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

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National Agency for the Control of AIDS (NACA)

The Presidency

Investing in our future
The Global Fund
To Fight AIDS, Tuberculosis and Malaria

UNAIDS
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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

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Foreword

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Acknowledgment

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:

1. 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)
2. To identify and provide plausible explanations for the variations in geographic areas and communities with changing or static HIV prevalence or risk factors.
3. To examine the relationship between epidemiological data and programmatic interventions (prevention, diagnosis, treatment) including financing.
4. 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 5191 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 51000 in 2005 to 639,000 in 2013 and the number of ART sites is currently 820. However, unmet needs for ART has been decreasing from 69% in 2010 to 59% in 2013. Low adherence is one of the primary factor 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 5622 in 2013. Between 2010 and 2013, the total number of HIV positive pregnant women who received ARV prophylaxis for PMTCT rose from 26133 to 57871. 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 have 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 USD 87.5 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 1. Baseline 2. National targets (80%), and 3. 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 USD165M in 2014 to USD150M in 2020. Similarly, the cost of scaling up PMTCT services will decrease from 43m in 2014 to USD38 in 2020. Conversely, the cost of scaling up ART will increase from USD 2.2bn in 2014 to USD2.5bn 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: (1) 6 tier 1 states which account for 41% of the burden and 51% of new infections; (2) 12+1 states which account for 60% of the disease burden; and (3) Nationally in all states, 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 states. 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. Reprogramme PMTCT to more effectively leverage the ANC platform. This is to:
   - Reprogramme 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.
   - 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

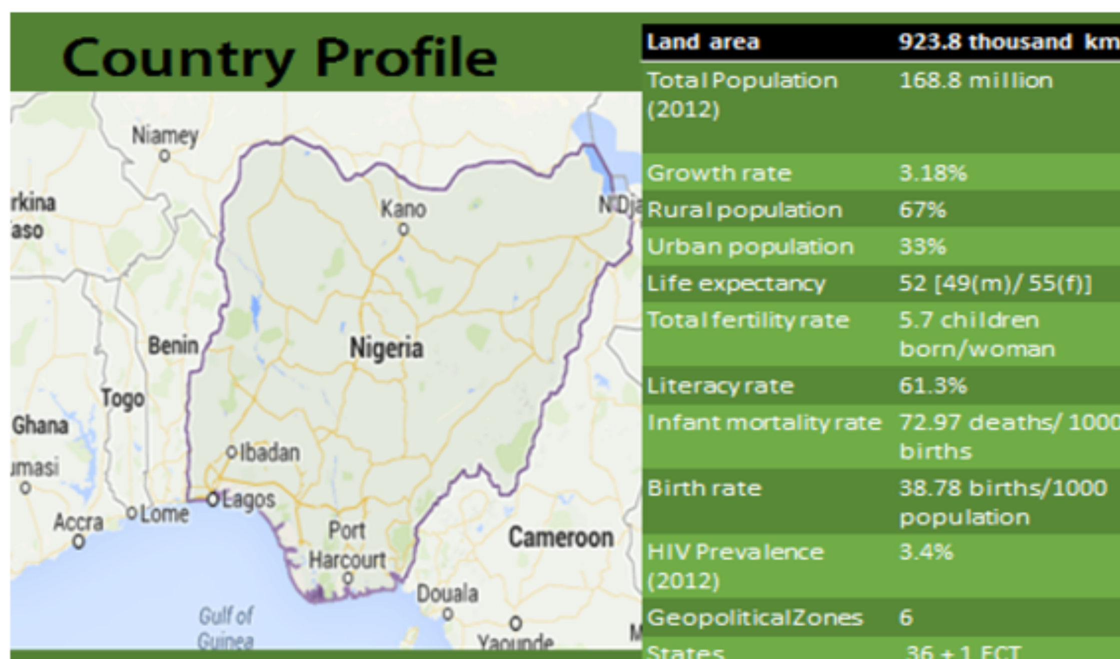
7. Strengthen key linkages for the HIV programme. This is to:
    - Strengthen key linkages to improve the impact of the HIV programme.
    - Strengthen key program linkages in the areas of HIV/TB, Gender, Youth and the Private Sector, which should be reviewed in national and state level program reviews 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

CHAPTER 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.



Land area	923.8 thousand km
Total Population (2012)	168.8 million
Growth rate	3.18%
Rural population	67%
Urban population	33%
Life expectancy	52 [49(m)/ 55(f)]
Total fertility rate	5.7 children born/woman
Literacy rate	61.3%
Infant mortality rate	72.97 deaths/ 1000 births
Birth rate	38.78 births/1000 population
HIV Prevalence (2012)	3.4%
Geopolitical Zones	6
States	36 + 1 FCT

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

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)
2. To identify and provide plausible explanations for the variations in geographic areas and communities with changing or static HIV prevalence or risk factors.
3. To examine the relationship between epidemiological data and programmatic interventions (prevention, care and support, treatment) including programmatic gaps and finance landscape.
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.
5. 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:

1. 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?
2. To what extent has available strategic information and epidemiological data shaped program direction and efforts at the national and state levels?
3. Does there exist any correlation between the level of investment in HIV/AIDS and available epidemiological data across states?
4. What are the gaps in data, financial and human resources and program implementation to address as we scale up the response?
5. To what extent has the national HIV/AIDS response impacted on the communities in terms of lives saved and infections averted.
6. What is the level of investment and efforts required to avert new infections and save lives over the next 7 years.

CHAPTER 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 involved 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:

1. Data extraction template
2. 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.
3. Spectrum tool

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