



# HIV PROGRAMMING IN ADOLESCENTS AND YOUNG PEOPLE IN NIGERIA:

AN INVESTMENT CASE  
2021-2025





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# Foreword

In 2018, the HIV prevalence among Adolescents and Young People (AYP) in Nigeria increased from 0.2% to 1.3% for adolescents 15-19 years. The HIV infection rates are higher and increasing in the population of AYP, with prevalence higher among Adolescent Girls and Young Women (AGYW) when compared to their male counterparts. Female adolescents 15-19-years-old have a HIV prevalence triple that of their male counterpart (0.3% vs. 0.1%) while females aged 20-24-year-old have a HIV prevalence more than four times that of their male counterpart (1.3% vs. 0.3%). Furthermore, the gender disparity in HIV prevalence was higher for AYP aged 20-24 when compared to other age groups.

The National Strategic Framework (NSF) prioritized strategic actions to address the HIV response needs of AYP, especially AGYW - who have a higher level of vulnerability to HIV infection due to a combination of biological, behavioural, socioeconomic, cultural and structural risk factors.

One of such strategic actions is to: "foster an enabling environment that facilitates access of AYP and other vulnerable populations to a combination of appropriate HIV prevention strategies". Lessons from AYP focused initiatives highlight the need for Nigeria to focus more attention in a strategic, cost-effective, evidence-informed and targeted way on AYP in the national HIV and AIDS response. Despite these initiatives, AYP are still trying to find their footing in the Nigeria HIV response as the evidence presented in this document shows.

This document presents an investment case for a strengthened HIV prevention, treatment, care and support programme for AYP in Nigeria for 2021-2025, towards achieving the 95-95-95 targets. It highlights the significant returns that can be achieved by strengthening investments in the delivery of high-impact HIV interventions, and reviews the current state of HIV control amongst AYP in Nigeria. It reflects on the successes achieved and the progress that can be made using evidence-based and high-impact interventions. It identifies the key bottlenecks that need to be addressed to achieve the desired goal.

Programmatic directions for this investment case are derived from the HIV National Strategic Framework, aligns with the overall goal of the National HIV Policy for Young People, and aims to contribute to the attainment of the AYP-related objectives through the design of a sustainable HIV response. It presents three scenarios for strategic interventions and focuses on the one that is most likely to yield the highest impact.



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# Acknowledgment

The development of this document was country-led, participatory and involved the rigorous analysis of data generated from the 2018 Nigeria AIDS Indicator and Impact Survey (NAIIS), the 2018 Nigeria Demographic and Health Survey (NDHS), the Multiple Cluster Indicator Survey (MICS) and programme reports from local and national-level interventions, as well as peer-reviewed publications.

It includes the HIV bottleneck analysis carried out by UNICEF/UNFPA in 2017, national policy documents, global policy agenda and programme reports for evidence on practices that work for HIV programming for AYP. Efforts were made to get evidence through resource mapping and expert feedback received at national consensus-building and consultative fora that took place throughout the period of the development of this document.

We acknowledge the contribution, dedication and support of the AYP subcommittee of the National Prevention Technical Working Group (NPTWG), State Agencies for the Control of AIDS (SACAs) and implementing partners, as well as AYP groups and CSOs for their commitment and inputs to the success of this document.

The National Agency for the Control of AIDS (NACA) wishes to acknowledge the contributions of the institutions (UNICEF/UNFPA) and individuals (Dr Victoria Isiramen, Dr Babatunde Adelekan, Dr Zubaida Abubakar, Prof Adesegun Fatusi and Dr Nkemdilim Ene) towards the documentation of the investment case for a strengthened HIV prevention, treatment, care and support programme for adolescent and young people in Nigeria for the next five years (2021-2025). Finally, the efforts of the Community Prevention division (Dr Funke Oki, Mrs Ezinne Okey – Uchendu, Kingsley Essomeonu, Hafsat Aboki and Tosin Ajiboye) are well- appreciated.



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# Executive Summary

In line with the global HIV and AIDS agenda, Nigeria set the goal of achieving the 90-90-90 target by 2020 in its National Strategic Framework on HIV and AIDS (2017-2021). The 90-90-90 target aims at ensuring that 90% of all people living with HIV know their HIV status, 90% of all people with diagnosed HIV infection receive sustained antiretroviral therapy, and 90% of all people receiving antiretroviral therapy have viral suppression. Available data indicates that Nigeria would not be able to meet this national goal or the more recently specified goal of 95-95-95 by 2030 except the national HIV response is considerably strengthened. One of the key areas needing priority attention is HIV programming for Adolescents and Young People (AYP): this group have hitherto not received adequate attention in the national HIV programming landscape despite their high level of vulnerability. Adolescent Girls and Young Women (AGYW), in particular, have greater HIV vulnerability due to biological, behavioural, socioeconomic, cultural, and structural factors.

This document presents an investment case for a strengthened and strategic HIV prevention, treatment, care and support programme for AYP in Nigeria for the 2020-2024 period towards achieving the 95-95-95 target. As a tool to influence decisions, this document, among others, highlights the significant returns that can be achieved by strengthening investments in the delivery of high-impact HIV interventions to AYP in Nigeria. Informed by evidence and the HIV epidemiologic dynamics in Nigeria, this investment case proposes a package of interventions that are grounded in the socio-ecological model. It has AGYW at its core while at the same time engages and addresses the HIV needs of young males and takes into consideration their sexual and social networks, families, and the social and cultural context in which the AYP exist and operate. The package considered among others, the differential HIV vulnerability levels among AYP and the needs of the key populations, as well as the geographies with the highest burden of HIV among AYP in Nigeria.

The proposed interventions entail a mix of demand generation, health services (differentiated package), health systems, and structural actions to be implemented using platforms that are relevant to and preferred by AYP. The interventions offer the best mechanism to reach them as appropriate. The platforms include schools (for school-based CSE and HIV education through the Family Life and HIV Education [FLHE]), community-based platforms (for example, for social and behavioural change interventions targeting AYP and their caregivers as well as community stakeholders), and health facilities (for targeting health workers and for biomedical-focused interventions). Overall, the proposed interventions are aimed towards reducing HIV incidence among AYP and thereby make a substantial contribution towards achieving the vision of zero new HIV infections in Nigeria by 2030. The immediate objectives are to (i) increase the level of comprehensive knowledge on HIV prevention amongst AYP from 43% for female AYP and 34% for male AYP in 2020 to 90% for both sexes by 2024; (ii) increase the uptake of male condoms in higher-risk sexual intercourse from 38% in AGYW and 62% among male AYP in 2020 to 80% in AGYW and 90% among male AYP by 2024; and (iii) increase in the proportion of AYP testing for HIV and receiving the result from 23% in 2020 to 50% by 2024.

The investment case presents these three implementation scenarios for 2020-2024 towards achieving the specified goal and objectives:

**Scenario 1:** Targeting all the 36 states and the Federal Capital Territory, with a comprehensive intervention package provided in the high incidence LGAs and basic intervention package in other LGAs: An estimated 74,463,657 AYP would be reached in 5 years at a total cost of \$4,727,551,059.13 and 100% of HIV burden addressed.

**Scenario 2:** Targeting 10 high burden states (Abia, Akwa Ibom, Anambra, Benue, Delta, Enugu, Imo, Lagos, Rivers and Taraba) with a comprehensive intervention package implemented in the high incidence LGAs and basic intervention package in other LGAs: An estimated 22,618,563 AYP would be reached in 5 years at a total cost of \$1,771,413,044.83 and 55.26% of HIV burden addressed.

**Scenario 3:** Provision of a comprehensive package of interventions in the high incidence LGAs – The 80 LGAs with HIV incidence of >0.25% and spread across 12 states): An estimated 22,618,563 AYP would be reached in 5 years at a total cost of \$964,729,233.26 and 10.61% of HIV burden addressed. This translates into a raw average cost of \$78.32 (N34,500)/Person.

Scenario 2 gives the highest return on investment since it requires only a little above one-third (37.50%) of the total funds needed to cover 36+1 states to address over 55% of the HIV burden. The 10 states that are included in this scenario represent the states with the highest incidence and prevalence rates and therefore the greatest risk. Beyond the state categorization (by prevalence profile), there was further specificity in the LGA allocation of intervention packages according to the level of risk to be mitigated. The articulation of intervention packages according to where the need is greatest, represents a more responsive and efficient utilization of available resources.

In conclusion, with an investment of \$1,771,413,044.83 over 5 years, Nigeria can reach an estimated 22,618,563 AYP to reduce the burden of HIV by 55.26%. This translates into a raw average cost of \$78.32 (N34,500)/Person. Lets do it!!!

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## Abbreviations and acronyms

<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>AIM</b>	AIDS Impact Model
<b>AGYW</b>	Adolescent Girls and Young Women
<b>ART</b>	Antiretroviral Therapy
<b>AYFHS</b>	Adolescent and Youth Friendly Services
<b>AYP</b>	Adolescent and Young People
<b>AYPLHIV</b>	Adolescent and Young people Living With HIV
<b>CSE</b>	Comprehensive Sexuality Education
<b>EFCM</b>	Early, Forced and Child Marriage
<b>FGM</b>	Female Genital Mutilation
<b>FLHE</b>	Family Life HIV & AIDS Education
<b>GHS</b>	General Household Survey
<b>HIV</b>	Human Immunodeficiency Virus
<b>HTS</b>	HIV Testing Services
<b>MICS</b>	Multiple Indicator Cluster Survey
<b>MIS</b>	Malaria Indicator Survey
<b>MPPI</b>	Minimum Prevention Package Intervention
<b>NACA</b>	National Agency for the Control of AIDS
<b>NAIIS</b>	Nigeria AIDS Indicator and Impact Survey
<b>NDHS</b>	Nigeria Demographic and Health Survey
<b>NSF</b>	National Strategic Framework
<b>PEPFAR</b>	United States President's Emergency Plan for AIDS Relief
<b>PEP</b>	Post-Exposure Prophylaxis
<b>PrEP</b>	Pre-Exposure Prophylaxis
<b>SBCC</b>	Social and Behavioural Change Communication
<b>SGBV</b>	Sexual and Gender-Based Violence
<b>SRH</b>	Sexual and Reproductive Health
<b>UNFPA</b>	United Nations Population Fund
<b>UNICEF</b>	United Nations Children's Fund
<b>WFS</b>	World Fertility Survey
<b>WHO</b>	World Health Organization
<b>YKP</b>	Young Key Populations

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# 1

## Background

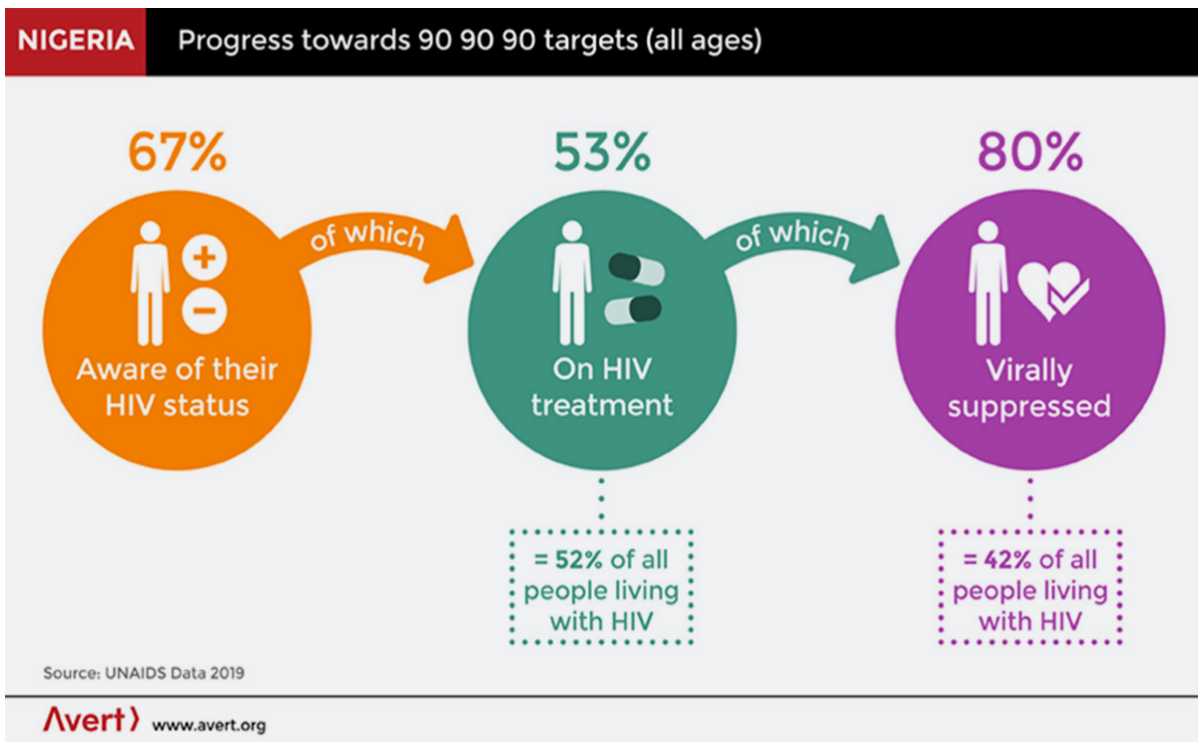


### Introduction

Human Immunodeficiency Virus (HIV) is a leading cause of global health challenge. The control of HIV infection and Acquired Immune Deficiency Syndrome (AIDS) is a national health and development priority for Nigeria. To this end, the Nigeria government endorsed the global fast-track strategy to end the AIDS epidemic by 2030 by ensuring that 90% of all people living with HIV know their HIV status, 90% of all people diagnosed with HIV infection receive sustained antiretroviral therapy, and 90% of all people receiving antiretroviral therapy have viral suppression by 2020<sup>1</sup>. This was tagged the 90-90-90 goal. A new goal for 95-95-95 has been set for 2030: 95% of people living with HIV knowing their HIV status; 95% of people who know their status on treatment; and 95% of people with suppressed viral loads by 2030.

Nigeria's National Strategic Framework on HIV and AIDS (2017-2021) aims at fast-tracking the national response towards ending AIDS in Nigeria by 2030 and achieving the 90-90-90 target within the five-year lifespan of the Framework<sup>2</sup>. Other national documents including the National Health Policy (2016-2025), the Integrated National Reproductive, Maternal, Child and Adolescent Health Strategy (2018), and the National Policy on the Health and Development of Adolescents and Young People (2020–2024), reflected this national goal of eliminating AIDS by 2030. For example, three of the priority agenda of the National Health Policy, is: "to provide universal access to comprehensive and quality HIV prevention, treatment, care and support services through a multi-sectoral approach; facilitate multi-sectoral interventions that will ensure an end to AIDS by 2030; and support effective measures that will ensure that 90% of all people living with HIV infection will know their status, 90% of all people diagnosed with HIV infection will receive sustained antiretroviral therapy, and 90% of all people receiving antiretroviral therapy will have viral suppression<sup>3</sup>.

Nigeria will need to strengthen current efforts to meet the 95-95-95 goal. By Mid - 2019 only 67% of the population of those living with HIV were aware of their HIV status, 53% of people living with HIV were on treatment, and 80% of those on treatment were virally suppressed (Figure 1)<sup>4</sup>.



**Figure 1: Nigeria's progress towards 90-90-90 targets for all ages.**

Source: AVERT, 2019

The National Strategic Framework (NSF) prioritized strategic actions to address the HIV response needs of Adolescents and Young People (AYP). AYP especially Adolescent Girls and Young Women (AGYW), have a higher level of vulnerability to HIV infection due to a combination of biological, behavioural, socioeconomic, cultural and structural risks factors<sup>5</sup>. Consequently, the HIV infection rates are higher and increasing in the population of AYP. The HIV prevalence is higher for AGYW when compared to their male counterparts: female adolescents 15-19-years-old have a HIV prevalence that triples that of their male counterpart (0.3% vs. 0.1%) while females aged 20-24-year-old have a HIV prevalence more than four times that of their male counterpart (1.3% vs. 0.3%).

One of the strategic interventions of the NSF to address the increased vulnerability of AYP to HIV infection is to: "foster an enabling environment that facilitates access of adolescents, young people and other vulnerable populations to a combination of appropriate HIV prevention strategies". The country also supports several global initiatives for AYP including the global "All In for adolescents" ("All In") launched in 2014 and the DREAMS (Determined, Resilient, Empowered, AIDS-Free, Mentored) programme launched in 2016 and implemented in East and Southern Africa. Lessons from these initiatives highlight the need for Nigeria to focus more attention – and in a strategic, cost-effective, evidence-informed and targeted way – on AYP in the national response to HIV and AIDS. Despite these good intentions, AYP still lag behind in the Nigeria HIV response as the evidence presented in subsequent sections of this document shows

## 1.2 Purpose of this document and overarching goal

This document presents an investment case for a strengthened HIV prevention, treatment, care and support programme for AYP in Nigeria for the next five years (2020-2024) towards achieving the 95-95-95 targets. This document, amongst others, highlights the significant returns that can be achieved by strengthening investments in the delivery of high-impact HIV interventions to AYP in Nigeria. The document reviews the current state of HIV control among AYP in Nigeria; the successes achieved and the progress that can be made using evidence-based and high-impact interventions; and identifies the key bottlenecks that need to be addressed to achieve the desired goals<sup>6</sup>. This investment case identifies and prioritises a mix of evidence-based interventions that would ensure maximum impact of available resources for the control of HIV among AYP in Nigeria; and the cost required for such a package of interventions. This document derives its programmatic directions from the NSF, aligns with the overall goal of Nigeria's National HIV Policy for Young People, and aims to contribute to the attainment of the AYP-related objectives through the design of a sustainable HIV response.

## 1.3 Process of developing the investment case

The development of this document was country-led, participatory and involved the following key steps:

- I. Rigorous analysis of data generated from the 2018 Nigeria AIDS Indicator and Impact Survey (NAIIS), the 2018 Nigeria Demographic and Health Survey (NDHS), the 2018 Multiple Indicator Cluster Survey (MICS) and programme reports from local and national-level interventions;
- II. Review of relevant grey and peer-reviewed publications, including the HIV bottleneck analysis carried out by the United Nations Children's Fund (UNICEF) and United Nations Population Fund (UNFPA) in 2017);
- III. Review of national policy documents, global policy agenda, programme reports, and peer-reviewed publications for evidence on practices that works for HIV programming for AYP;
- IV. Resource mapping; and,
- V. Expert feedback received at national consensus-building and consultative fora that took place throughout the period of the development of this document.

## 1.4 Structure of the document

The rest of the document is structured as follows:

- » Context of HIV among adolescent and young people
- » Rationale for investing in adolescents and young people in HIV control in Nigeria
- » Strategies and approaches for high-impact AYP programming
- » Measurement and monitoring of results
- » Costing of high impact interventions

# 2

## Context of HIV among Adolescent and Young People in Nigeria



The Joint United Nations Programme on HIV/AIDS (UNAIDS) noted that: "what matters for programming is how HIV is transmitted, who is newly acquiring HIV and when, and where and by whom HIV is being transmitted"<sup>7</sup>. This section presents an overview of the HIV dynamics and response regarding AYP in Nigeria.

### 2.1 The epidemiological context

#### 2.1.1. HIV sero-prevalence and burden among AYP in Nigeria

In 2018, the HIV prevalence among AYP in Nigeria increased from 0.2% for adolescents (15-19 years) to 1.3% (95% CI: 1.1-1.5), for females 20-24 years (Figure 2)<sup>8</sup>. Among adolescents (age 15-19), the HIV prevalence for females tripled that of their male counterparts (0.3% vs. 0.1%); and that of females aged 20-24 years was more than four times their male counterparts (1.3% vs 0.3%). Furthermore, the gender disparity in HIV prevalence was higher for AYP aged 20-24 when compared to other age groups.

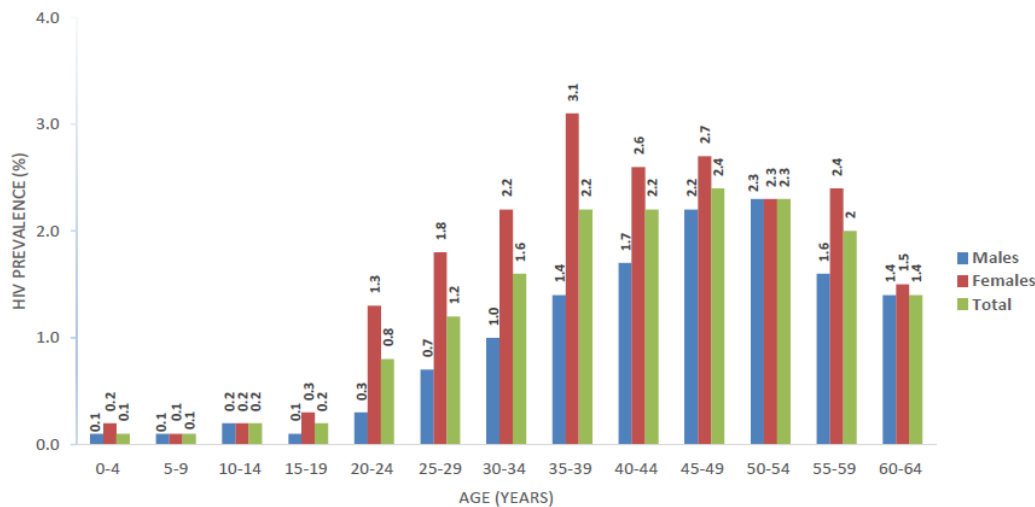
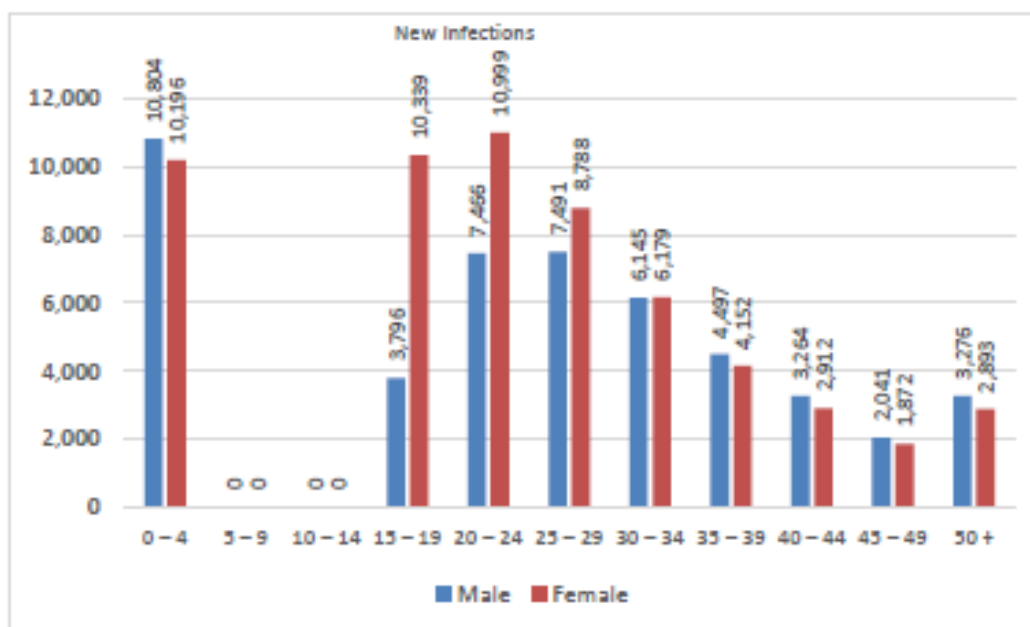


Figure 2: HIV sero-prevalence in Nigeria, 2018

Source: NAHS 2018 National Summary Sheet, Nov 2019

Of all age groups, AGYW have the highest number of new HIV infections in Nigeria, with over 32,000 estimated new infections in 2019<sup>9</sup> (Figure 3). This figure considerably exceeded that of males: new HIV infections among adolescent females (15-19 years) was almost thrice that of males, while the number among young females (20-24 years) was about one and a half times that of young males.



**Figure 3: Number of New Infections Disaggregated by Age in 2019**

Source: NACA, 2020

Overall, females constitute about 56% of the 249,293 AYP estimated to be living with HIV in Nigeria in the first quarter of 2020<sup>10</sup> (Table 1). This data suggests that factors that drive gender inequality may play a role as social determinants of HIV infection among AYP. Other reports have also linked other gender-related harmful practices, underpinned by low social status of women, particularly sexual and gender-based violence with higher HIV burden among AGYW. Other social determinants such as lower educational level and less healthcare access also contribute to higher HIV burden among females<sup>11</sup>.

**Table 1: HIV burden among AYP in Nigeria**

Age-group	Male	Female	Total
10-14	31,753	30,123	61,875
15-19	30,947	38,423	69,370
20-24	46,382	71,667	118,048
<b>Total</b>	<b>109,082</b>	<b>140,213</b>	<b>249,293</b>

Source: 2020 Spectrum Estimates

Epidemiologic analysis has identified 10 states with high HIV burden among AYP in Nigeria namely: Abia, Akwa Ibom, Anambra, Benue, Delta, Enugu, Imo, Lagos, Rivers, and Taraba<sup>12</sup> (Figure 4). Of these 10, the four states with the highest burden are Benue, Lagos, Rivers, and Akwa Ibom states.



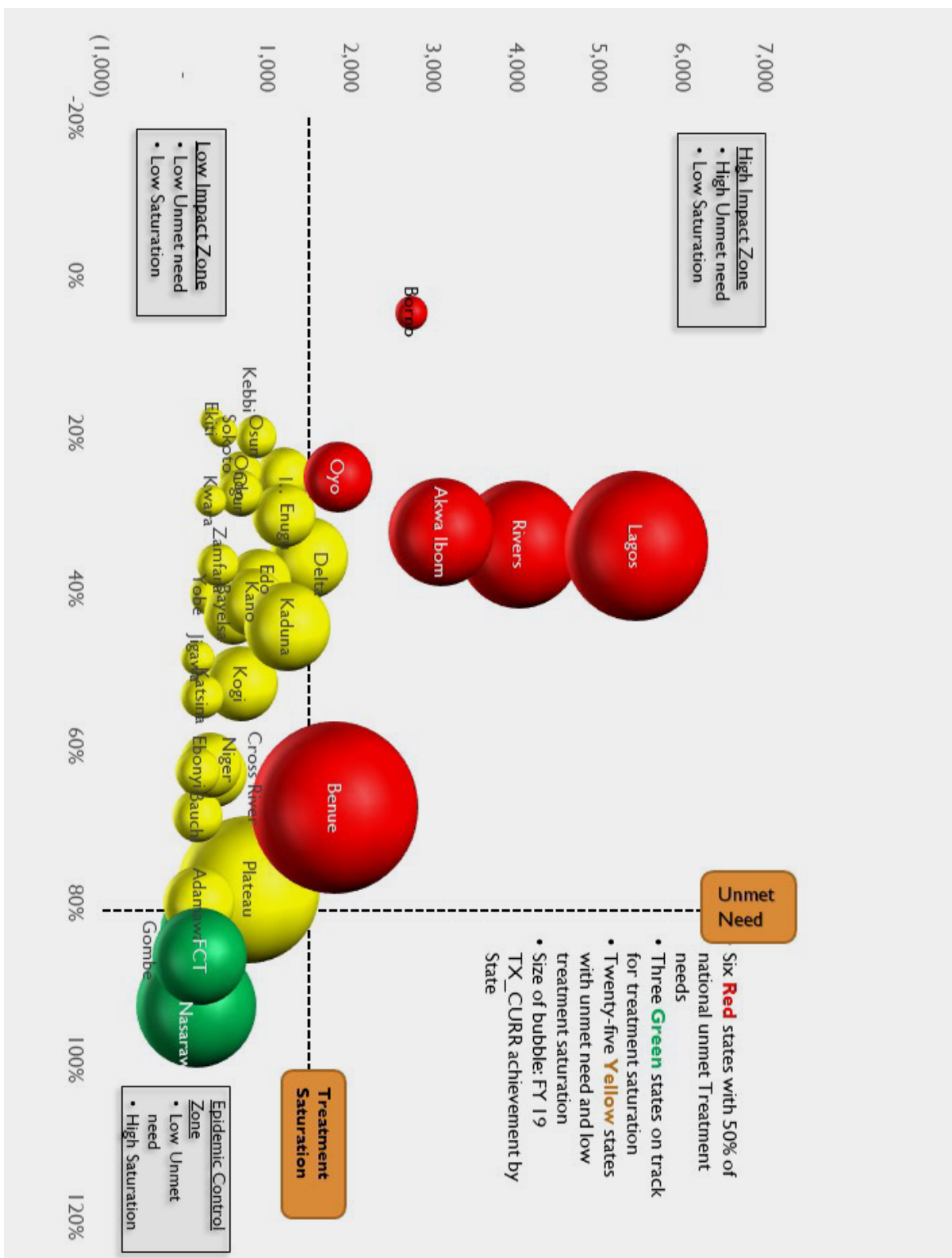


Figure 4: State Epidemic Status at end FY19 among Adolescents aged 15-19 years

Source: NAHS PVLs & SPECTRUM PLHIV data

### 2.1.2. Vulnerabilities, risk profiles and associated factors

AYP in Nigeria have significant risk of HIV infection and AGYW have higher levels of vulnerabilities compared to their male counterparts. The major contributors of this vulnerabilities are gender inequalities, and inequitable social norms, socio-economic inequalities, harmful practices, increasing level of sexual and gender-based violence, age-disparate sexual engagements and risky sexual behaviour<sup>7</sup>. The National Strategy on HIV for adolescents and young people had noted the drivers of HIV among AYP in Nigeria as including multiple and concurrent sexual partnerships, intergenerational sex, sexual coercion, low risk perception, and transactional sex<sup>13</sup>. As Table 2 shows, over a tenth of AYP (12.6% of females and 15.3% of males) had intercourse with individuals who were neither their spouses nor cohabiting partners in the 12 months preceding the 2018 Nigeria Demographic and Health Survey (NDHS). Of these, 37.9% of the females and 62.1% of the males reported using a condom with such a partner<sup>14</sup>. Also, only 35.6% of female AYP and 56.0% male AYP who were involved in multiple sexual partnership reported using a condom during their last sexual intercourse. Thus, female AYP have a higher prevalence of the risky behaviour of not using a condom even in higher-risk sexual engagement compared to their male counterparts but are less likely to engage in multiple sexual partnerships and to engage in sex with a non-spousal and a non-cohabiting partner.

As the NDHS shows, background variables such as marital status, residence and education are associated, to different degrees, with various HIV-related behaviours. For example, rural-based and less educated female AYP are less likely to use a condom in higher-risk sexual intercourse context but also less likely to engage in multiple sexual partnership and in sexual intercourse with a non-marital and non-cohabiting partner compared to urban dwellers and more educated counterparts.

**Table 2: Multiple sexual partners and higher-risk sexual intercourse among AYP in Nigeria, 2018**

Background characteristics	Percentage who had 2+partners in the past 12 months	Percentage who had intercourse in the past 12 months with a person who neither was their spouse nor lived with them	Percentage who reported using a condom during last sexual intercourse among those who had had 2+ partners in the past 12 months	Percentage who reported using a condom during last sexual intercourse with a person who was neither their spouse nor lived with them
<b>Females</b>				
<i>Age</i>				
15-19	0.7	9.6	31.5	34.2
20-24	1.9	16.3	37.6	40.5
<i>Marital status</i>				
Never married	1.9	21.0	37.9	38.3
Ever married	0.5	1.3	(23.7)	28.2
<i>Residence</i>				

Background characteristics	Percentage who had 2+partners in the past 12 months	Percentage who had intercourse in the past 12 months with a person who neither was their spouse nor lived with them	Percentage who reported using a condom during last sexual intercourse among those who had had 2+ partners in the past 12 months	Percentage who reported using a condom during last sexual intercourse with a person who was neither their spouse nor lived with them
Urban	1.4	16.0	38.6	39.0
Rural	1.1	9.9	32.6	36.4
<i>Education</i>				
No education	0.4	1.6	*	28.7
Primary	0.6	8.0	*	31.0
Secondary	1.7	16.8	32.6	36.4
More than secondary	2.9	32.4	(58.7)	48.3
<b>Total 15-24</b>	1.3	12.6	35.6	37.9
<b>Males</b>				
15-19	1.3	7.9	(59.7)	56.6
20-24	8.0	27.5	51.1	64.7
<i>Marital status</i>				
Never married	3.5	15.6	60.4	62.8
Ever married	9.3	10.9	(32.1)	(47.2)
<i>Residence</i>				
Urban	4.8	19.5	57.7	67.3
Rural	3.1	12.2	54.0	55.9
<i>Education</i>				
No education	0.7	3.7	*	(23.2)
Primary	3.3	9.5	*	(50.2)
Secondary	4.4	18.1	57.1	63.3
More than secondary	7.9	30.5	(61.2)	73.0
<b>Total 15-24</b>	3.8	15.3	56.0	62.1

Figures in parentheses are based on 25-49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed  
Source: NDHS 2018

Low level of HIV knowledge increases vulnerability to HIV. Less than a half of AYP in Nigeria had comprehensive knowledge of HIV in 2018 (Table 3). Comprehensive knowledge was assessed as knowing two primary HIV prevention methods, knowing that a healthy-looking person can have HIV, and rejection of two common local misconceptions about HIV/AIDS transmission or prevention. It is possible that the poor national coverage of the nationally approved Family Life and HIV Education (FLHE) contributes to the poor knowledge about HIV among AYP.

**Table 3: AIDS-related knowledge and behaviour among adolescents and young people, Nigeria, 2013, 2018**

HIV Knowledge						
Percentage with a comprehensive knowledge of HIV						
	Females			Males		
	15-19	20-24	15-24	15-19	20-24	15-24
<b>2013</b>	22.4	26.4	24.2	29.3	38.6	40.8
<b>2018</b>	38.1	48.1	42.6	28.7	41.9	33.7

Source: NDHS 2018

In addition to evidences as above, a study of AGYW aged 15-24 years in three states – Akwa-Ibom, Kaduna, Oyo and the Federal Capital Territory (FCT) identified 12 vulnerability factors for HIV among AYP in Nigeria. The top three factors were unprotected sex, rape, and transactional sex<sup>15</sup>. Other factors identified were multiple sexual partners, previous experience of sexually transmitted infections (STIs), low HIV risk perception, substance use, early sex debut, Inter-generational sex, teenage pregnancy, early marriage, and previous experience of incest.

### 2.1.3. AYP status regarding HIV testing and treatment (90-90-90) cascade

Studies have reported low level of HIV testing among AYP. According to the 2017 Multiple Indicator Cluster Survey (MICS), less than a quarter of AYP had ever been tested for HIV and received the result (23.2% of females and 16.1% of males) (Table 4). More than a third of AYP do not even know where to take an HIV test<sup>16</sup>.

**Table 4: HIV-testing behaviour among AYP in Nigeria, 2017**

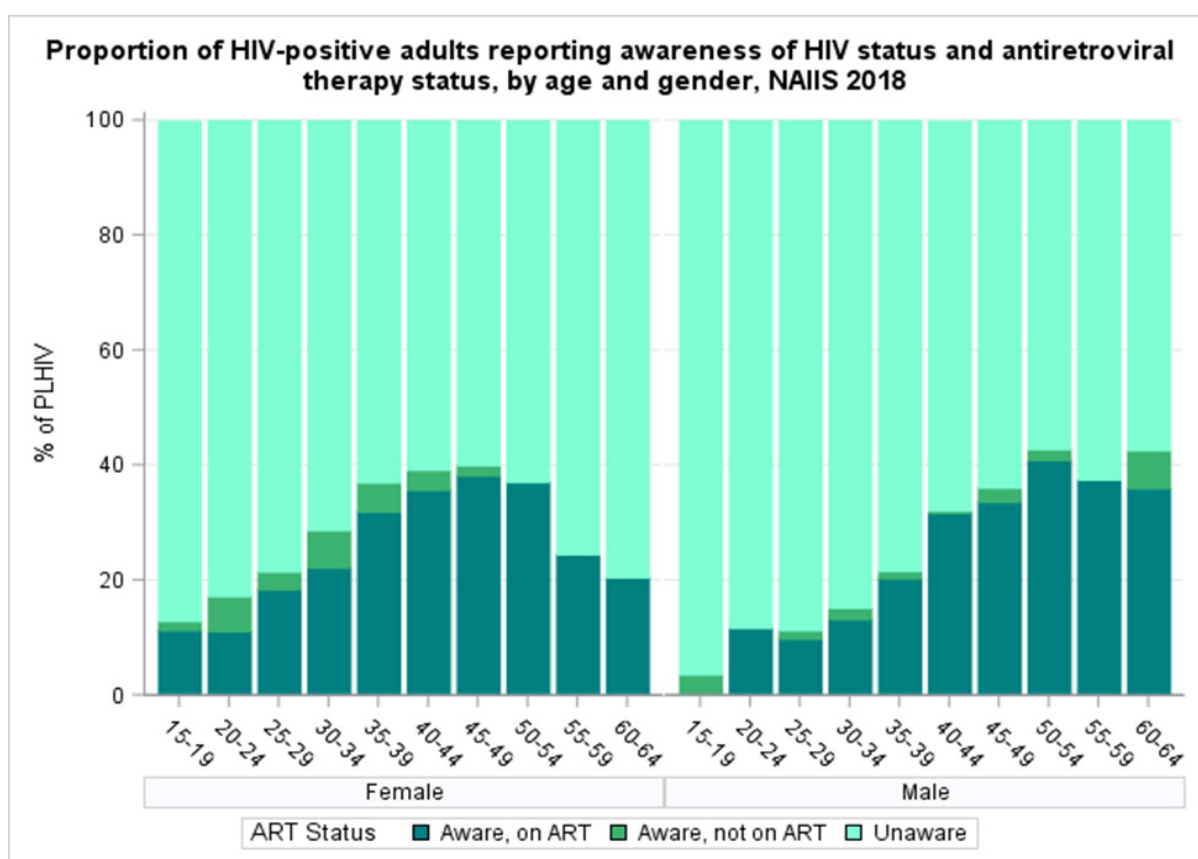
Age	Percentage of young people (aged 15-24) who know a place to get tested for HIV	Percentage of young people (aged 15-24) who have ever been tested for HIV and received the result of the last test	Percentage of young people (aged 15-24) who have been tested for HIV in the last 12 months and received the result of the last test
<b>Females</b>			
15-19	48.5	14.4	7.9
20-24	61.2	33.2	17
15-24	54.4	23.1	12.1
<b>Males</b>			
15-19	56.4	10.5	7.3
20-24	70.9	24.4	12.7
15-24	62.3	16.1	9.5

Source: MICS, 2017

Available data indicate that AYP are behind set targets in respect of the first and third element of the 90-90-90 cascade: only a third of AYP living with HIV are aware of their status, and about three-quarters of those on antiretroviral drugs recording viral suppression (Table 5). When compared with older age groups, a lower proportion of AYP are aware about their HIV status and those who are aware of their HIV positive status and are on ART. (Figure 5).

**Table 5: Analysis of AYP status in Nigeria on the 90-90-90 cascade**

Age group	Number of young people living with HIV	Aware (%)	On Antiretroviral therapy (%)	Viral suppression (%)
15-19	46,383	35.5	96.7	75.8
20-24	135,741	29.4	90.5	77.7

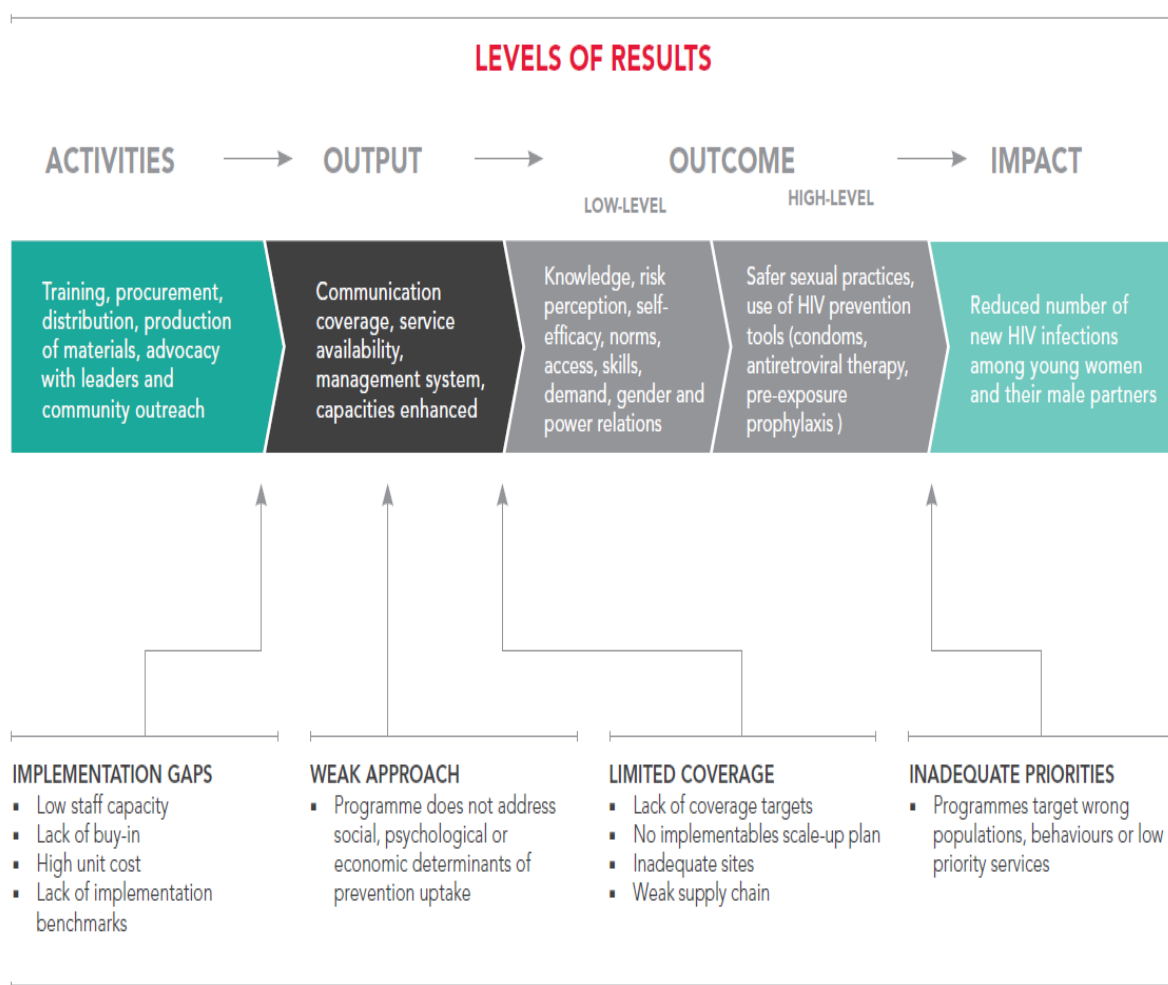


**Figure 5: Status of AYP in Nigeria on the 90-90-90 targets**

## 2.2. HIV and AYP in Nigeria: The response dynamics

Nigeria's NSF accords a high priority to AYP within the context of the national HIV and AIDS response. Nigeria specifically developed the National HIV Policy for Adolescents and Young People to further underscore the commitment to AYP in the national response. However, AYP in Nigeria are confronted with some bottlenecks that constrain their access to and utilisation of HIV services.

This may contribute to the persisting gaps in HIV testing and treatment for AYP. These constraints include stigma; policy-and legal frameworks that limits age of consent for HIV services; and health systems related issues such as weak programming approaches, programme implementation gaps, limited-service coverage, inadequate prioritisation within the service delivery system, and unfriendly service delivery approaches (Figure 6).



**Figure 6: Typical bottlenecks of HIV prevention programme for adolescent girls and young women**

Source: UNAIDS, 2016.

Inadequate coverage and poor implementation of Family Life HIV Education (FLHE), which is largely limited to in-school adolescents, and the misconception that FLHE leads to early sexual initiation and goes against the socio-cultural norms and religious belief in Nigeria constitute a critical challenge in the HIV landscape in Nigeria, and contribute significantly to poor level of HIV knowledge among AYP. Inadequate number and low coverage of adolescent-friendly services are also major programmatic challenges in Nigeria with regards to HIV-related services for AYP.

A 2019 situation analysis report indicated that “there is very limited investment in critical input such as infrastructures, human resources, essential drugs, and medical supplies for adolescent health and development” services<sup>17</sup>. A youth-driven analysis of gaps in HIV programming for AYP in Nigeria also identified bias and judgemental attitudes of health workers, poor and non-youth-friendly approaches to the mobilization of young people for HIV testing services, and poor prioritization of AYP living with HIV in HIV prevention programmes as part of the challenges in the prevention arena <sup>18</sup>. Other key gaps identified by the youth-driven analysis are shown in Table 6.

**Table 6: Gaps and needs in HIV programming for adolescent girls and young women in Nigeria from the perspectives of adolescent and young people**

Prevention	Treatment
<ul style="list-style-type: none"> <li>» Prior prioritisation of AYPLHIV in HIV prevention programmes</li> <li>» Poor integration of HIV and sexual and reproductive health (SRH) services for AYP and young key populations (YKP)</li> <li>» Poor non-youth friendly approaches to HTS mobilisation</li> <li>» Poor linkage of HIV-tested AYP to care</li> <li>» Bias and Judgmental attitudes displayed by health workers towards AYP</li> <li>» Limited access to pre-exposure prophylaxis (PrEP)</li> <li>» Limited awareness about HIV</li> <li>» Drugs /Commodities stockouts</li> </ul>	<ul style="list-style-type: none"> <li>» Poor adherence and retention of AYPLHIV on treatment</li> <li>» Limited access to treatment for related coinfections</li> <li>» Mental health issues and lack of psychosocial support for AYPLHIV</li> <li>» Distance/ access to treatment services</li> <li>» User Fees and high out of pocket costs</li> <li>» Limited access to SRHR Services for AYP and YKP living with HIV</li> </ul>

Source: Akanni, 2020

# 3

## **Rationale for Investing in Adolescent and Young People's HIV control in Nigeria**



There are four reasons -framed as pillars – for focused investment in HIV programming for AYP namely:

- (i)** The demographic dimension, which focuses on the population strength of AYP and its implication for national development and the future of the HIV epidemics
- (ii)** The epidemiological dimension, which focuses on the health burden and needs of AYP in the context of HIV and the intervention challenges and bottlenecks
- (iii)** The developmental and life-course dimension, which focuses on the potential investment return of investing in AYP in terms of the benefits it yields for young people in the present and later phases of life; and,
- (iv)** The potential for broader health and social service impact, including the potential contribution to demographic dividends.

### 3.1. Pillar I: The demographic dimension

As a review on preventing HIV in adolescent notes, "HIV prevention for adolescents is particularly critical in a world where the youth population is rapidly expanding"<sup>19</sup>. This is particularly true of Nigeria, where AYP (age 10-24 years) constitute about a third of the population<sup>20</sup> – a huge population of about 70 million by mid-2020<sup>21</sup>. Nigeria's population of AYP is currently one of the largest in the world and is expected to increase to about 80 million by mid-2050 and grow further beyond that date<sup>22</sup>. Based on sheer demographic strength, the health-related behavior and health conditions of AYP have significant implications for the overall health and development of the Nigerian population. This is especially crucial with respect to the HIV epidemic, given the state of the epidemics, the associated factors, and the response efforts in Nigeria as further discussed below.

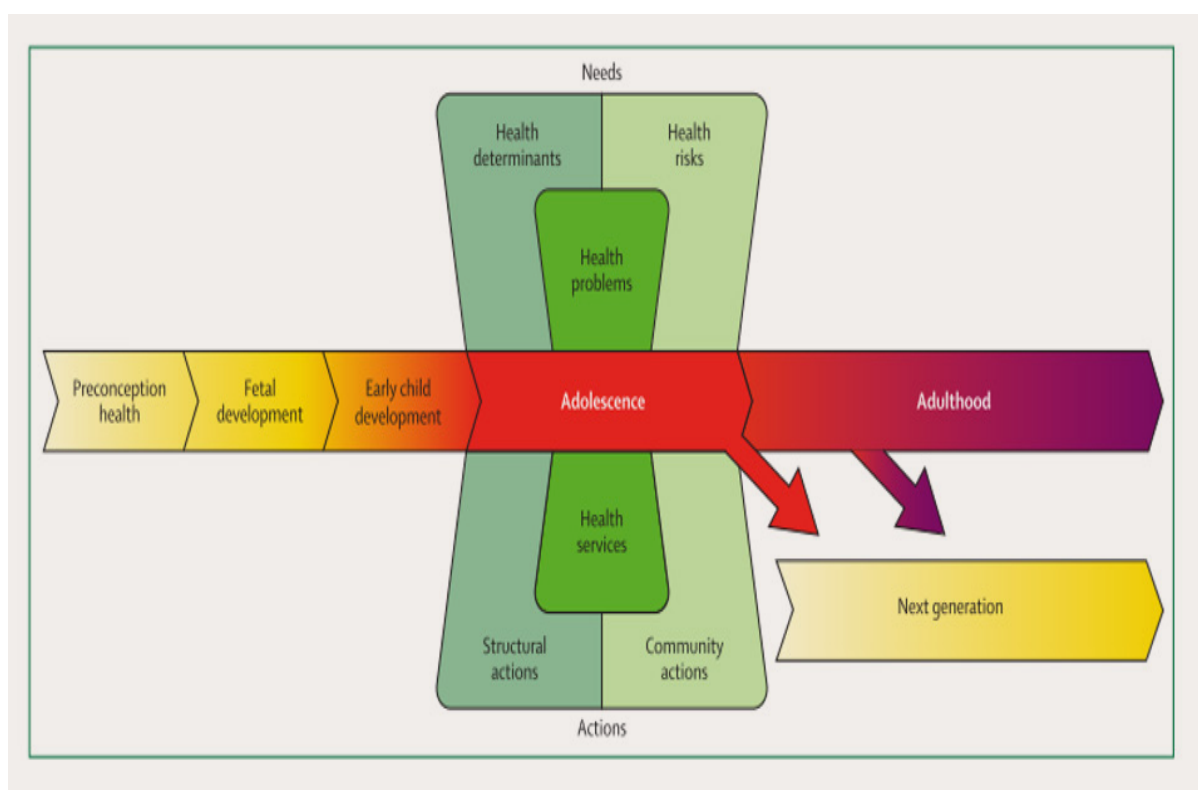


## 3.2. Pillar II: The epidemiological dynamics

The HIV prevalence among young females (20-24 years) in Nigeria is 1.3%. The HIV prevalence among AGYW exceeds 1% only in sub-Saharan Africa and the Bahamas. This is a call to urgently focus attention on the HIV prevention needs of AYP, especially AGYW. With over 32,000 new HIV infections among AYP in Nigeria in 2019 – the highest figure for any age group. Considering the high sexual risk behaviour prevalence and poor comprehensive knowledge of HIV of this population, controlling HIV infection among AYP becomes imperative if Nigeria is to make significant progress with her national HIV and AIDS response efforts.

## 3.3. Pillar III: The developmental and life-course impact

Investing in AYP results in improved health and well-being of AYP at their current life stage, contributes to their health and well-being in future adult life, as well as influencing the health and well-being of the next generation (Figure 7)<sup>23</sup>. For example, given the current prevalence of HIV among AGYW without focussed and strategic investment, AGYW living with HIV as part of the next generation of mothers will not only have the potential to transmit HIV infections to their sexual partners but also contribute to an increased burden of HIV in children through vertical transmission.

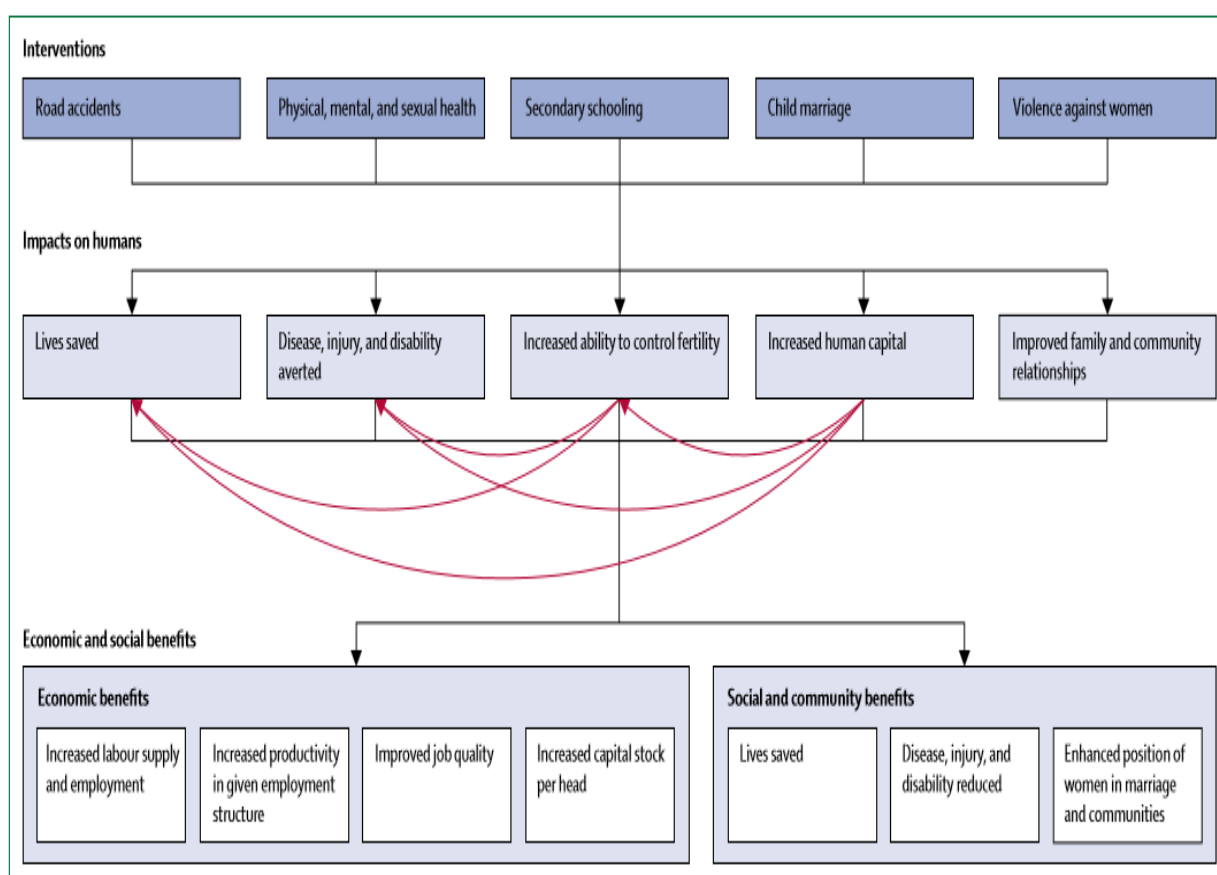


**Figure 7: Life course perspective to adolescent and youth health**

Source: Patton et al, 2016

### 3.4. Pillar IV: Broader socio-economic and developmental impact

Investing in AYP will positively improve the health of the population and the broader health and social service system, including contributing towards the achievement of demographic dividends (Figure 8). Also, investment in AYP is a critical requirement to achieving other key national health objectives, including the National Adolescent Health Policy goals, the National Health Goals, Universal Health Coverage and the Nigeria road map on harnessing the demographic dividend through investments in young people. Overall, investing in HIV prevention services tailored to meet the needs of AYP will contribute significantly to national economic and social benefits; –and more likely yield higher returns in low- and middle-income countries like Nigeria compared to the higher income countries<sup>24</sup>. The report of a global analysis indicates that an investment of US\$4.6 per capita each year for physical, mental and sexual health of adolescents from 2015 to 2030 had an unweighted mean benefit to cost ratio of more than 10.0<sup>23</sup>.



**Figure 8: The potential economic and social benefits of investing in adolescent and youth health**

Source: Sheehan et al, 2017

# 4

## **Strategies and Approaches for High-Impact AYP Programming**



### 4.1. Basis for selection of strategies and approaches

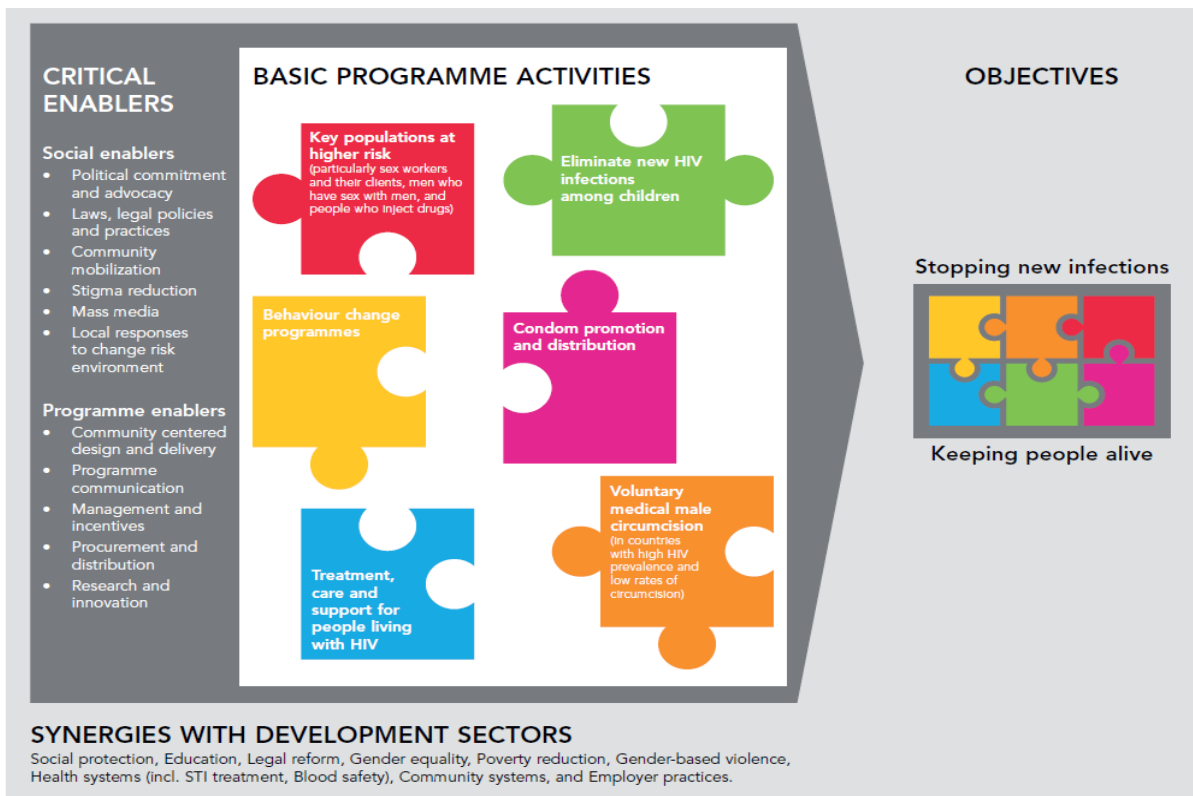
Evidence based response for AYP HIV management programs will achieve the highest return on investment and result in the highest possible impact on prevention of new HIV infections, and reduction in HIV-related morbidity and mortality. Such high impact programmes will take cognizance of key local realities framed against best global and regional practices. These include considerations for implementation experiences, achievements and bottlenecks, national policy frameworks, the operations and capacities of the systems for health, and social contexts. This understanding shaped the selection of the programmes presented in this document for Nigeria.

#### **4.1.1 Global evidence of what works**

The UNAIDS investment framework for HIV identified six basic HIV programme activities that are essential and have a direct effect on HIV risk, transmission, morbidity and mortality that needs to be delivered as a package and at a scale that is responsive to the local HIV epidemiological situation<sup>25</sup> (Figure 9). These basic activities are:

- a. Programmes for key populations (in particular, sex workers and clients, men who have sex with men, people who inject drugs);
- b. Prevention of mother-to-child transmission (PMTCT);
- c. Behaviour change programmes;
- d. Promotion and distribution of male and female condoms;
- e. Treatment, care and support for people living with HIV; and
- f. Voluntary medical male circumcision in countries with high HIV prevalence and low rates of circumcision (this does not apply to Nigeria).

Nigeria adopted five of the six pillars above exclusive of voluntary medical male circumcision. There are also critical enablers that can maximize the impact of HIV control programmes and address programmatic bottlenecks: social enablers that facilitate the creation of environments conducive for effective HIV programming; and programme enablers that can promote the demand for programmes and improve programme performance.



**Figure 9: Investment framework for HIV**

Source: Joint United Nations Programme on HIV/AIDS (UNAIDS), 2011<sup>26</sup>

Global experience also shows that the HIV combination prevention approach which involves a mix of biomedical, behavioural and structural interventions, is important for optimal prevention of HIV<sup>7</sup>. A list of potential interventions to address the HIV needs of AGYW across the biological, behavioural and structural domains are shown in Table 7<sup>27</sup>.

**Table 7: Potential interventions to address the needs of AGYW**

Biological	Behavioural	Structural
<ul style="list-style-type: none"> <li>» Antiretroviral treatment (ART)/ART adherence</li> <li>» Sexual and reproductive health services</li> <li>» Pre-exposure prophylaxis (PrEP)</li> <li>» Voluntary male medical circumcision</li> <li>» HIV Testing Services (HTS)</li> <li>» Post-exposure prophylaxis (PEP)</li> </ul>	<ul style="list-style-type: none"> <li>» Condoms and lubricants, including female condoms</li> <li>» Psychological support</li> <li>» Social assets/life skills</li> <li>» Comprehensive sexuality education (CSE)</li> <li>» Information, education and communication (IEC); interpersonal communication (IPC); Social behavioural change communication</li> <li>» Stigma reduction</li> <li>» Counselling (peer to peer)</li> </ul>	<ul style="list-style-type: none"> <li>» Gender and sexual and gender-based violence (SGBV)</li> <li>» Social protection</li> <li>» Livelihoods</li> <li>» Cash transfer/incentives</li> <li>» Keeping girls in school</li> <li>» Further (post-secondary school) education</li> <li>» Laws and policies</li> </ul>

Source: Euro Health Group, 2017.

Political leadership and government commitment, enabling legal and policy frameworks, youth-friendly media platforms, community engagements, partner collaboration and coordination; participation of AGYW in country dialogues, and capacity of programme implementers are important facilitating factors for achieving optimal programme results<sup>26</sup>.

### 4.1.2. Regional evidence and experience

The DREAMS (Determined, Resilient, Empowered, AIDS-Free, Mentored and Safe) initiative implemented in 15 Southern and Eastern African countries to reduce the vulnerability of AGYW to HIV showed significant impact<sup>28,29</sup>. The programme, which commenced in 2015, had a core package of evidence-based and scalable interventions that are designed to work in combination, to reduce new infections among AGYW (age 15-24)<sup>30,31,32</sup>. The core intervention package works with four overlapping populations to achieve its goals:

- a. **AGYW** – to empower them and to reduce their risk for HIV and violence
- b. **Families of AGYW** – to address socioeconomic vulnerabilities and strengthen their ability to parent positively
- c. **Sexual partners of AGYW** – to reduce the risk of HIV transmission from them to AGYW
- d. **The larger communities** – to facilitate community and social norm changes to keep AGYW free from HIV and violence (Figure 10).

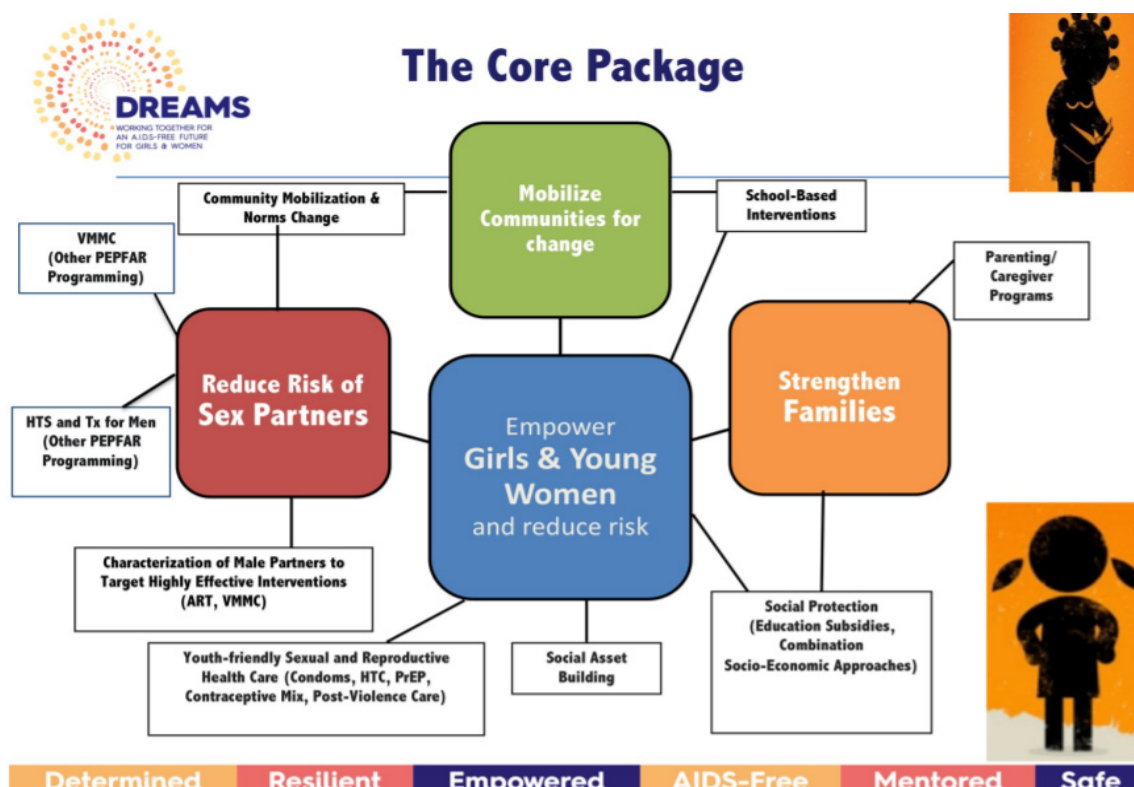


Figure 10: Schematic overview of the DREAMS core package of interventions

Source: Saul et al, 2018

Programmatically, DREAMS encompasses biological interventions such as adolescent-friendly sexual and reproductive health services for girls that provides HIV counselling and testing, condom promotion, access to contraception, pre-exposure prophylaxis for HIV negative individuals at high risk for HIV infected, and antiretroviral treatment for persons living with HIV. DREAMS also encompasses behavioural interventions such as school-based HIV education to improve the HIV knowledge of AGYW, social asset-building for AGYW, and social and behavioural communication targeted at changing the social norms at community level (Table 8). In addition, DREAMS addresses structural factors such as economic vulnerabilities, gender-based violence, and poor access of girls to secondary schools through a combination socio-economic measures. As a report notes: "The layering of different interventions in targeted communities is critical to the success of DREAMS and is the cornerstone of the initiative's innovation. Evidence shows that girls can reach their full potentials when they have access to multiple interventions. Therefore, the core package of interventions offered through DREAMS is not implemented at a national level but instead is layered and concentrated within specific provinces, districts, and communities where the burden of HIV is highest"<sup>29</sup>.

**Table 8: Target population, strategy and evidence-based interventions in the DREAMS initiative**

Target population and strategy	Evidence-based intervention
<i>Individual interventions (delivered directly to adolescent girls and young women)</i>	
Empower girls and young women and reduce their risk	<ul style="list-style-type: none"> <li>▪ Condom promotion and provision</li> <li>▪ HIV testing and counselling services (HTS)</li> <li>▪ Oral pre-exposure prophylaxis (PrEP) for HIV, offered to a subset of females at exceptionally high risk and in select countries</li> <li>▪ Post-violence care</li> <li>▪ Expanded contraceptive method mix</li> <li>▪ Social asset building</li> </ul>
<i>Contextual interventions (not all delivered directly to adolescent girls and young women but from which they can benefit)</i>	
Mobilize and strengthen the community for change	<ul style="list-style-type: none"> <li>▪ School-based HIV and violence prevention for boys and girls</li> <li>▪ Community-based HIV and violence prevention for boys/young men and girls/young women</li> <li>▪ Community mobilization and norms change for community leaders, boys and men</li> </ul>
Strengthen families	<ul style="list-style-type: none"> <li>▪ Parenting and caregiver programmes for vulnerable adolescent girls</li> <li>▪ Social protection (cash transfers, educational subsidy, combination socioeconomic approaches)</li> </ul>
Decrease risk in sexual partners of AGYW	<ul style="list-style-type: none"> <li>▪ Characterisation of male partners to target highly effective interventions, e.g., HIV testing services, antiretroviral therapy (ART) and voluntary medical male circumcision (VMMC)</li> </ul>

Source: Birthistle et al, 2018

### 4.1.3 National experience and local realities

Nigeria's HIV national strategic framework fully subscribes to the principle of combination prevention approach and prioritizes the basic programme elements of the HIV investment framework. Among others, Nigeria developed the Minimum Prevention Package Intervention (MPPI) as part of its National Prevention Plan for HIV and a strategy to operationalize the combination prevention framework (Table 9)<sup>33</sup>. MPPI is defined as: "the strategic, simultaneous use of different classes of prevention activities (biomedical, behavioural, structural) that operate on multiple levels (individual, community and societal/structural), to respond to the specific needs of particular audiences and modes of HIV transmission, and to make efficient use of resources through prioritizing, partnership, and engagement of affected communities"<sup>34</sup>.

**Table 9: MPPI interventions, strategies and activities**

<b>Interventions</b>	<b>Strategies</b>	<b>Activities</b>
<b>Behavioural</b>	Outreach	Rallies Small group discussions Interpersonal communications Community meetings
	Peer Education (Age peers Job peers , social peers, PLHIV)	Making contact, referrals, distributing IEC materials, demonstrating and distributing condoms, running education and training sessions, mobilizing community members, advocating
	Condom and lubricant programming	Demonstration, promotion and distribution of male and female condoms and water-based lubricants
<b>Biomedical</b>	HIV Counseling and Testing (Mobile HCT Facility-based HCT Community-based HCT)	Pre-test counselling, Post-test counselling, follow-up counselling, referrals,
	STI Control and Management	Screening and treatment of STIs Training on STI syndromic management
	Condom and lubricant programming	Condom forecasting and quantification Condom procurement systems
	PMTCT	Reproductive and allied health services FP, ANC, postpartum/natal care. HIV treatment, care and support TB screening and referral to treatment
<b>Structural</b> (to address Stigma and discrimination Gender issues Policy issues Socio-cultural norms Individual empowerment issues	Community Dialogue	Dialogue sessions (guide available in the community conversations toolkit)
	Advocacy	Advocacy meetings, marches, press releases, position paper, communiqués, petitioning, letter-writing campaigns, debating
	Income Generating Activities	partnerships with relevant public and private sector organization and entities, formation of cooperatives, provision of vocational skills training, provision of seed capital to beneficiaries. financial management

Source: NACA, 2016.

Country level lessons and best practices of HIV prevention programming for AGYW are available in-country although evidence from rigorous evaluation of implemented programmes, longitudinal studies, or well-deigned interventional studies are limited. Some of the useful and relevant in-country experiences include an action research on HIV reduction among AGYW in Nigeria funded by Global Fund, the young mum's clinic in Lagos, development of safe spaces for AGYW, phone-based interventions, targeted social behavioural change communication for AGYW and male-partners, strengthening service integration using sexual and reproductive health platform, and health- and community-systems strengthening for more AGYW-responsive services. Other relevant in-country experiences include strengthening coordination across multiple sectors, integrating adolescent and youth friendly services into primary health care services, School-based HIV prevention interventions, improving adolescent and youth participation in HIV programming, strengthening the engagement of key populations in HIV prevention and treatment programmes, and peer-led facilities for HIV prevention services by key populations. Programmes such as Operation Triple Zero (OTZ) initiative with the target of zero missed appointments, zero missed drugs, and zero viral load, has also shown promising results with its asset-based approach to HIV programming for adolescents and young people.

## 4.2. Priority interventions for HIV prevention among adolescents and young people

### 4.2.1. Intervention package and programme elements

Driven by evidence and the epidemiologic dynamics, the proposed package of interventions is grounded in the socio-ecological model, with AGYW at its core while at the same time engaging and addressing the HIV needs of young males and taking into consideration the sexual and social networks, families, and the social and cultural context in which the AYP exists and operates<sup>49</sup>. The package prioritizes the six basic HIV programme intervention areas, adopts the combination prevention approach, and primarily targets vulnerable AYP in the 10 states with the highest burden of HIV among AYP (Table 10).

**Table 10: Proposed interventions for AYP**

Priority programmes for AYP	Priority population	Intended effects
<b>a) Demand generation interventions</b>		
a. Community-targeted Intensive social and behavioural change programming	AYP and older populations	Safer behaviours and increased use of relevant services through improved communication, knowledge, attitudes, risk perception, and supportive social and gender norms
b. Comprehensive sexuality education (especially in-school)	All AYP	
c. Peer-led approaches and peer-to-peer interventions in both school and community settings	All AYP	
d. Innovative new media and multimedia approaches	AYP and older populations	
e. Stigma-reduction interventions	All age groups	
<b>b) Differentiated package of health services</b>		
a. Male and female condoms and lubricants	All AYP and all sexually active population of all ages	Consistent use of male and female condoms, particularly with non-regular and serodiscordant partners to reduce the risk of acquisition and transmission of HIV infection
b. HIV testing and counselling services	All AYP and older people	Earlier diagnosis of HIV infection and linkage to appropriate, high impact HIV services



Priority programmes for AYP	Priority population	Intended effects
c. Adolescent- and youth-friendly friendly sexual and reproductive health services (including pre-exposure prophylaxis and post-exposure prophylaxis as needed)	All AYP	Increased access to sexual and reproductive health services and reduced biomedical susceptibility and transmissibility of HIV infection
d. Pre-exposure prophylaxis	Young key populations; Subsets of young women with very high risk of HIV infection	Increased uptake of pre-exposure prophylaxis and reduced susceptibility to HIV infection
e. Antiretroviral therapy (ART)	All people living with HIV	Reduced risk of HIV transmission
f. HIV adherence interventions and mental health/psychological support	All people living with HIV	Increased ART adherence and reduced risk of HIV infection
<b>c) Health systems action</b>		
a. Strengthened service/programme referrals, linkages and coordination	Key health system actors	Improved capacity of health services to deliver high-quality HIV-related services and increased access and utilization of relevant services by all AYP, including YKP
b. Improved integration and linkage of HIV and SRHR services and increased access to integrated services	Key health system actors	
c. Supportive supervision and quality assurance	Key health system actors	
d. Capacity-building in AYP-centered designs and services/program management	Health workers, programme managers and policy makers	
e. Social accountability interventions for the health system	Key health system actors, Including Young people living and affected by HIV	
f. Data generation, monitoring, evaluation and research	Key health system actors and research communities	
g. Strengthened procurement and supply chain management systems	Key health system actors	

Priority programmes for AYP	Priority population	Intended effects
<b>d) Structural actions</b>		
a. Advocacy and mobilisation in support of adolescent- and youth-friendly SRHR interventions	Communities and leaders at all levels	Reduction in barriers to AYP's access to services, improved demand and access to relevant HIV-related services, improved risk perception
b. Advocacy for supportive age of consent laws and policies	Leaders and key stakeholders at all levels	Reduced level of AGYW's vulnerability to HIV and HIV risks, and increased demand and access to relevant HIV-related services, improved risk perception
c. Community mobilization for relevant social and gender norms changes	Communities and leaders	Reduced level of AGYW's vulnerability to HIV, sexual risk-taking behaviour, and HIV risk levels
d. Prevention of sexual and gender-based violence (SGBV), including school-related SGBV, and post-violence care interventions	Vulnerable AYP and SGBV, FGM and EFCM survivors	Improved programme quality and uptake of services
e. Legal, policy and social support for female education, emphasizing completion of secondary school level	Leaders, key stakeholders at all levels, and parents	Reduced vulnerability, reduced transactional and age-disparate sex, increased schooling and agency to reduce sexual risk-taking
f. Improved advocacy and engagement of community-led organisations, key population, and people living with HIV in all aspects of HIV and SRH policy and programming	Key population, people living with HIV, key stakeholders, and community leaders	
g. Social protection (conditional cash transfer in specific settings, and combination socio-economic approaches)	AGYW from poor socio-economic backgrounds and economically-vulnerable settings	

#### 4.2.2. Intervention platforms

The proposed interventions entail a mix of demand generation, health services (differentiated package), health systems, and structural actions to be implemented using platforms that are relevant to and preferred by AYP. The platforms include school (used for school-based Curriculum-based Sexuality Education (CSE) and HIV education through the Family Life and HIV Education (FLHE)), community-based platforms (used for social and behavioural change interventions targeting AYP and their caregivers as well as community stakeholders), and health facilities (used for targeting health workers and for biomedical-focused interventions).

### 4.2.3. Anticipated results

Broadly, the proposed interventions aim to contribute to the targets highlighted in the National Strategic Framework for the control of HIV and AIDS in Nigeria (2017 – 2021). The overarching goal is to reduce HIV incidence among AYP and thereby, make substantial contribution towards achieving the vision of zero new HIV infections in Nigeria by 2030.

#### Specific targets:

- » Increased level of comprehensive knowledge on HIV prevention amongst AYP from 43% for female AYP and 34% for male AYP in 2020 to 90% for both sexes by 2024
- » Increased uptake of male condoms for higher-risk sexual intercourse from 38% in AGYW and 62% among male AYP in 2020 to 80% in AGYW and 90% among male AYP by 2024
- » Increased proportion of AYP testing for HIV and receiving result from 23% in 2020 to 50% by 2024

We present three implementation scenario for 2021-2025 as detailed in Section 6:

- 1) All 36 states and the Federal Capital Territory, with comprehensive intervention package provided in the high incidence Local Government Areas (LGAs), and basic intervention package in other LGAs: An estimated 74,463,657 AYP would be reached in 5 years at a total cost of \$4,727,551,059.13 and 100% of HIV burden addressed.
- 2) 10 high burden states (Abia, Akwa Ibom, Anambra, Benue, Delta, Enugu, Imo, Lagos, Rivers and Taraba) reached with comprehensive intervention package implemented in the high incidence LGAs and basic intervention package in other LGAs: An estimated 22,618,563 AYP would be reached in 5 years at a total cost of \$1,771,413,044.83 and 55.26% of HIV burden addressed.
- 3) Provision of comprehensive package of intervention in the high incidence LGAs (The 80 with HIV incidence of >0.25% spread across 12 states): An estimated 22,618,563 AYP would be reached in 5 years at a total cost of \$964,729,233.26 and 10.61% of HIV burden addressed.

Scenario 2 gives the highest return on investment since it requires only a little above one-third (37.50%) of the total funds needed to cover 36+1 states to address over 55% of the HIV burden. This translates into a raw average cost of \$78.32 (N34,500)/Person. The 10 states that are included in this scenario represent the states with the highest incidence and prevalence rates and therefore the states with the greatest disease burden. Beyond the state categorization (by prevalence profile), there was further specificity in the LGA allocation of intervention packages according to the level of risk to be mitigated (refer to Table 18 and annex 2). The articulation of intervention packages according to where the need is greatest, represents a more responsive and efficient utilization of available resources.

# 5

## **Framework for Measuring Results**



The framework for measuring results is presented in Figure 11 alongside with the key indicators. The figure also illustrates the pathway through which the proposed intervention is expected to lead to a reduction in the incidence of HIV among AGYW and other AYP in Nigeria.

The following activities will be conducted to measure results:

- » Routine, quarterly and annual programme monitoring, through the analysis of data generated from the national health information management system and specific programme-related data systems. Disseminate results widely to relevant stakeholders. Review progress made and identify useful programmatic lessons learnt to ensure optimal impact from the interventions. A mid-term review and an evaluation will be carried out at the end of the 5-year target period.
- » Collection and reporting on CSE/HIV global indicators in annual school census
- » Establishment of up-to-date dashboard to aid regular monitoring of progress, dissemination of information to stakeholders in a user-friendly way.
- » Use of scorecards for disseminating results and to drive advocacy for greater actions/ investments.
- » Development and dissemination of other user-friendly knowledge products to a wide group of stakeholders to sustain interests and buy-in.

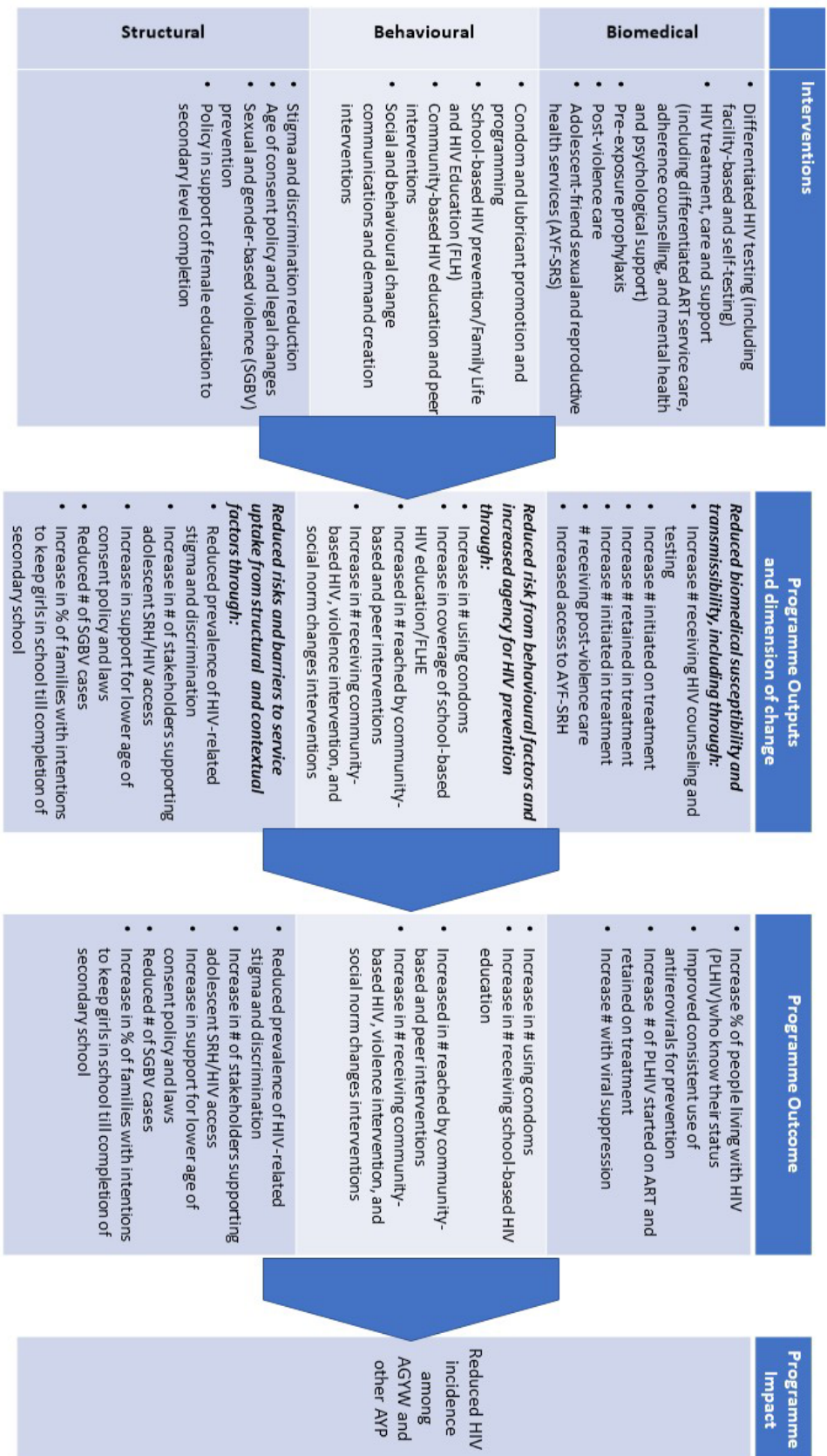


Figure 11: Monitoring and evaluation framework and pathways of change

Source: Adapted from UNAIDS, 2016

# 6

## Investment Case Costing



### 6.1 Costing rationale and approach

The highest burden of HIV among AYP in Nigeria are in the Akwa Ibom, Benue, Lagos and Rivers states. Additionally, there are six states where the rates of new infection appear to be rising at a faster rate than the rest of the country. These State are: Abia, Anambra, Delta, Enugu, Imo and Taraba States. These 10 states are classified as high burden states. The rest of the country has seen relatively lower incidence rates and as such do not currently contribute significantly to the burden of disease. These varying disease burden by location informed the assumptions made for the costing scenarios created in this section of the document.

Nigeria's oil revenues, which form the mainstay of its economy, declined by 125.5 billion naira (\$326 million) in the first quarter of 2020. This decline was worsened by the coronavirus pandemic. In June 2020, the International Monetary Fund projected that Nigeria's gross domestic product would witness a deeper than expected contraction of 5.4% <sup>35</sup>. In 2020, inflation rose from 12.4% in May to 12.6% in June, the highest since March 2018. The full economic impact of the crash in oil prices, the COVID-19 prevention measures such as the lockdown on economic activities and the cost of the actual national response was not factored into the projected inflation rate for Nigeria. This is because pandemic related spending is still ongoing as Nigeria is thought not have reached the peak of its epidemiological curve yet. As a result, this costing approach has been very aggressive in its projected inflation rates over the next five years.

**Table 11: Nigeria - Inflation Data** <sup>36</sup>

	2015	2016	2017	2018	2019
Inflation Rate (CPI, annual variation in %)	9.0	15.7	16.5	12.1	11.4

*\*Consumer Price Index (CPI)*

*Source: FocusEconomics, 2020.*

### 6.2 Programme costing

Costing was done under five distinct headings as detailed in the Investment case:

- (a)** Differentiated Package of Health Services;
- (b)** Demand Generation;
- (c)** Structural Actions;
- (d)** Programme Administration; and,
- (e)** Monitoring and Evaluation.

Table 12: Differentiated package of health services – costing parameters

Differentiated Package of Health Services - Costing Parameters		Baseline Population to cover (2020)	Target Coverage (%)				
Intervention Description	Population in Need		2021	2022	2023	2024	2025
<b>A. Male and female condoms and lubricants</b>							
Female Condoms	Females 15-24	19,325,520	17.5	25	35	45	50
Male Condoms	Males 10 - 24	33,001,274	17.5	25	35	45	50
<b>B. HIV Testing and Counselling</b>							
HIV testing and counselling services	Male and Female 10-24	52,326,793	10	15	25	45	50
<b>C. Adolescent &amp; Youth-friendly sexual and reprod. health services</b>							
Universal Access to Sexual and Health Information	Male and Female 10-24	65,348,812	0	5	10	15	20
Universal Access to Safe and affordable contraception methods	Male and Female 10-24	65,348,812	0	5	10	15	20
Age-appropriate Family Planning counselling	Male and Female 10-24	65,348,812	0	5	10	15	20
Quality Obstetric and ANC for all pregnant AGYW	Females 10-24	32,243,104	36	50	60	70	80
Preventive care and management of STIs	Male and Female 10-24	65,348,812	0	5	10	15	20
<b>D. Pre-exposure Prophylaxis</b>							
PrEP (Truvada - Emtricitabine + Tenofovir)	Male and Female 10-24 (10%)	5,232,679	5	10	15	20	25
<b>E. Post-exposure Prophylaxis</b>							
PeP (Emtricitabine + Raltegravir/Dolutegravir)	Male and Female 10-24 (2%)	1,306,976	5	10	20	25	30
<b>F. Antiretroviral Therapy</b>							
ART (First-Line Treatment)	Number of males and females 10-24 on ART	354,149	68.8	75	80	85	90
<b>G. HIV adherence interventions and mental health/psychological support</b>							
Basic psychosocial treatment, advice, and follow-up for self-harm/suicide	Number of HIV + males and females 10-24	581997	5	7.5	15	22.5	30

Table 13: Cost of differentiated package of health services – All states/LGAs

Cost of Differentiated Package of Health Services - All States/LGAs						
Costing Parameters	AYP Differentiated Health Service Interventions Costs by Year (USD)					
	Intervention Description	2021	2022	2023	2024	2025
<b>A. Male and female condoms and lubricants</b>						
Female Condoms	253,738,799.19	378,244,172.71	529,541,841.79	680,839,510.88	724,967,997.69	2,567,332,322.26
Male Condoms	21,327,205.17	36,560,923.15	53,318,012.93	68,551,730.91	73,121,846.31	252,879,718.48
<b>B. HIV Testing and Counselling</b>						
HIV testing and counselling services	5,202,638.78	8,027,057.10	22,402,089.66	25,467,534.74	29,091,577.18	90,190,897.46
<b>C. Adolescent &amp; Youth-friendly sexual and reprod. health services</b>						
Universal Access to Sexual and Health Information	0.00	0.00	0.00	0.00	0.00	0.00
Universal Access to Safe and affordable contraception methods	0.00	0.00	0.00	0.00	0.00	0.00
Age-appropriate Family Planning counselling	0.00	0.00	0.00	0.00	0.00	0.00
Quality Obstetric and ANC for all pregnant AGYW	0.00	0.00	0.00	0.00	0.00	0.00
Preventive care and management of STIs	0.00	0.00	0.00	0.00	0.00	0.00
<b>D. Pre-exposure Prophylaxis</b>						
PrEP (Truvada - Emtricitabine + Tenofovir)	8,181,413.19	17,074,253.62	25,611,380.44	34,148,507.25	40,907,065.97	125,922,620.47
<b>E. Post-exposure Prophylaxis</b>						
PeP (Emtricitabine + Raltegravir/Dolutegravir)	102,174.35	204,348.71	426,466.87	533,083.59	613,046.13	1,879,119.65
<b>F. Antiretroviral Therapy</b>						
ART (First-Line Treatment)	2,843,625.68	5,629,031.88	9,655,222.51	11,945,816.60	14,334,979.92	44,408,676.60
<b>G. HIV adherence interventions and mental health/psychological support</b>						
Basic psychosocial treatment, advice, and follow-up for self-harm/s	824,223.42	7,800,221.65	15,998,573.23	24,607,130.53	33,638,399.98	82,868,548.80
	<b>292,220,079.80</b>	<b>453,540,008.83</b>	<b>656,953,587.43</b>	<b>846,093,314.49</b>	<b>916,674,913.17</b>	<b>3,165,481,903.72</b>



Table 14: Demand Generation, advocacy and structural actions (USD) – All states and LGAs

Demand Generation, Advocacy & Structural Actions - All States & LGAs						
Intervention Description	Annual Cost 2021	Annual Cost 2022	Annual Cost 2023	Annual Cost 2024	Annual Cost 2025	5 year Total
<b>Community Involvement</b>						
Partnership initiatives						
Sexual and gender-based violence prevention and post-						
Community mobilization and demand generation						
Youth focused interventions - In-school (CSEd)						
<b>Communication, Media &amp; Outreach</b>						
Development of Communication Strategy						
Mass Media (public awareness and stigma reduction)						
Innovative new media and multimedia approaches	661,499,521.66	810,866,113.65	993,959,682.11	1,218,395,778.33	1,493,509,545.08	5,178,230,640.83
Printed Materials (IEC)						
Social Outreach Activities (peer educ. & stigma reduction)						
<b>Advocacy</b>						
Planning an Advocacy Strategy						
Legal, policy and social support for female education, emphasizing completion of secondary school level						
Advocacy Activities (age of consent, Youth-friendly SHRI)						
Advocacy Materials						
	<b>661,499,521.66</b>	<b>810,866,113.65</b>	<b>993,959,682.11</b>	<b>1,218,395,778.33</b>	<b>1,493,509,545.08</b>	<b>5,178,230,640.83</b>

Table 15: Programme administration summary (USD) – All states and LGAs

	2021	2022	2023	2024	2025	5 yr Costs
<b>Programme-Specific Human Resources</b>						
National-Level Staff						
Regional-Level Staff						
District-Level Staff	9,537,196.01	13,544,061.22	16,509,132.70	20,644,890.93	24,101,844.58	
<b>Training</b>						
In-service / Refresher Training						
Training of Trainers						
Development of Training Programmes and Material						
Changing the Pre-Service Training Curriculum						
Support Activities	9,537,196.01	13,544,061.22	16,509,132.70	20,644,890.93	24,101,844.58	
<b>General Programme Management</b>						
Design and Review of Country Strategy						
Development and Review of Annual Work Plan						
Development/Review of Human Resource Plan						
Programme Coordination Meetings						
Commodity Regulation and Policies						
Situation Analysis						
Office equipment and supplies						
Utilities	4,768,598.01	6,322,030.61	8,254,566.35	10,322,445.46	12,050,922.29	
<b>Supervision</b>						
Coordination Meetings						
National Staff Visiting Local Staff	4,768,598.01	6,322,030.61	8,254,566.35	10,322,445.46	12,050,922.29	
<b>Infrastructure and Equipment</b>						
Situational Assessment						
Equipment upgrades for lower tier facilities						
Equipment upgrades for hospitals and Labs	9,537,196.01	13,544,061.22	16,509,132.70	20,644,890.93	24,101,844.58	
<b>Transport</b>						
Situational Assessment						
New Vehicle Purchase (USD)						
Vehicle Operation and Maintenance	9,537,196.01	13,544,061.22	16,509,132.70	20,644,890.93	24,101,844.58	
	<b>47,685,980.07</b>	<b>66,820,306.12</b>	<b>82,545,663.48</b>	<b>103,224,454.64</b>	<b>120,509,222.91</b>	<b>420,785,627.22</b>

Table 16: Monitoring and evaluation costing summary (USD) – All States & LGAs

<b>Monitoring and Evaluation Costing Summary (USD) - All States &amp; LGAs</b>						
	2021	2022	2023	2024	2025	5yr Total
<b>Monitoring and Evaluation</b>						
Design of M and E Frameworks and Systems						
Design of Quality Control and Assurance						
Design/Review of Data Management Systems	47,685,980.07	66,313,625.68	82,545,663.48	103,224,454.64	120,509,222.91	420,278,946.78
Data Collection and Analysis						
Quality Control/Quality Assurance						
	<b>47,685,980.07</b>	<b>66,313,625.68</b>	<b>82,545,663.48</b>	<b>103,224,454.64</b>	<b>120,509,222.91</b>	<b>420,278,946.78</b>

Table 17: All interventions and administration cost summary (USD)

	2021	2022	2023	2024	2025	5yr Total
<b>Cost Category</b>						
Differentiated Package of Health Services	292,220,079.80	453,540,008.83	656,953,587.43	846,093,314.49	916,674,913.17	3,165,481,903.72
Demand Generation, Advocacy and Structural Actions	661,499,521.66	810,866,113.65	993,959,682.11	1,218,395,778.33	1,493,509,545.08	5,178,230,640.83
Programme Administration	47,685,980.07	66,820,306.12	82,545,663.48	103,224,454.64	120,509,222.91	420,785,627.22
Monitoring & Evaluation	47,685,980.07	66,313,625.68	82,545,663.48	103,224,454.64	120,509,222.91	420,278,946.78
	<b>1,049,091,561.61</b>	<b>1,397,540,054.28</b>	<b>1,816,004,596.50</b>	<b>2,270,938,002.10</b>	<b>2,651,202,904.07</b>	<b>9,184,777,118.56</b>

## 6.3 Costing scenarios for AYP HIV interventions and outcomes

Three scenarios were developed and costed based on different geographic priority-setting (Table 18):

1. All 36 states and the FCT,
2. 10 high burden states (Abia, Akwa Ibom, Anambra, Benue, Delta, Enugu, Imo, Lagos, Rivers, Taraba); and,
3. 80 highest LGAs with HIV incidence with comprehensive package of interventions delivered at the high incidence LGAs (HIV incidence  $\geq 0.25\%$ <sup>37</sup>) and basic package delivered at other LGAs based on UNAIDS's recommendation<sup>37</sup>.

The components of the basic and comprehensive packages are shown in Table 19.

**Table 18: Scenarios for HIV intervention costing**

	Geographic Priority	Service packages
<b>Scenario 1</b>	All 36 states and FCT	Comprehensive service package in high incidence LGAs + basic package in medium/low LGAs (<0.25 per 100)
<b>Scenario 2</b>	10 high burden states (Abia, Akwa Ibom, Anambra, Benue, Delta, Enugu, Imo, Lagos, Rivers & Taraba) + Plateau and Bayelsa	Comprehensive service package in high incidence LGAs + basic package in medium/low LGAs (<0.25 per 100)
<b>Scenario 3</b>	Highest Incidence LGAs in Nigeria (80 LGAs across 12 states)	Comprehensive service package

**Table 19: Basic and Comprehensive Package of HIV interventions**



As Table 20 shows, scenario 2 gives the highest return on investment since it requires only a little above one-third (37.50%) of the total funds needed to cover 36+1 states to address over 55% of the HIV burden. This translates into a raw average cost of \$78.32 (N34,500)/Person.

**Table 20: AYP overall intervention package cost by three specified scenarios**

	2021	2022	2023	2024	2025	5 year Total
<b>Scenario 1: 36 States + FCT, All LGAs</b>						
Low to Med. Risk LGAs/ Basic Package Cost	350,529,061.04	534,080,364.83	760,633,032.78	993,292,457.99	1,110,756,218.05	3,749,291,134.79
High Risk LGAs/ Comprehensive Package Cost	104,914,860.89	143,361,444.40	191,150,706.97	245,191,192.29	293,641,719.80	978,259,924.35
<b>All Package Cost</b>	<b>455,443,921.92</b>	<b>677,441,809.34</b>	<b>951,783,739.75</b>	<b>1,238,483,650.27</b>	<b>1,404,397,937.85</b>	<b>4,727,551,059.13</b>
<b>Scenario 2: 10 High Burden States, All LGAs (Abia, Akwa Ibom, Anambra, Benue, Delta, Enugu, Imo, Lagos, Rivers &amp; Taraba)</b>						
Low to Med. Risk LGAs/ Basic Package Cost	84,856,090.32	129,290,197.94	184,134,077.61	240,456,281.37	268,891,913.51	907,628,560.75
High Risk LGAs/ Comprehensive Package Cost	92,637,781.36	126,585,366.74	168,782,355.99	216,499,053.33	259,279,926.67	863,784,484.08
<b>All Package Cost</b>	<b>177,493,871.68</b>	<b>255,875,564.68</b>	<b>352,916,433.60</b>	<b>456,955,334.70</b>	<b>528,171,840.17</b>	<b>1,771,413,044.83</b>
<b>Scenario 3: AYP IC costs: 80 Highest Burden LGAs</b>						
<b>High Risk LGAs/ Comprehensive Package Cost</b>	<b>103,463,742.90</b>	<b>141,378,556.86</b>	<b>188,506,827.67</b>	<b>241,799,858.14</b>	<b>289,580,247.69</b>	<b>964,729,233.24</b>

**Table 21: Intervention cost, proportion of adolescents reached, cost per AYP reached, and % HIV burden addressed**

Costing Scenarios	5yr total AYP IC cost (USD)	# of AYPs reached by 2025	% of AYPs reached by 2025	Cost per AYP reached by 2025 (USD)	% HIV burden addressed by 2025
<b>Scenario 1:</b> 36 States + 1, All LGAs	4,727,551,059.13	74,463,657	100.00%	63.38	100.00
<b>Scenario 2:</b> 10 High Burden States, All LGAs (Abia, Akwa Ibom, Anambra, Benue, Delta, Enugu, Imo, Lagos, Rivers & Taraba)	1,771,413,044.83	22,618,563	30.38%	78.32	55.26
<b>Scenario 3:</b> 80 Highest Burden LGAs	964,729,233.26	7,137,793	9.59%	135.16	10.61

# Annex 1: Costing methodology

## A. COSTING ASSUMPTION AND NOTES

1. Due to the continued fluctuation in exchange rates between the Nigerian Naira (NGN) and other foreign currencies, the United States Dollar (USD) was used to do all costing projections
2. Projected annual inflation rates are high due to the imminent economic impact of the COVID 19 pandemic. This will allow the costing to remain valid regardless of sharp increases in inflation over the next few years. Should the actual rates turn out to be lower, the overage can be re-purposed. Inflation rates assigned for 2020 (15%), 2021 (20%), 2022 (25%), 2023 (25%) and 2024 (20%).
3. Some of the AIDS Impact Model HIV population projections were not disaggregated by gender. In those instances, both male and female indices were combined.
4. Costing was done under five distinct headings as detailed in the Investment case:
  - (a) Differentiated Package of Health Services;
  - (b) Demand Generation;
  - (c) Structural Actions;
  - (d) Programme Administration; and,
  - (e) Monitoring and Evaluation.
5. "Number of persons reached" with interventions was used to demonstrate value for investment made. Number of new infections averted, however, could not be determined due to insufficient data.
6. All costing projections were made using the Avenir Health - One Health Tool v4.67 and Spectrum v5.87, except for the costing for male and female condoms, PreP and PeP.
7. Major costing outlier is the cost of female condoms at a UNAIDS rate of \$0.53 per condom. The cost projections include females aged 10-24 years given 120 condoms per year and targeting coverage for half that target population (50% intervention coverage) by Y5 (2024). This item alone is responsible for over \$7 billion USD over the five-year period.
8. Other intervention costing assumptions include:
  - (a) Male condoms at a UNAIDS rate of \$0.04 per condom (unpacked). The cost projections include males aged 10-24 years given 120 condoms per year and targeting coverage for half that target population (50% intervention coverage) by Y5 (2024)<sup>7</sup>.
  - (b) Post-Exposure Prophylaxis – PEP (Emtricitabine + Raltegravir/Dolutegravir) for emergency prophylaxis among HIV negative victims of non-consensual sex, exposed health workers, IV drug users. Exposure risk rate estimated at 2% of the target population. Unit cost of \$22.50 for twenty-eight (28) day treatment. Three exposures per year assumed. Five percent (5%) intervention coverage targeted in 2020<sup>37</sup>.

(c) Pre-exposure Prophylaxis - PrEP (Truvada - Emtricitabine + Tenofovir) for long-term prophylaxis of infection for most-at-risk target populations such as female sex workers, men who have sex with men, sero-discordant couples, which represents 10% of all male and females aged 10-24 years-old given a 12 month supply per year at 5% intervention coverage starting in 2021, at a cost of \$270/year based on \$22.50 for a thirty (30) day supply<sup>36</sup>.

9. Demand Generation and Structural Actions, captured as interventions in community involvement, media, and, communication and advocacy for policy change. The HIV Prevention Coalition coordinated by UNAIDS, proffers a framework for determining intervention costs based on the prevailing HIV infection rates where the Adolescent girls and young women live<sup>36</sup>. For the AGYW in Nigeria, the costs per girl were estimated at \$20 per AGYW, based on interventions done in 10 high-risk states only.

10. Programme Administrative costs were expressed as percentages of the total intervention costs.

(a) Human Resource costs: Most of the staff that are to be involved in administration, service delivery and structural actions are already accounted for under the broader national health budget. The major exception would be the Community Volunteers that will be recruited to carry out grassroots operations. They are usually paid small stipends for their services. During the five years of the programme, this is estimated to be equal to five percent (5%) of the total intervention cost.

(b) Training of the health workforce in required programming competencies has been estimated to equate five percent of the total intervention budget over five (5) years of the programme.

(c) General Programme Management includes activities such as Design and Review of Country Strategy, Development and Review of Annual Work Plan, Development/Review of Human Resource Plan, Programme Coordination Meetings, Commodity Regulation and Policies, Situation Analysis, Office equipment and supplies. For the 5-year duration of the programme, this has been estimated equal to 2.5% of total intervention costs.

(d) Supervision: This would involve coordination meetings at national level and national staff visiting state staff, and vice versa, among other activities. Supervision activities were estimated equal to 2.5% of the total intervention cost

(e) Infrastructure and Equipment: Though maintenance of existing facilities is usually captured under the broader health budget, there are aspects that are specific to Adolescent Health programming, such as Situational Assessment of existing facilities for youth-friendly readiness, as well as, equipment upgrades for Primary Health Care centers and referral hospitals. Infrastructure and equipment upgrades have been estimated equal to 2.5% of the total intervention cost over the five (5) years of the programme.

(f) Transport: Includes situational assessment, new vehicle purchase (USD), vehicle operation and maintenance, estimated at 1.5% of total intervention cost over the five (5) years of the programme.



11. Monitoring and Evaluation activities were also estimated at five percent (5%) of total intervention cost and includes Design of M and E Frameworks and Systems, Design of quality control and assurance, design/review of data management systems, data collection and analysis, quality control/quality assurance.

## B. COSTING DEFINITIONS

### **Total population:**

Total population: Estimated to be consistent with the 1963, 1991 and 2006 censuses, adjusted for under-enumeration, with the age and sex structure from the 2011 MICS4 survey, and with estimates of the subsequent the trends in fertility, mortality and international migration. *Source:* Census. Date: 23-Mar-2006

### **Total fertility rate**

Based on:

(a) maternity-history data adjusted for underreporting from the 1981/82 Nigeria WFS, the 1990, 1999, 2003, 2008 and 2013 DHS, as well as the 2010 Malaria Indicator Survey (MIS);

(b) data on children ever born and births in the preceding 12 months (or 36 months), both classified by age of mother, from these surveys and from the 1965/66 Nigerian rural demographic inquiry, the 1971/73 KAP survey, the 1991 census, the 2000 Nigeria Sentinel Survey, the 2007 MICS3 and 2011 MICS4;

(c) data on children ever born classified by age of mother from the 1995 MICS and 1999 MICS2 surveys;

(d) cohort-completed fertility from these surveys and censuses; (e) the own-children method applied to the 2007 MICS3 and 2010/11 GHS. Estimates based on the reverse survival method applied to the 2011 MICS4 were also considered.

### **Life expectancy at birth**

Estimated using the South model of the Coale-Demeny Model Life Tables and three parameters: (1-2) direct and indirect estimates of infant and child mortality, and (3) adjusted estimates of adult mortality (45q15). Adult mortality estimates were derived from: (a) recent household deaths data from the 1965-1966 Nigerian rural demographic inquiry, the 2008 and 2013 DHS, and the 2010/11 GHS; (b) parental orphanhood from the 1986, 1999, 2003, 2008 and 2013 DHS, the 2007 MICS3 and 2010/11 GHS; (c) siblings deaths from the 2008 DHS; (d) implied relationship between child mortality and adult mortality based on the North model of the Coale-Demeny Model Life Tables. Data from West African rural demographic surveillance sites including for Malumfashi in 1962-1966 and 1974-1977 and urban vital registration were also considered.

### **Infant and child mortality**

- » Infant mortality: Derived from the child mortality rates using the North model of the Coale-Demeny Model Life Tables.
- » Child mortality: Based on:
  - (a) recent household deaths from the 1965-1966 Nigerian rural demographic inquiry;
  - (b) data on births and deaths under-five calculated from maternity-history data from the 1990, 2003, 2008, and 2013 Nigeria DHS, and 2010 MIS;
  - (c) data on children ever-born and surviving classified by age of mother (and the North model of the Coale-Demeny Model Life Tables) from these surveys. Estimates based on the 1962-1977 Malumfashi DSS, the 1971/73 National Fertility, Family and Family Planning survey, the 1981/82 Nigeria WFS, the 1995 and 1999 Nigeria Multiple Indicator Cluster Surveys, the 1999 Nigeria DHS, the 2000 Nigeria Sentinel survey, and the 2007 and 2011 MICS were also considered.

### **International migration**

Summary: Based on information on Nigerian-born persons enumerated in neighbouring countries, flows of Nigerians to selected developed countries, and information obtained at the time of the repatriation of undocumented migrants that took place in 1983 and 1985.

### **AIDS IMPACT MODEL (AIM)**

- » HIV incidence through 2020 is from the UNAIDS AIDS Info database ([www.unaids.org](http://www.unaids.org)). If the projection extends beyond 2020 then incidence is maintained at the 2020 level.
- » Adult and child ART and PMTCT data are as reported by countries to UNAIDS/WHO including projections to 2020. Numbers are constant beyond 2020. The values were taken from an aggregated national projection and are NOT from an official UNAIDS file.

## **C. COSTING SOURCE AND PROCESSING**

Costing was computed using the One Health Tool and Spectrum (v5.87) software from Avenir Health. A few computations were done manually such as the cost projections for Male and Female Condoms, PrEP and PEP interventions.

Parameters	Sources
HIV population data	SPECTRUM v5.87 (Avenir Health), WPP
Intervention Costs	One Health Tool (Avenir Health)
Intervention Costs	One Health Tool (Avenir Health)
Commodity/Drug prices	<ul style="list-style-type: none"> <li><a href="https://www.unaids.org/sites/default/files/media_asset/UNAIDS_HIV_prevention_among_adolescent_girls_and_young_women.pdf">https://www.unaids.org/sites/default/files/media_asset/UNAIDS_HIV_prevention_among_adolescent_girls_and_young_women.pdf</a></li> <li><a href="file:///E:/ppm_arvreferencepricing_table_en.pdf">file:///E:/ppm_arvreferencepricing_table_en.pdf</a></li> <li><a href="https://hivpreventioncoalition.unaids.org/wp-content/uploads/2020/06/Decision-making-aide-AGYW-investment-Version-March-2020-Final.pdf">https://hivpreventioncoalition.unaids.org/wp-content/uploads/2020/06/Decision-making-aide-AGYW-investment-Version-March-2020-Final.pdf</a></li> </ul>
Intervention Effectiveness	<ul style="list-style-type: none"> <li><a href="https://www.hiv.gov/hiv-basics/hiv-prevention/using-hiv-medication-to-reduce-risk/pre-exposure-prophylaxis">https://www.hiv.gov/hiv-basics/hiv-prevention/using-hiv-medication-to-reduce-risk/pre-exposure-prophylaxis</a></li> <li><a href="https://www.catie.ca/fact-sheets/prevention/post-exposure-prophylaxis-pep">https://www.catie.ca/fact-sheets/prevention/post-exposure-prophylaxis-pep</a></li> <li><a href="https://www.avert.org/professionals/hiv-programming/prevention/prevention-mother-child">https://www.avert.org/professionals/hiv-programming/prevention/prevention-mother-child</a></li> <li><a href="https://medlineplus.gov/ency/article/004002.htm">https://medlineplus.gov/ency/article/004002.htm</a></li> </ul>

## Annex 2: Distribution of high-risk LGAs for HIV prevalence (age 15-49 years) by states

States	High Risk LGAs <sup>1</sup>	Medium/Low Risk LGAs
Abia State	3	14
Adamawa State	0	22
Akwa Ibom State	31	0
Anambra State	4	17
Bauchi State	0	20
Bayelsa State	2	7
Benue State	14	8
Borno State	0	27
Cross River State	4	14
Delta State	1	24
Ebonyi State	0	13
Edo State	1	18
Ekiti State	0	16
Enugu State	0	17


<sup>1</sup> High burden LGAs were defined as those having HIV incidence of 0.25% and above, based on the recommendation provided by UNAIDS in the “Decision-making aide for investments into HIV prevention programmes among adolescent girls and young women Version for use in 2020 planning processes.” <https://hivpreventioncoalition.unaids.org/wp-content/uploads/2020/06/Decision-making-aide-AGYW-investment-Version-March-2020-Final.pdf>

States	High Risk LGAs <sup>1</sup>	Medium/Low Risk LGAs
Federal Capital Territory	0	6
Gombe State	0	11
Imo State	1	26
Jigawa State	0	27
Kaduna State	1	22
Kano State	0	44
Katsina State	0	34
Kebbi State	0	22
Kogi State	0	20
Kwara State	0	16
Lagos State	1	19
Nasarawa State	0	13
Niger State	0	24
Ogun State	0	19
Ondo State	0	18
Osun State	0	30
Oyo State	0	34
Plateau State	0	17
Rivers State	14	9
Sokoto State	0	22
Taraba State	3	13
Yobe State	0	17
Zamfara State	0	14
<b>Total</b>	<b>80</b>	<b>694</b>

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JULY 2021



# HIV PROGRAMMING IN ADOLESCENTS AND YOUNG PEOPLE IN NIGERIA: AN INVESTMENT CASE 2021-2025



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