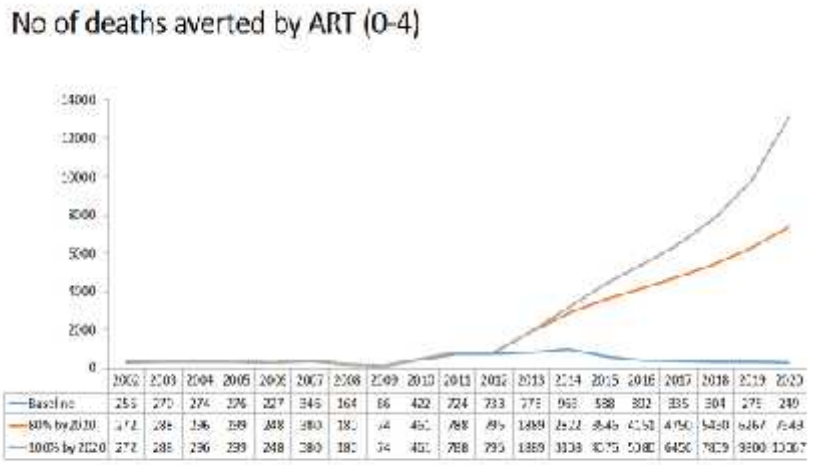


Figure 73: No of death averted by ART (0-4) Source: Spectrum Outputs, 2014

4.4.3 New Infections Averted by PMTCT

Number of infections averted by PMTCT is about 10,800 in 2013, and increases to about 12,300 in 2030, if baseline is maintained. With target of 80% by 2030, number of infections averted by PMTCT is about 11,800 in 2013, and increases to about 20,200 in 2030. If the target of 100% by 2030 is considered, infections averted by PMTCT is also about 11,800 in 2013, and increases to about 25,500 in 2030.

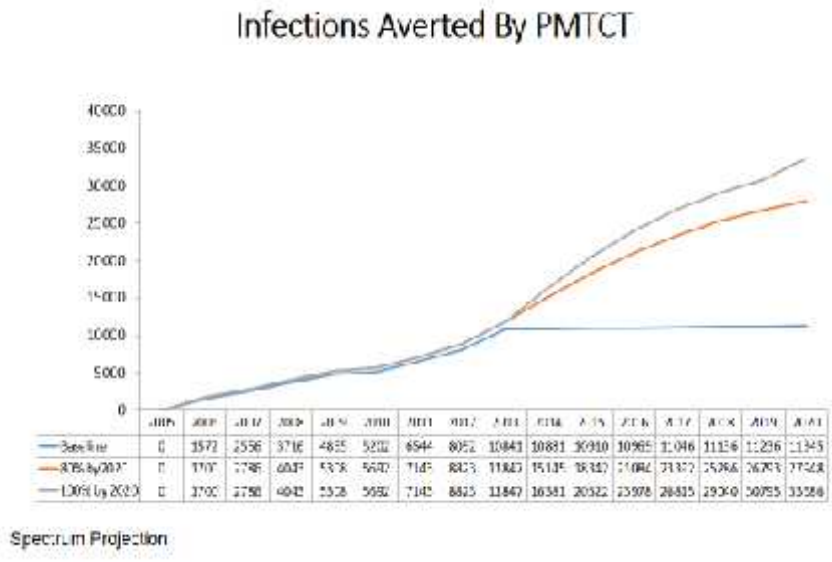


Figure 74: Infections Averted by PMTCT Source: Spectrum Outputs, 2014

4.4.4 Life Years Gained from ART and PMTCT

On the impact analysis of life years gained by ART and PMTCT, value for the National target in 2015 is 841,295 and 2030 projections is 2,239,318. For Universal Access, value at 2015 is 722,979, and 2030 projection is 2,966,578. With baseline value: 596,925 at 2013, value at 2020 is 1,610,465.

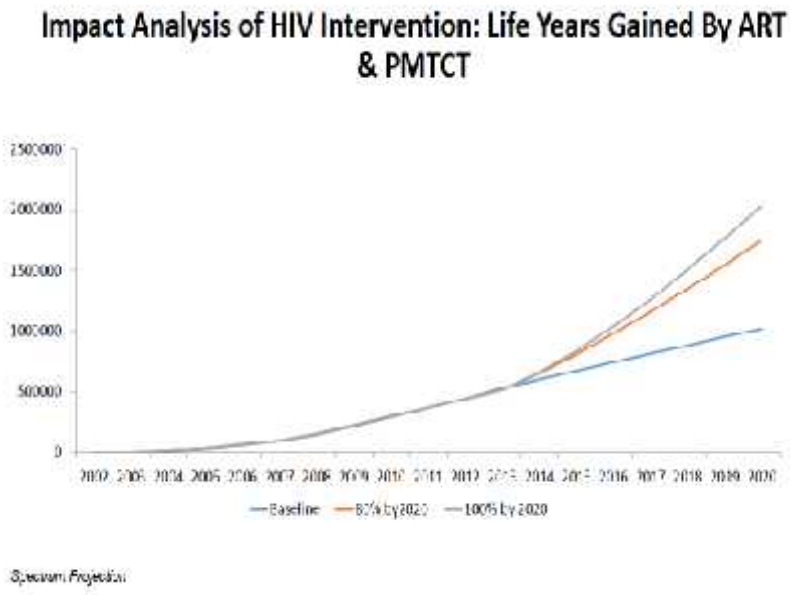


Figure 75: Impact Analysis of HIV Intervention Life: Life Years Gained By ART Source: Spectrum Outputs, 2014

SECTION FIVE: MODELING FUTURE SCENARIOS

In this section, the estimated impact of HIV/AIDS interventions according to suggested scenarios is discussed:

- Scenario 1: maintaining the status quo until 2020;
- Scenario 2, scaling up interventions to achieve 80% reach by 2020;
- Scenario 3, scaling up to achieve 100% by 2020.

Based on prevalence rate and disease burden, an attempt is made to explain the expected impact of prioritizing and focusing on these scenarios: 6 states, 12+1 states, 19+1 states and 20+1 states. First, as a background to this, let's examine the projected future impacts based on Spectrum analysis.

5.1 Projected future Impacts based on Spectrum

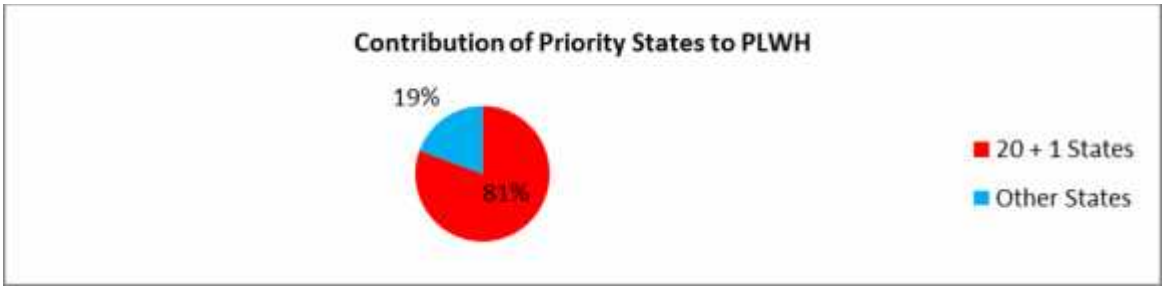
With the target of 80% by 2020, deaths averted by ART peaked to over 157, 000, and declined to about 33,000 in 2030. With the target of 100% by 2020, deaths averted by ART peaked to about 209,000 in 2020, and declined to almost 100,000 in 2030. Number of infections averted by PMTCT is about 10,800 in 2013, and increases to about 12,300 in 2030, if baseline is maintained. With target of 80% by 2030, number of infections averted by PMTCT is about 11,800 in 2013, and increases to about 20,200 in 2030. If the target of 100% by 2030 is considered, infections averted by PMTCT is also about 11,800 in 2013, and increases to about 25,500 in 2030. Regarding new infections, if baseline coverage is maintained number of new infections is about 222,000 by 2013, and declines to about 43,000 in 2030. Based on target of 80% by 2030, number of new infection in 2013 is about 248,000, and declines to about 47,700 in 2030. Based on target of 100% in 2030, number of new infection is about 248,000 in 2013, and decline to about 47,300 in 2030.

Rationale for prioritizing states:

- Prioritizing programmatic focus
- Short falls in funding
- Allocation of scarce resources
- Ultimately reduce disease burden through cost effective programmatic approach

5.2 Need to focus on priority states

The figure below shows that 21 states (20+1) contributed 81% of the national HIV burden while 20 (19+1) states contributed 81% of the HIV new infections in the country. This shows that by intensifying interventions in these states, the burden and incidence of HIV will be averted to a great extent.



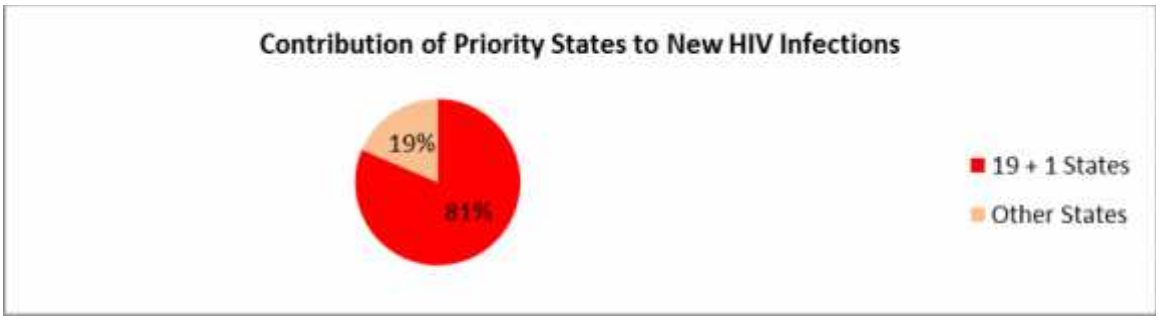


Figure 76: Contribution of Priority States to PLWH and New HIV Infection

Further analysis was also done on top six states in terms of new HIV infections and burden. The 6 states were responsible for 41% of HIV burden and 42% new HIV infections annually. This further depicted that with further limited resources; focusing on these 6 states will avert or reduce up to 41% of the disease burden and new HIV infections. Also, the 12+1 states were responsible for 65.9% of the new HIV infections and 63.4% of the HIV burden. Based on the above analysis, to have value for money it would be prudent to focus on the identified states.

Below is a table showing the list of Nigeria's priority states using HIV burden and annual new HIV infections.

Table 8: List of the Priority states

S/N	STATES	Category
1	KADUNA	**6 states**
2	AKWA IBOM	
3	BENUE	
4	LAGOS	
5	OYO	
6	KANO	
7	RIVERS	**12+1 states**
8	SOKOTO	
9	TARABA	
10	NASARAWA	
11	FCT ABUJA	
12	IMO	
13	CROSS RIVER	
14	PLATEAU	**20+1 states**
15	NIGER	
16	ADAMAWA	

17	BORNO	
18	ABIA	
19	JIGAWA	
20	OGUN	
21	BAYELSA	

5.3 Impact Scenarios

The impact scenario looks at 3 scenarios i.e maintaining status quo, realistic and ambitious scenario. In each of the scenarios, the 6 prioritize states, 12+1 states and 20+1 states.

Scenario 1:
Maintaining status quo for current HIV intervention (ART, PMTCT coverage)

Assumptions:

- ART eligibility criteria is WHO clinical stage of 3 and 4 and CD4 count of 350.
- PMTCT prophylaxis is option B.
- Maintaining status quo.

Scenario 2: Moderate

Assumptions:

- An ART eligibility criteria is WHO clinical stage of 3 and 4 and CD4 count of 350.
- PMTCT prophylaxis is option B.
- Adult ART coverage: 80% Male, 90% female.
- Pediatric ART: 60%.
- Co-trimoxazole (CTX): 60%.
- PMTCT coverage (option B: 80%).

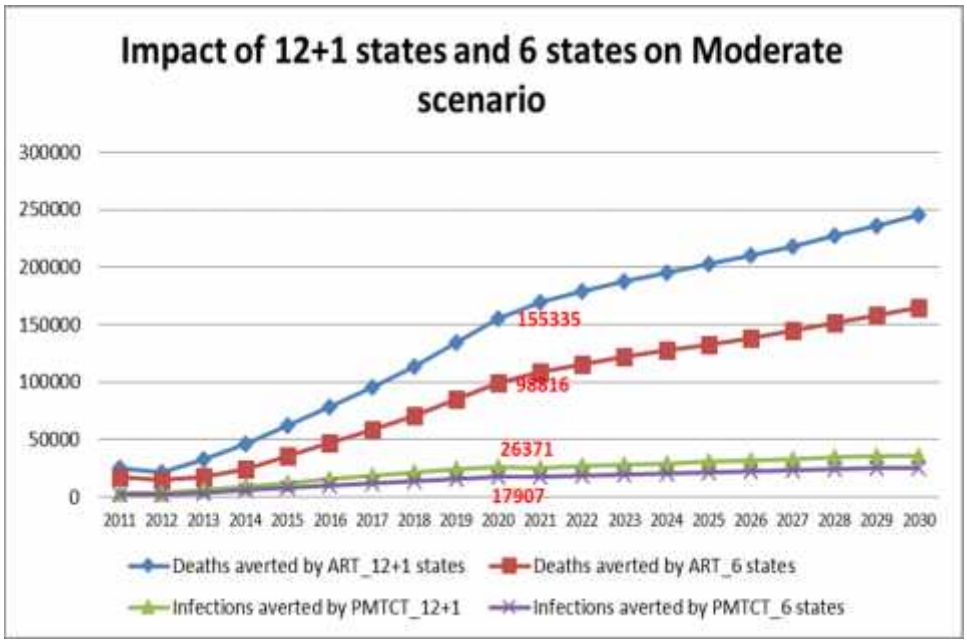


Figure 77: Impact of 12+1 States and 6 states on Moderate Scenario

The above graphs shows that based on the realistic scenario which is attaining universal access of 80% on key intervention areas, the country will avert **155,335** deaths by ART and **26,371** new infections by PMTCT in the 12+1 states by 2020. The 6 states will avert **98,816** deaths by ART and **17,907** new infections by PMTCT, in the same year.

Scenario 3: Ambitious

Assumptions:

- ART eligibility criteria is WHO clinical stage of 3 and 4 and CD4 count of 350.
- PMTCT prophylaxis is option B.
- ART, PMTCT and CTX: 100%.

SECTION SIX: MONITORING AND EVALUATION

Objective 6: To assess the quality of data systems and availability of data for impact assessment.

Analytical Question: What are the gaps in data as we scale up the response?

6.1 Overview of Existing Data Systems

In this section, the overview of the existing data systems for the national response is presented, the various data collection methods including surveys, data availability and quality and the various data sources and gaps.

Monitoring and Evaluation (M&E) is a key component of the multi-sectoral response to HIV/AIDS in Nigeria**.** Initially it was done through HIV sentinel surveillance of pregnant women accessing antenatal services in hospitals and clinics in line with global health standards from the World Health Organization. Currently, Nigeria combines routine data collection with periodic surveys to monitor the HIV epidemic and national response.

The push for a multi-sectoral response to the HIV epidemic led to the development of the Nigeria National Response Information Management System (NNRIMS) in 2004. NNRIMS currently provides a robust, standardized and unified monitoring and evaluation framework. The purpose of NNRIMS is to track progress in the implementation of the national HIV/AIDS response and use feedback information to improve policies, programs and service delivery in line with the principle of 'three ones'.

Monitoring and Evaluation is of vital importance to the successful implementation of programs since systematic M&E tracks what is being done and if the interventions being undertaken are making a difference. Establishment of an M&E system for HIV/AIDS was critical. Continuous assessment is necessary, given that new interventions are constantly being proposed. Efforts must be made to identify interventions that are more effective to make them more central in the national response. To effectively fulfill its mandate of coordinating the national response to HIV/AIDS, NACA and stakeholders need to understand the scope and effect of HIV interventions in Nigeria.

6.2 Data Collation Methods and Surveys

6.2.1 ANC Sentinel surveillance

The HIV sentinel survey has been conducted amongst antenatal clinic attendees since 1991. The targeted population for the 2010 survey was all pregnant women who were attending antenatal clinics for the first time for a confirmed pregnancy. This target population was different from those of the previous surveys where the pregnant women sampled were aged 15-49 years old. Pregnant women constitute the most practical group for this survey as they are sexually active, easily defined and accessible, and are receiving care, which requires routine blood drawn for syphilis testing. Pregnant women are also general representatives of the sexually active population.

6.2.2 Integrated Bio-Behavioral Surveillance Surveys

The behavioural surveillance survey determines and monitors the knowledge, attitudes and behaviour associated with HIV and STI infections among the general population and selected groups of interest like the Female Sex Workers (FSW), Men who have sex with Men (MSM), Injecting Drug Users (IDU), Transport Workers (TW), members of the Nigerian Armed Forces and members of the Nigeria Police. It was conducted in nine selected states in Nigeria. The first integrated bio-behavioural surveillance survey was conducted in 2007 in recognition of the need for continuous monitoring of HIV among populations with higher risk behaviors.

6.2.3 Key population Size Estimates

The Local Epidemic Appraisal was conducted in Nigeria, in 2013. The main purpose of the exercise in urban areas was to determine the identity of those that are most at risk of HIV transmission, the size of the populations concerned and the places where they can be found.
This includes both most at risk populations, including female sex workers (FSWs), injecting drug users (IDU) and high risk men who have sex with men (MSM), along with others in the general population that are seeking casual sexual partners. In rural areas the appraisals were designed to provide an insight into risk behaviours and sexual networking that occurred in villages and small towns. The 'program intelligence' emerging from the appraisals provided essential evidence upon which strategic HIV prevention programs can be based. The breadth of coverage of the appraisals and their reach down to the local level were particularly relevant for Nigeria's mixed and heterogeneous epidemic as they provide physical maps of urban 'hot spots' for high risk activities and insights into sexual behaviours and levels of risk at the rural level.

The Methodology comprised three major components:

a) **MAPPING:** to obtain information about the geographic locations of where 'most at risk populations' congregate.
b) **VENUE PROFILING:** to identify venue and locales in urban areas where men and women from general population go to meet new sexual partners.
c) **RURAL APPRAISALS AND POLLING BOOTH SURVEYS:** Used among the rural general population to obtain information about geographic areas in which to focus HIV prevention programs

6.2.4 Population based surveys

The National HIV/AIDS and Reproductive Health Survey NARHS obtained HIV prevalence estimates information on risk factors related to HIV infection at the national, zonal and state levels. Knowledge of the prevalence will inform the design, implementation and evaluation of the national response to the HIV & AIDS epidemic in Nigeria. In addition, the survey provided information on the situation of reproductive and sexual health in Nigeria, the variety of factors that influence reproductive and sexual health, and data regarding the impact of on-going family planning behaviour change interventions, as well as gave insights into existing gaps that may require attention. It has been conducted in 2007, 2010 and 2012. The 2012 NARHS Plus comprised two components: Behavioural survey and HIV Testing.

The National Demography Health survey(NDHS) is to provide up-to-date information on fertility levels; nuptiality; sexual activity; fertility preferences; awareness and use of family planning methods; breastfeeding practices; nutritional status of mothers and young children; early childhood mortality and maternal mortality; maternal and child health; and awareness and behaviour regarding HIV/AIDS and other sexually transmitted infections. It has been conducted in 1990, 1999, 2003, 2008 and 2013 surveys and provides updated estimates of basic demographic and health indicators

6.2.5 Routine Programmatic Data

Routine data sources provide data that are collected on a continuous basis from 2004, such as information that clinics collect on the patients utilizing their services. Although these data are collected continuously with patient encounters, processing, aggregation and reporting on the data usually takes place on a monthly basis.

Data collection from routine sources is useful because it provides information on a timely basis compared to non-routine sources. Since it is available more frequently, routine data can be used effectively to detect and correct problems in service delivery. However, it can be difficult to obtain accurate estimates of catchment areas or target populations through this method, and the quality of the data may be poor because of inaccurate record keeping or incomplete reporting.

6.2.6 AIDS Spending Assessment

The funding of HIV and AIDS programs in Nigeria, is categorized into three main sources: public, external (international) and organized private sources. In 2009 NACA conducted its first National AIDS Spending Assessment (NASA) which constituted of 2007 and 2008 HIV and AIDS funding activities, whose objective is to track the allocation of HIV and AIDS funds, from their origin down to the end point of service delivery, among the different financing sources (public, private or external) and among the different providers and beneficiaries (target groups). The same assessment was carried out in 2011 which covered the period of 2009 and 2010. The key issue addressed by this NASA study was what was actually disbursed and spent in each component of the multi-sectoral HIV and AIDS response and the allocation of AIDS spending is in relation to the objectives and targets of the National HIV/AIDS Strategic framework and Plan

6.3 Data Availability and Quality

The table below describes the data availability and overall quality, with link to the respective reports for most data sources. Most of the data are rated 'adequate' or 'good'. The difference in methods used and data elements collected limited the comparability; even data were collected in the same sites. The quality of data was reviewed again based on the following elements; completeness, timeliness, accuracy, and categorized into good, adequate and inadequate:

- **Completeness**
  - Good: cover 27 or more states. This is in accordance with the current grading system used in the national response.
  - Adequate: covers a state in each geopolitical zone (3 or more).
  - Inadequate: Does not cover states in each zone.

- **Timeliness**
  - Good: data become available within a few months.
  - Adequate: data becomes available within a year.
  - Inadequate: data becomes available a year after the completion of field work.

- **Accuracy**
  - Good: probability or quasi-probability sampling methods used.
  - Adequate: convenience sampling used.
  - Inadequate: no sampling method mentioned.

- Against each data source, when two or more elements are rated 'good' , it is rated 'good'; when two or more are rated 'adequate' it is rated as 'adequate'; otherwise, it is rated 'inadequate'.

Data Type	Data Elements	Data Source	Years Available	Groups Covered	Geographic Coverage	Dissagregation	Quality
Prevalence	Biological	ANC	1991, 1993,1996,1999,2001, 2003,2005,2008,2010	ANC attendees	36+1 states	Age, Sex, State, Rural and Urban	Good
	Behavioral/Biological	NARHS	2003,2005, 2007, 2012	General Population	36+1 States	Age, Sex, State, Rural and Urban	Good
Behaviour Surveillance studies	Behavioral	IBBSS	2007,2010	General Population	9+1 States	Age, Sex, State, Rural and Urban	Inadequate
		NDHS	1990,1999,2003 2008, 2013	General Population		Age, Sex, Rural and Urban	Good
Key Population Size Estimates	Behavioural/Mapping	Epidemic Appraisal	2013	Key population	26+1 States	Age, Sex, Location	Adequate
Programmatic Data	Biological (PMTCT)	Health Sector data	2005, 2006, 2007, 2008, 2009, 2010. 2011,2012,2013		36+1 States	Age, Sex, location	Good
		DHIS	2012, 2013		36+1 States	Age, Sex, Location	Good
	Biological (ART)	Health Sector data, DHIS	2005, 2006, 2007, 2008, 2009, 2010. 2011,2012,2013		36+1 States	Age, Sex, Location	Good
		DHIS	2012,2013		36+1 States	Age, Sex, Location	Good
	Biological (HCT)	Health Sector data,	2005, 2006, 2007, 2008, 2009, 2010. 2011,2012,2013		36+1 States	Age, Sex, Location	Good
		DHIS	2012, 2013			Age, Sex, Location	Good
	Biological/Behavioural data	Non-Health Sector Data	2007,2010,2011,2012,2013		36+1 States	Age, Sex, Location	Fair
AIDS Spending	Sectorial	NASA	2008.2010		National + Few states	Sector	Inadequate

6.4 Data Source Gaps

Data Source Gaps identified include:

1. Routine surveys are not carried out as regularly as is required (e.g. the ANC survey, IBBSS are both overdue) the current number of states sampled for IBBSS is inadequate

2. Primary Data set to do secondary analysis is not readily available e.g. IBBSS, NDHS, NARHS.

3. The routine monitoring systems are generally weak and are not functional, to most part. This weakness applies to both general population as well as key populations

4. Certain Impact indicators- Survival /Cohort outputs are only generated by spectrum.

5. The data on GIS Mapping of sites including service delivery (i.e. Geo referencing and Demography) is outdated. It also does not cover facilities from the Private sector providing HIV/AIDS services.

6. There are no qualitative studies on reasons for patterns seen in both the National and the State Reports. There is limited Social science research on the 'why's' of the HIV Data

7. Majority of the AIDS spending is classified as non –targeted interventions, as such little is known on what specifically the expenditure is on.

8. The KAP (Knowledge Attitude and Practice) reports have not been conducted by all the states.

9. Inadequate technical Capacity for M&E at National and States levels (particularly in the areas of Cohort Analysis and GIS Mapping)

Data Sources	Current Status	Gaps	Priorities
ANC Survey	Conducted biennially, the last survey was conducted in 2010,	There are no incidence studies included in the survey.	Incidence studies should be included in the protocol of this survey. Also a strengthened routine monitoring system of Health sector (especially the PMTCT MIS) can also validate the ANC survey.
IBBSS Survey	Conducted every five years. The last survey was conducted in 2010.	The IBBSS is not conducted in all the states thus substituting zonal data for the states or using estimates may not provide a good representation of the states, Primary Data set to do secondary analysis is not readily available e.g. IBBSS, NDHS, NARHS	Scaling up the number of states in the IBBSS. Strengthening the routine monitoring of the MARPS program implementation.
NARHS PLUS	Conducted every five years, the last survey was conducted in 2012.	Primary Data set to do secondary analysis is not readily available e.g. IBBSS, NDHS, NARHS	Improved collaboration with primary responsible institutions to ensure that all data needs are met
NDHS	Conducted every five years, the last survey conducted in 2013(preliminary findings)	Primary Data set to do secondary analysis is not readily available e.g. IBBSS, NDHS, NARHS	Improved collaboration with primary responsible institutions to ensure that all data needs are met
NASA	It is a biennial study.	This assessment is done retrospectively. The assigning of expenditure to non-targeted is clumsy.	AIDS spending Data should be routinely. The classification in terms of thematic areas should be reviewed
ART Cohort Analysis	Reports for PEPFAR supported sites	It has not been conducted at the nationwide. Reports currently used are a representation of PEPFAR supported sites	Technical assistance and capacity building required both at national and state level
Health Sector data Validation reports	It is a Bi-annual activity. 2013 data validation was conducted and reports disseminated	Although Data from the 36+1 states were validated, the absence of the National team in some states stalled the early finalization of sub-national and National health sector data validation	Data validation could be done quarterly at state levels. The participation of the National team in all state level validation is a priority
Non Health Sector Data Validation Reports	It is a Bi-annual activity. 2013 data validation was conducted and reports disseminated	Although Data from the 36+1 states were validated, the absence of the National team in some states stalled the early finalization of sub-	Data validation could be done quarterly at state levels. The participation of the National team in all state level validation is a priority

		national and National non- health sector data validation	
Mapping of health facilities providing HIV/AIDS services	Mapping for only GF supported facilities 2012; The Mapping was conducted in 2010 by NASCP.	The current Mapping reports has only GF supported sites represented; and the technical capacity at the National levels is weak to conduct the activity. The current Mapping reports are outdated and require an update. It also doesn't cover the private facilities providing HIV/AIDS data.	Conduct Geo-reference Mapping of all sites providing HIV/AIDS services, including demography and reach, including private facilities providing HIV/AIDS services.
Social Science Research. (Ethnographic studies)	It hasn't been conducted at the National Level.	The research conducted did not answer the 'why's of the HIV epidemiology' and the HIV Data	Social Science Research to determine the why's of the epidemic and the HIV data to understand its implications.
Human Resources for M and E	There are some levels of M&E HR capacity building at National levels but it continues to decline towards the state levels.	There is an inadequacy of HR for M &E in both number of personnel and technical capacity.	There is an urgent need for HR technical Capacity building (Training, mentoring and supportive supervision) on key aspects of M & E. see priority table below.

Table 10: Evaluation and Assessment of Data Sources

6.5 Prioritizing Capacity Gaps

The table below highlights key priority intervention areas on M&E system HR technical capacities:

Capacity Gaps	Level	Priority	Timeline
GIS mapping, geo referencing	NACA, NASCP	Very High	
Strengthening DHIS Roll out and Functionality (Health sector and community programs)	NACA, DPRS, State Levels	Very High	
Cohort Analysis/Survival analysis	NACA, NASCP, State, LGA	Very high	
Social Science Research	NACA, NASCP, State	Very high	
NNRIMS data collection and Reporting tools	Sub national level, facility	Very high	
KAP studies	NACA, NASCP,	Very high	

Table 11: Priority M&E Capacity Gaps

SECTION SEVEN: RECOMMENDATIONS AND CONCLUSION

7.1 Recommendations to Improve Management for impact

In addition to assessing progress and impact, a program review aims to provide a priority set of a few recommendations to improve the program. These are just suggestions for the country policy process, each based on evidence from the review. They are part of a wider set of recommendations, but aim to capture the priority actions based on the evidence collected.
The overall aim of these recommendations is to focus the HIV/TB program more closely on impact, by identifying priorities programmatically to support the high coverage, intensity and returns on interventions.

The recommendations fall into three areas of geographic and program focus, prevention and key population transmission, and linkages and funding landscape. They provide a national framework, however priorities will depend on state context. Therefore an important recommendation is to follow this work with state profiles and investment cases, to further support prioritization and ownership of state level responses.

Nigeria is at an important turning point in its response. It has initiated a wide range of activities in treatment, prevention and care. However new infections continue to outnumber new people on treatment, and behaviours and infections levels are heterogeneous and dynamic. The following seven recommendations provide a major opportunity to focus the response squarely on the epidemic, and achieve impact in the coming 3-5 years. They are summarized in the table and then explained in more detail in the text.

	Evidence	Priority Suggestions (1-2 actions per area)
1.	**Geographic Focus** – 6 states cover 41% burden and 51% of new infections. 12+1 states with greater than 4% burden each, cover 60% of overall burden. 5 states with increasing HIV prevalence. Focus should be coordinated with TB programming.	1. **Focus Partner financing** – Tier 1 of 6 states (Kaduna, Akwa-Ibom, Benue, Lagos, Oyo, Kano) for high coverage, impact, and to cover 50% incidence 2. **National funding** – Tier 2 of 12+1 states, in addition consider Oyo, Sokoto, Taraba, and assess state with increasing HIV 3. **Increased state funding** needed elsewhere to cover full epidemic
2.	**Treatment coverage** - Major Progress in ART (639,000), but medium coverage (46% of eligible < 350) and significant unmet need. Limited data on adherence and mortality outcomes	1. **Treatment as Prevention**: focus ARV\TB treatment to key states for high coverage and prevention, including community demand and outreach 2. **Strategic use of VCT/ARVs in key groups**: HIV+ pregnant women at first point of contact, HIV/TB, FSWs, clients and their communities
3.	**High transmission women to children** – limited impact of PMTCT (Mother to child transmission 25%). Lack of data in this area, reliance on modeling, and programmatic review needed to generate demand	1. **Reprogram to effectively leverage ANC platform**. > 61% women have one point of contact with ANC - one stop primary, maternal and child health including early infant diagnosis 2. **First point of contact has testing capacity**: first care provider gives testing and treatment, including links to private and community care
4.	**High numbers of new infections** (220,000 p.a. greater than new people on treatment). High risk behaviours among men, and issues of condom use among FSW declining by type of partner	1. **Gender dynamics** – engage with high male risk behaviours, intensified and continued prevention and BCC, target bridges and link, girls, youth 2. **FSW condom use** – improved programming for condom use with all partners and their communities, including BCC among partners
5.	**Key Population Transmission**– MARPS 1/3rd of infections (FSW and clients 12.5%, MSM 10%, IDU 9%)	1. **MARPS interventions programming and policy focus**, with involvement of key populations 2. **Careful extrapolation of size estimates** to revise national figures, using benchmarks, existing data and state comparisons
6.	**Funding Landscape** – major financial gaps, need to mobilise national and state level funding and incentivise states with higher expenditure, data gap	1. **Implement state profiles**, analytical capacity and investment cases 2. **Innovative state funding**: results based funding and integration with incentives for MDG fund and HSS
7.	**Key linkages**: HIV/TB, Gender, Youth, Private Sector, Operations Research and link national and state program reviews every two years	1. **Priority operations research**: PMTCT linkages, Gender dynamics, ARV cohorts, MARPS, state analytical capacity & innovative state financing, oversample surveys to provide estimates for key states

Table 12: Priority suggestions based on the evidence

Recommendation 1 - Geographic Focus According to Three Tiers

Extensive assessment of epidemiological data and modeling suggested that 51% of new infections and 41% of the disease burden is in 6 states. High coverage in these states is therefore critical to impact the epidemic, while keeping the response national.

This also allows a clearer division of focus between partner, national program and state level roles. The states will be responsible for local responses, supported by national and partner efforts in a focused set of states. These states are where high coverage of key interventions is

essential rapidly to help cut the rate of new infections. This focus should also be closely coordinated with TB programming to ensure synergies between HIV and TB.

The evidence suggests three tiers to the response are required namely:

(1) 6 key states which account for 41% of the burden and 51% of new infections

(2) In 12+1 states which account for 60% of the disease burden and

(3) Nationally in all states, mobilizing state level resources and ownership.

The priority recommendation is as follows:

- To focus the HIV response and roles of partners according to three geographic tiers by state

- Focus partner financing on tier 1 of 6 states (Kaduna, Akwa-Ibom, Benue, Lagos, Oyo, Kano) to achieve rapid, high coverage, impact to cover and reduce 50% of new infections

- National funding to focus on tier 2 of 12+1 state. In addition, to consider Oyo, Sokoto, Taraba, and assess states identified with increasing HIV on a regular basis

- Increase state level funding needed elsewhere to cover the full epidemic

Recommendation 2 – Treatment coverage and links to Prevention

There has been major progress in ART with the number of people on treatment now reaching 639,000 with over 140,000 new patients enrolled in the last year. However the coverage remains medium at 46% of those eligible (based on CD4 count less than 350) and the evidence shows significant unmet need. There is also limited data available on adherence and mortality outcomes.

The review and evidence does highlight that there is an opportunity to significantly strengthen the benefits and returns from treatment. The priority suggestions are twofold;

- **First** to focus ARV/TB treatment on key states to achieve high coverage more rapidly, link to prevention and demand, and support greater prevention benefits of the program.

- **Secondly**, to strategically use treatment and VCT in key groups to reach higher, earlier coverage, again to better link to prevention benefits.

The priority recommendation is as follows:

- To rapidly improve treatment coverage strategically in key states and populations to strengthen links of treatment and prevention.

- Treatment as prevention – focus ARV/TB treatment to achieve high and early coverage in key states and to leverage benefits with prevention, including links to community outreach and demand.

- Strategic use of VCT and ARVs in key population groups to ensure early, higher coverage – to ensure the prioritized high coverage of treatment in key population groups for

prevention, HIV+ pregnant women at first point of contact, HIV/TB, FSWs, clients and their communities

Recommendation 3 – Reprogram PMTCT to more effectively leverage the ANC platform

The evidence from the review suggests the limited coverage and impact of PMTCT, with high mother to child transmission of 25%. There is a lack of data in this programming area, with a reliance on modeling. However it is clear that coverage remains low, testing capacity limited, and the ANC platform is largely a missed opportunity (with 61% of women having one point of contact with ANC).

The priority recommendation is as follows:

- To reprogram PMTCT to more effectively leverage the ANC platform, with a first point of contact for pregnant women that provides testing and where possible treatment.

- Reprogram to effectively leverage the ANC platform to provide one stop primary, maternal and child health, including early infant diagnosis.

- To ensure that the first point of ANC contact has testing capacity – the first care provider gives testing and where possible treatment, including links to private and community care

Recommendation 4 - Prioritize prevention to address priority key drivers of new infections

The evidence from the review highlighted a high level of new infections of 220,00 p.a. (and greater than the annual new number of people receiving treatment). In addition some significant areas of risk behaviours were identified, which stressed the need for more intensified and focused prevention.

Of particular concern were gender dynamics and risk behaviours among men behind new infections, and declining use of condoms by partner among FSW (in addition to relatively high HIV prevalence of 20% + in these groups).

The priority recommendation is as follows:

- Intensify prevention to tackle the high level of new infections to address gender dynamics and condom use among transactional sex.

- Gender dynamics – address high male risk behaviours and links to girls and youth with intensified and continued prevention and BCC.

- FSW condom use – improved programming for condom use with all partners and their communities. This should include BCC among partners and assessing the changing dynamics of transactional sex

Recommendation 5 – Prevention to address key population transmission and improve size estimates in this area

The evidence from the review together with modeling suggested that one third of new infections were among most at risk populations (FSW and clients 12.5%, MSM 10% and IDUs 9% of new infections). The evidence suggests that key populations should be a key focus of the HIV response going forward.

The priority recommendation is as follows:

- A strengthened programming and policy focus on key population interventions – including involvement of key populations and improved size estimates.

- Strengthen MARPS intervention programming and policy focus, with involvement of key populations.

- Careful extrapolation of size estimates – to revise national figures, using benchmarks, existing data and state comparisons

Recommendation 6 – Funding landscape and Incentivizing state responses

The review found that despite increased funding there are major financial gaps in the program to achieve national impact. In addition, there is a stabilization of external partner funding. Therefore there is an urgent need to mobilize national and state level funding.

The evidence on budget expenditure suggested there was also a need to incentivize states which mobilize and spend HIV spending effectively.

The priority recommendation is as follows:

- Focus on mobilizing and incentivizing national and state level funding, including supporting state level investment returns.

- Implement state profiles, including state level analytical capacity and investment cases.

- Introduce innovative state funding, results based funding to incentivize states which prioritize and spend HIV funds, including linkages with MDG fund and HSS spending.

Recommendation 7 – Strengthen key linkages for the HIV program

The review identified some key linkages, which would strengthen the impact of the HIV program, including HIV/TB, Gender, Youth and the Private Sector. These areas often require some priority operations research, and should be assessed as part of a platform of regular national and state program reviews.

The priority recommendation is as follows:

- Strengthen key linkages to improve the impact of the HIV program.

- Strengthen key program linkages in the areas of HIV/TB, Gender, Youth and the Private Sector, which should be reviewed in national and state level program reviews every two years.

- Generate priority operations research to strengthen programming on PMTCT linkages, ARV cohorts to measure adherence outcomes, Gender dynamics, MARPS, and strengthen state analytical capacity with oversampling of surveys to provide estimates for key states

The above recommendations are just suggestions for the country policy process covering programmatic and geographic focus, prevention and key population transmission, and linkages and funding landscape

References

1. Behavioural Surveillance Survey (BSS), Federal Ministry of Health, Abuja, Nigeria, 2005
2. Benue State HIV/AIDS Epidemiology Response and Policy Synthesis, BenSACA, 2009
3. Global AIDS Response Progress Report (GARPR), United Nations Joint Program on AIDS, UNAIDS; National Agency for the Control of AIDS, Abuja, Nigeria, 2012, 2014
4. HIV/STI Integrated Biological and Behavioural Surveillance Survey, (IBBSS); Federal Ministry of Health, Abuja, Nigeria;), 2007, 2010,
5. HIV/AIDS Program Sustainability Analysis Tool (HAPSAT), United States Agency for International Development, National Agency for the Control of AIDS, Abuja, Nigeria, 2009
6. Joint Annual Report (JAR), National Agency for the Control of AIDS, Abuja, Nigeria; 2011
7. Local HIV Epidemic Appraisal in Nigeria Report, National Agency for the Control of AIDS, Abuja, Nigeria, 2013
8. Mid Term Review of the NSP 2010-2015, National Agency for the Control of AIDS, 2013
9. Modes of HIV Transmission in Nigeria (MOT), National Agency for the Control of AIDS, Abuja, Nigeria, 2010.
10. National HIV Sero-Prevalence Sentinel Survey (ANC), Federal Ministry of Health, Abuja, Nigeria, 2008, 2010
11. National Validated Service Data Report, National Agency for the Control of AIDS, Abuja, Nigeria; 2011, 2012, 2013
12. National HIV/AIDS and Reproductive Health Survey Plus (NARHS+),), Federal Ministry of Health, Abuja, Nigeria, 2012
13. National AIDS Spending Assessment (NASA) Report, National Agency for the Control of AIDS, Abuja, Nigeria; 2010, 2012
14. Nigeria Demographic and Health Survey, (NDHS); Federal Ministry of Health, Abuja, Nigeria; 1990, 1999,2003,2007, 2008;
15. National Policy on HIV/AIDS, Federal Government of Nigeria, Abuja, 2009
16. President's Comprehensive Response Plan 2014-2015 (PCRP), Federal Government of Nigeria, Abuja, 2013
17. United Nations General Assembly Special Session (UNGASS) progress Report , United Nations Joint Program on AIDS, UNAIDS; National Agency for the Control of AIDS, Abuja, Nigeria, 2010
18. National HIV/AIDS Strategic Plan (NSP); 2010 – 2015, National Agency for the Control of AIDS, Abuja, Nigeria
19. National HIV/AIDS Monitoring and Evaluation Operational plan (NOP II); 2011 – 2016; National Agency for the Control of AIDS, Abuja, Nigeria
20. National Prevention Plan 2013 – 2015, National Agency for the Control of AIDS, Abuja, Nigeria
21. Obioha Emeka; Exploring the Cultural Context of HIV/AIDS Pandemic in a Nigerian Community: Implication for Culture Specific Prevention Programmes, Taraba State, Nigeria, 2008
22. Samuels F, Fiona C, Akinrimisi B: HIV vulnerabilities and the potential for strengthening social protection responses in the context of HIV in Nigeria; Overseas Development Institute, London, 2012
23. Spectrum Estimate and Projection Package; United Nations Joint Program on AIDS, UNAIDS; National Agency for the Control of AIDS, Abuja, Nigeria, 2014

APPENDIX

Appendix 1: Data Sources Table

Data type	Data source	Years available	Groups covered	Geographic coverage	Disaggregation
Prevalence	ANC surveillance	1991, 1993, 1996, 1999, 2001, 2003, 2005, 2008, 2010	ANC attendees	36+1 States	Age, state, urban/rural
	NARHS	2003,2005, 2007, 2012	General population	36+1 States	Age, state, Sex urban/rural
Behaviours	IBBSS	2007, 2010	IDU, FSW, MSM, AF, Police and Transport Workers	9+ 1 States	Age, state, Sex urban/rural
	NDHS	1990,1999,2003 2008, 2013	General Population	36+1 States	Age, Sex, Rural and Urban
Size estimates	Epidemic Appraisal	2013	MARPs	26+1 States	Age, Sex, Location
Programmatic: - ART PMTCT HCT	Routine Program Data	2005,2006,2007, 2008, 2009, 2010. 2011,2012,2013	General Population	36+1	Age, Sex, Location
	DHIS	2012, 2013	General Population	36+1	Age, Sex, Location
Behavioural/ Biological	Non Health Sector Data	2010,2011,2012 ,2013	General Population	36+1	Age, Sex, Location
Financial	NASA	2010, 2012	General Population	36+1	Sector
	HAPSAT	2009	General Population	36+1	Sector
Incidence	Spectrum	all	General Population	36+1	Age, state, Sex, urban/rural
Mortality	Spectrum	all	General Population	36+1	Age, state, Sex, urban/rural
Others	GARPR/UNGASS	2010, 2012, 2014	General Population	36+1	Age, state, Sex, urban/rural
	Journals/Reports	Various	Refer to Reference Section		

Appendix 2: Checklists

National HIV/AIDS Epidemiology and Impact Analysis (NHEIA Checklists

1. Checklist for assessment of financial investment on HIV/AIDS (for states without SASA)

	1996	1998	2000	2002	2004	2006	2008	2010	2012	2013
Total State (Overall) Budget										
Total State HIV Budget										
Total cost of annual work plans										
State government fund spent on HIV/AIDS(across different sectors)										
MOH										
MOE										
MOI										
MOWA										
MOA										
MOY										
MOLGA										
Funds spent on HIV/AIDS by UN agencies										
World Bank										
UNFPA										
WHO										
UNDP										
UNICEF										
Others (specify)										
Funds spent by Bilateral Agencies on HIV/AIDS										
USAID										
DFID										
Others (Specify)										
Funds spent by IPs on HIV/AIDS (List and specify amount)										
FHI										
PPFN										
SFH										
Others (specify)										
Funds spent by Private sector – individuals/ organisations on HIV/AIDS (list and specify amount)										
Others sources of fund spent on HIV/AIDS (specify)										

2: Checklist for assessment of Policy Environment

Document	Available	National	Adapted	Year Developed
Policy				
National HIV/AIDS policy				
National Strategic Plan/Framework				
State Strategic Plan				
Operational Plan				
M& E Plan				
Prevention Plan				

HIV/AIDS Workplace Policy				
Others (specify)				
Guidelines				
PMTCT				
HCT				
ART				
Care & Support				
RH-HIV Integration				
STI				
Management of OIs				
TB-HIV co-infection				
Others				
Legislations/Bills				
Anti-stigma & Discrimination				
Gender				
Others (specify)				

3. Checklist for Assessment of Institutional Capacity

		No meetings held/year							
	Yes/No	2000	2002	2004	2006	2008	2010	2012	2013
SACA Board									
Partners Forum									
M&E TWG									
Prevention TWG									
Others (specify)									
LACAs (nos of LGAs/year)									

4. Checklist for assessment of Human resource capacity

	2000	2002	2004	2006	2008	2010	2012	2013
No of HCWs trained on any component of HIV/AIDS services and Providing HIV/AIDS services								
Service providers trained on HCT								
Service providers providing HCT services								
Service providers trained on ART								
Service providers providing ART services								
Service providers trained on PMTCT								
Service providers providing PMTCT services								
Service providers trained on HIV prevention								
Service providers providing HIV prevention services								

Service providers trained on RH-HIV integration								
Service providers providing integrated RH-HIV services								
Service providers trained on STI syndromic management								
Service providers providing STI syndromic management services								
Service providers trained on TB/HIV co-infection management								
Service providers providing TB/HIV co-infection management services								

5. Checklist for Assessment of Gender Mainstreaming

	2000	2002	2004	2006	2008	2010	2012	2013
No (proportion) of women in SACA implementing HIV program								
No (proportion) of women in LACA implementing HIV program								
Gender representation in the TWG (M:F)								
M&E TWG								
Prevention TWG								
Others (specify)								

6. Checklist for Assessment of Data Management, Transmission and Use

	1996	1998	2000	2002	2004	2006	2008	2010	2012	2013
Data management and transmission										
Number of state-led M&E meetings per year.										
Number of times/year data was transmitted to State database from SACA										
Timeliness and Completeness of data collected from LGA to the state database										

(Specify no of LGAs)										
Use of data										
Production of factsheets										
Production of Newsletter										
Production of Policy briefs										
Advocacy										
Program Reviews										
Program planning and Implementation										
Policy and decision making										
Others (specify)										

Appendix 3: Data Extraction Tool

National HIV/AIDS Epidemiology and Impact Analysis (NHEIA) Data Extraction Tool

s/n	Indicator	Sources	Categories	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012	2013
1.	Prevalence															
2.	HIV Prevalence in the general population	ANC sentinel Survey														
3.	HIV Prevalence disaggregated by age	ANC sentinel Survey	0-14													
			15-19:													
			20 – 24:													
			25 - 29													
			30 - 34													
			35 - 39													
			40 - 44													
			40 - 49													
			25 – 49:													
4.	HIV Prevalence disaggregated by sex		M:					[redacted]						[redacted]		
			F:													
5.	HIV Prevalence by urban and rural areas		U:													
			R:													
6.	HIV Prevalence disaggregated by age	NARHS Plus, Chapter 15	0-14													
			15-19:													
			20 – 24:													
			25 - 29													
			35 - 39													

			40 - 44														
			40-49														
			45 - 49														
			50 - 64														
7.	HIV Prevalence disaggregated by sex		M:														
			F:														
8.	HIV Prevalence by urban and rural areas		U:														
			R:														
9.	HIV Prevalence in MSM	BSS 2003, IBBSS, Chapter 3															
10.	HIV Prevalence in FSW		BBSW:														
			NBBSW:														
11.	HIV Prevalence in IDU																
12.	HIV Prevalence among Uniform Men		Police														
			Armed forces														
13.	Prevalence among transport workers																
14.	% of those self-report symptoms of STIs	NDHS, Chapter 13															
15.	Incidence of HIV/AIDS (New Infections)																
16.	No of new infections according to age group	To be model using MOT	0-4														
			5--9														
			10--14														
			15--19														
			20--24														
			25--29														
			30--34														

			35--39														
			40--44														
			45--49														
17.	No of new infections by sex		M:														
			F:														
18.	No of new infections (MSM)																
19.	No of new infections (FSW)		BBSW:														
			NBBSW:														
20.	No of new infections (IDU)																
21.	HIV Prevalence in IDU																
22.	HIV Prevalence among Uniform Men		Police														
			Armed forces														
23.	Prevalence among transport workers																
24.	Percentage of new infections in children born to HIV infected pregnant mothers	NNRIMS	M:														
			F:														
25.																	
26.	Mortality trends (Spetrum)																
27.	No of annual AIDS-related deaths																
28.	No of annual AIDS-related deaths by age		0-4														
			5--9														
			10--14														
			15-19:														

			20 – 24:														
			25--29														
			30--34														
			35--39														
			40--44														
			45--49														
29.	Percentage of HIV/AIDS death resulting from TB complications																
30.	Morbidity																
31.	TB/HIV co infection rate (No of Tb/HIV/No of HIV)	DHIS, TB Epi-Analysis Report															
32.	Percentage of HIV clients on 2nd line regimen by sex		M:														
			F:														
33.	Percentage of HIV clients on 2nd line regimen by age		0-14														
			15-19:														
			20 – 24:														
			25 – 49:														
34.	High Risk behaviour																
35.	Percentage of 15-19 year olds who have had sexual intercourse before the age of 15 years	NDHS preferred above NARHS							[redacted]						[redacted]		
36.	Percentage of 15-19 year olds who reported the use of a condom during their last		M:						[redacted]						[redacted]		
			F:														

	intercourse with non-marital sex partner																
37.	Percentage of 20-24 year olds who reported the use of a condom during their last intercourse with non-marital sex partner		M:														
			F:														
38.	Percentage of 25 year olds and older who reported the use of a condom during their last intercourse with non-marital sex partner		M:														
			F:														
39.	Percentage of 15-49 who have had sexual intercourse with more than one partner in the last 12 months		M:														
			F:														
40.	Percentage of 15–49 who have had sexual intercourse with more than one partner in the past 12 months and who report the use of a condom during their last intercourse		M:														
			F:														
41.	Percentage of 15-		M:														

	19 year olds who have had sexual intercourse with with more than one partner in the last 12 months		F:														
42.	Percentage of 20-24 year olds who have had sexual intercourse with with more than one partner in the last 12 months		M:														
			F:														
43.	Percentage of 25 year olds year olds who have had sexual intercourse with with more than one partner in the last 12 months		M:														
			F:														
44.	Percentage of males reporting the use of a condom the last time they had anal sex with a male partner	IBBSS															
45.	Percentage of female sex workers reporting the use of a condom with their last client																
46.																	
47.	Risk perception																

48.	Percentage of people aged 15-19 who correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission	NDHS, Chapter 13	M:														
			F:														
49.	Percentage of people aged 20-24 who correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission	NDHS, Chapter 13	M:														
			F:														
50.	Percentage of people aged 25-49 who correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission		M:														
			F:														
			M:														
51.	Percentage of	NARHS	M:														

	people aged 15-19 who perceive that they were at risk of HIV/AIDS	Chapter 5. Table 5.4	F:													
52.	Percentage of people aged 20-24 who perceive that they were at risk of HIV/AIDS		M:													
			F:													
53.	Percentage of people aged 25-49 who perceive that they were at risk of HIV/AIDS		25													
			F:													
54.		IBBSS														
55.	Percentage of MSM who correctly identified ways of preventing and rejected major misconceptions the sexual transmission of HIV															
56.	Percentage of FSW who correctly identified ways of preventing and rejected major misconceptions the sexual transmission of HIV		BBSW:													
			NBBSW:													

57.	Percentage of IDU who correctly identified ways of preventing and rejected major misconceptions the sexual transmission of HIV															
58.	Percentage expressing acceptance attitudes on all 4 NDHS stigma indicators *															
59.																
60.	Service delivery outlets (Program areas)															
61.	Number of outlets providing HCT services (counseling and testing)	Service data	Public													
			Private													
			NGOs													
62.	Number of facilities providing ART that use CD4 monitoring in line with national guidelines/policies		On site													
			Through referral													
63.	Number of outlets providing PMTCT services		Public													
			Private													
			NGOs													
64.	No of outlets providing youth friendly services		Stand alone													
			Integrated													

65.	No of facilities providing integrated HIV/AIDS and SRH services															
66.	Service coverage (thematic areas)															
67.	Total Number people on ART	NNRIMS	newly enrolled													
			ever started													
68.			Currently													
69.	Number people on ART by sex		M:													
70.			F:													
71.	Number people on ART by age		0-14													
72.			15+													
73.			15-19:													
74.			20 – 24:													
75.			25 – 49:													
76.	Percentage of pregnant women counseled, tested and received results		No tested													
77.			No attended ANC new													
78.			% Tested													
79.	Percentage of HIV positive pregnant women who received ART		No on ART													
80.			No HIV+ Pregnant Women													

81.	prophylaxis*		% HIV+ on ART														
82.	Number of counseled, tested and received results		0-14														
			15-19:														
			20 – 24:														
			25 – 49:														
83.	Number of counseled, tested and received results		M:														
			F:														
84.	Percentage of adults and children with HIV known to be on treatment 12 months after initiation of antiretroviral therapy**(all ages)		0-14														
			15-19:														
			20 – 24:														
			25 – 49:														
85.	Percentage of eligible adults and children currently receiving antiretroviral therapy*		M:														
			F:														
86.	Proportion of orphans provided with social services (Total no of orphans from Spectrum)		M														
			F:														
87.	No of persons enrolled for HIV Care(Pre-ART and ART) who were screened for TB		Pre-ART														
			ART														
88.	Percentage of HIV-		0-14 yrs														

	positive clients placed on INH (Pre-ART)		15+														
89.	Percentage of HIV-positive clients placed on INH (ART)		0-14 yrs														
			15+														
90.	Percentage of MSM reached with MPPI interventions																
91.	Percentage of FSW reached with MPPI interventions		BBSW:														
			NBBSW:														
92.	Percentage of IDU reached with MPPI interventions																
93.	Proportion of infants born to HIV positive mothers who are HIV positive																
94.	Proportion of clients who receive appropriate STI treatment	(NARHS)															
95.	HIV prevalence																
96.	HIV population (millions)																
97.	Need for ART by Age																
98.			0-4														
99.			5--9														
100.			10--14														

101.			15-19:													
102.			20 – 24:													
103.			25--29													
104.			30--34													
105.			35--39													
106.			40--44													
107.			45--49													
108.	Quality Adjusted Life Years (QALY)															
109.	PMTCT															
110.	Mother Needing PMTCT															
111.	mother Receiving PMTCT (In thousand)															
112.	PMTCT coverage															
113.	No of new child Infection due to MTCT															
114.	Treatment coverage for HIV+ pregnant women															
115.	Deaths Averted by ART by Age		0-4													
116.	Deaths Averted by ART by Sex		M													
117.			F													

118.	Infection Averted by PMTCT															
119.	life years gained by ART and PMTCT															
120.	Total number receiving ART															
121.	Total need for ART															
122.	Children needing ART															
123.	Children receiving ART (0-14)															
124.	ART summary (all Ages)															
125.	TB/HIV collaboration															
126.	TB incidence															
127.	TB mortality															
128.	total HIV/TB on ART															
129.	Total TB/HIV+ non on ART															
130.	No of Schools reached with FLHE															
131.	No of Out-of-School youths reached with interventions															
132.	No of youths reached with services in Youth Friendly Centres															
133.	Early Infant															

	diagnosis															
134.	Number of PLWHA recieving ART Adherence support															
135.	Orphans and Vulnerable Children (OVC)															