GHANA HEALTH SERVICE

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NACP

NATIONAL AIDS CONTROL PROGRAMME

2019 ANNUAL REPORT

JUNE 2020

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List of Abbreviations

ABC	Abacavir
ACE	Adverse Clinical Event
AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
ARV	Antiretroviral
AZT	Zidovudine
AZT/3TC	Zidovudine/Lamivudine combination drug
BSS	Behavioural Surveillance Survey
CATS	Community Adolescent Treatment Supporters
CBO	Community Based Organization
CCM	Country Coordinating Mechanism
CDC	Centre for Disease Control and Prevention, Atlanta
CHAG	Christian Health Association of Ghana
CMS	Central Medical Stores
DBS	Dried Blood Sample
DMoC	Differentiated Models of Care
DNA	Deoxyribonucleic Acid
DSD	Differentiated Service Delivery
EFV	Efavirenz
EID	Early Infant Diagnosis
EMTCT	Elimination of Mother-to-Child Transmission
GFATM	Global Fund to fight AIDS, TB & Malaria
GHS	Ghana Health Service
GIPA	Greater Involvement of Persons Living with HIV and AIDS
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency Virus
HTC	HIV Testing and Counselling
HIVDR	HIV Drug Resistance
HSS	HIV Sentinel Surveillance
ICD	Institutional Care Division
IDSR	Integrated Diseases Surveillance and Response
IEC	Information, Education and Communication
IMAI	Integrated Management of Adult and Adolescent Illnesses
IMCI	Integrated Management of Childhood Illnesses

JICA	Japan International Co-operation Agency
JUTA	Joint UN Team on AIDS
LPV/r	Lopinavir boosted with Ritonavir
MDA	Ministries Departments and Agencies
MM	Mentor Mother
MOH	Ministry of Health
MoS	Months of Supply
NACP	National AIDS/STI Control Programme
NAT	Nucleic Acid Testing
NHARCON	National HIV/AIDS Research Conference
NMIMR	Noguchi Memorial Institute for Medical Research
NVP	Nevirapine
OIs	Opportunistic Infections
PCR	Polymerase Chain Reaction
PEPFAR	President's Emergency Plan For AIDS Relief
PH	Public Health
PI	Protease Inhibitors
PLHIV	Persons Living with HIV
PMTCT	Prevention of Mother-To-Child Transmission
PU	Procurement Unit
SoH	Stock on Hand
STI	Sexually Transmitted Infections
TB	Tuberculosis
TLD	Tenofovir Lamivudine Dolutegravir
TWG	Technical Working Group
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WAHO	West African Health Organisation
WHO	World Health Organization
WHO/AFRO	World Health Organization Africa Regional Office

EXECUTIVE SUMMARY

In 2019, the HIV prevalence was 2.0% as against 2.4% in 2018 amongst pregnant women attending Antenatal Care (2019 HIV Sentinel Survey Report, May 2019). To reduce the incidence of HIV in the country, the Programme developed and began the implementation of an Advocacy, Communication and Social Mobilization plan and collaborated with other partners to address HIV-related stigma and human rights abuses.

One Million, eight hundred and twenty-seven thousand, eight hundred and one, (1,827,801) out of a target of 2,635,051 were tested for HIV in 2019, representing 69% target coverage, the highest in the last five years. Approximately 19% were males, 33% were non-pregnant women, and the remaining 48% were pregnant women. Of those tested 69,120 were found positive, giving a testing yield of 3.8%, the lowest in the last five years.

From a total of 1,211,232 expected pregnancies in 2019, 72% (873,035) were offered HIV testing and received their results. Thirteen thousand, one hundred and forty-two (13,142) out of those tested were HIV positive (1.5%), and 11,682 (89% of positives) were provided ARVs to Prevent Mother-To-Child Transmission of HIV (PMTCT). Ten thousand and sixty-three (10,063) of the 13,142 expected HIV Exposed Infants (HEI) received Early Infant Diagnosis (EID), giving a 77% nucleic acid testing coverage and 8% (813) of them were positive at six weeks.

Thirty-six thousand, two hundred and three (36,203) adults and children were initiated on ART in 2019. As of December 2019, a total of 153,901 clients were on treatment, a significant increase from the 2017 figure. One hundred and twenty-four thousand, four hundred and sixteen (124,416) clients were due for viral load testing as at December 2019, out of which 93,013 tests were performed and 63,526 found virally suppressed. With the estimated 342,307persons living with HIV in Ghana in 2019(Spectrum Estimates 2019), the 90-90-90 status for the country was 58-77-68.

During the year, NACP organized training for health care workers in early infant diagnosis, family-based Index testing, ART, differentiated service delivery, TB preventive therapy, and HIV testing. The TB/HIV Collaboration continued, and in 2019, 163,872 PLHIV were screened symptomatically for TB and 1,860 found to

be coinfected. Guidelines for TB Preventive Therapy in Ghana were also developed by a joint TB/HIV task team and the intervention was piloted in facilities, led by the National TB Control Programme.

Under the Cooperative Agreement between the Ghana Health Service and the United States Centres for Disease Control and Prevention (CDC), the Programme continued to undertake proficiency testing for viral load and early infant diagnosis, as well as Dry tube specimen. The National AIDS/STI Control Programme would sustain collaboration with other Divisions and Programmes, i.e. the NTP, FHD, and PPME to ensure more integrated service delivery.

The Programme is appreciative of all the support from the DG-GHS, Director PHD, MOH, GAC, CCM, Development Partners; especially the GF-ATM, JUTA, CDC PEPFAR, other government & non-governmental stakeholders, service providers and the association of PLHIV. Our focus is to work together until we attain zero new infections, AIDS-related deaths, stigma, and discrimination.

Dr. Stephen Ayisi Addo,
Programme Manager.
(NACP)

CHAPTER

Introduction.

The National AIDS/STI Control Programme (NACP) is a unit under the Disease Control and Prevention Department of the Public Health Division of Ghana Health Service (GHS). The Programme started as a National Technical Committee on AIDS, later became the National Advisory Council on HIV and AIDS in 1985 and the National AIDS/STI Control Programme (NACP) in 1987. The Programme has since been the lead agency in the health sector's response to HIV and AIDS in Ghana. The NACP is responsible for implementing the health sector aspects of the National HIV and AIDS Strategic Plan (NSP 2016-2020). Additionally, Programme interventions are guided by the Health Sector Programme of Work and the current Health Sector HIV Strategic Framework (2016-2020).

1.1 Programme Mandate and strategies

The National AIDS/STI Control Programme is empowered to:

- Deliver a package of interventions to reduce HIV transmission.
- Provide care and support services for Persons Living with HIV (PLHIV).
- Deliver Strategic Information on HIV/ AIDS and other STIs.
- Provide essential technical support to all Ministries, Departments, and Agencies (MDAs) in the implementation of their HIV programmes.

The strategies used to deliver each mandate have been outlined in table 1-1.

Table 1-1 NACP mandates and their respective strategies

MANDATE	STRATEGIES
Deliver a package of interventions to reduce HIV transmission.	• Targeted HIV Testing Services for General & Key Population and index client/family-based testing. • Elimination of Mother-To-Child Transmission (PMTCT) services. • Syndromic management of Sexually Transmitted Infections. • Condom promotion. • Ensuring Safe Blood Transfusion. • HIV Exposure Prevention in the Health Care setting and provision of post-exposure prophylaxis to vulnerable groups. • Health Promotion and Demand Creation for all HIV services.
Provide treatment, care and support services for Persons Living with HIV(PLHIV).	• Prevention and Management of Opportunistic Infections. • Provision of Anti-retroviral therapy and differentiated service to all diagnosed persons. • Continuous Supportive Counselling to persons living with HIV (PLHIV). • Provision of Home-Based Care to PLHIV. • Working with PLHIV and their associations. • Greater involvement of Persons Living with HIV and AIDS (GIPA).
Deliver Strategic Information on HIV/ AIDS and other STIs.	• The conduct of annual HIV Sentinel Surveillance. • Development of information, education and communication materials. • Undertake and support individuals, groups and institutions to Conduct HIV research to inform policy and implementation within the national response e.g. AIDS Case Surveillance, Behavioural Sentinel Surveillance, DHS etc. • Dissemination of HIV information to all stakeholders. • Publication of annual reports to all stakeholders. • Issuance of quarterly news bulletins.
Provide essential technical support to all Ministries, Departments, and Agencies (MDAs) in the implementation of their HIV programmes	• Providing technical support to the Ghana AIDS Commission and other stakeholders. • Assisting MDAs to develop and deploy HIV workplace policy and programmes. • Strengthening the institutional capacity of MDAs to provide HIV services.

1.2 Leadership and Governance

At the national level, the Programme Manager is responsible for the coordination and management of the health sector response to HIV and reports to the Director-General of Ghana Health Service through the Director of Public Health. At the sub-national level, the Programme has a decentralized leadership and governance structure, with the national office working closely with the Regional Health Directorates, who also support the districts and facilities in services delivery. Figure 1-1 provides the administrative structure for NACP at the National level.

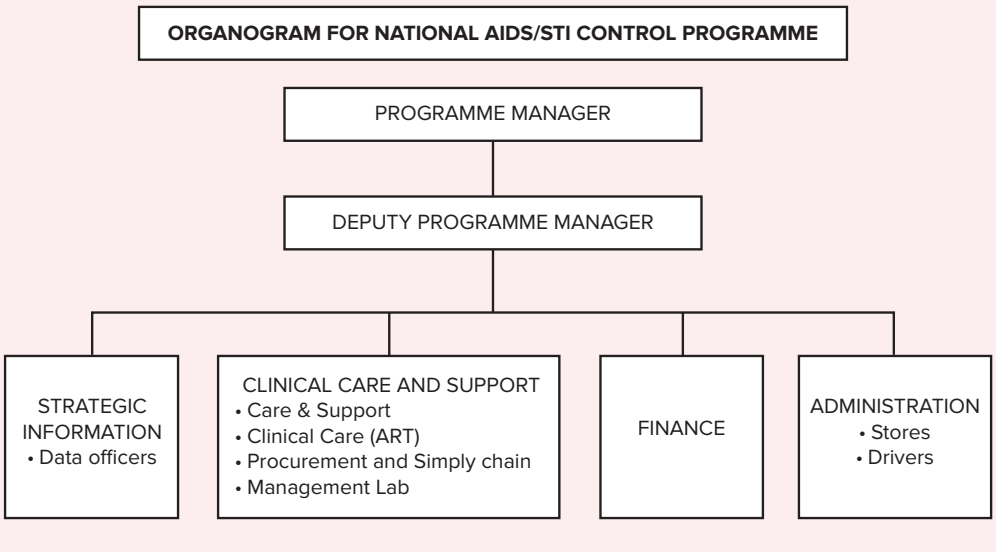


Figure 1-1 Organogram for NACP at the National Level

1.3 Programme Units and Human Resource

The Programme Manager is supported at the national office by technical officers and administrative staff within the following units:

- Clinical Care and Support
- Strategic Information
- Finance and
- Administration

With the exit of one staff at the Co-ag unit and her subsequent replacement, the staff strength of the Programme at the national office remained 38 as at December 2019. The 233 data officers across facilities in the 16 regions have all been migrated to Government of Ghana payroll, with some deployed to undertake other additional duties based on their additional competencies.

1.4 Technical and Financial Support

To achieve its programmatic targets, the NACP is supported by

- The Resource Mobilisation Unit of Ministry of Health
- Health facilities under the Christian Health Association of Ghana (CHAG) and other Private and Quasi-Government facilities.
- The National Public Health Reference Lab (PHRL) and the Noguchi Memorial Institute for Medical Research (NMIMR) that provide diagnostic and Technical Support for the Programme.
- Regional Health directorates in all 16 administrative regions.
- The National HIV Technical Working Group, Paediatric HIV Task team and Differentiated Service Delivery Task Team who support planning, implementation and monitoring of Programme activities.
- AFRICAID ZVANDIRI who supported with the baseline assessment and training of Community Adolescent Treatment Supporters.

The Government of Ghana's financial commitment to HIV Control in 2019 was complemented by donor support for capacity building and logistic supply from

- The Global Fund
- PEPFAR
- CDC
- UNICEF
- WHO
- UNAIDS
- USAID
- WAHO

1.5 Strategic Information (SI)

The NACP works in collaboration with Policy, Planning, Monitoring and Evaluation (PPME) Division of the Ghana Health Service to track all HIV activities in the country. Dedicated officers at the NACP SI Unit help with the provision of baseline, process and outcome indicators as well as set targets and timelines for the country's HIV Programme. The SI Unit utilizes data collected at the facility level using HTC, ART, ANC & maternity registers, PMTCT summaries as well as patient files and cards and captured as aggregate data in the District Health Information System (DHIMS 2). In addition to these, the Unit also supports the conduct of surveys and collects qualitative data from Programme activities and implementing partners. It also leads in the generation of manuscripts and abstracts for publication.

1.6 HIV Service Coverage

A total of 4,446 facilities provided Elimination of Mother to Child Transmission (eMTCT) services in 2019, with the Eastern Region having the highest number (717). Out of the 286 facilities where samples were taken for early infant diagnosis, the majority (49) were in the Greater Accra Region with the least (4) being in the North East and Savannah regions. Four thousand, six hundred and sixty-eight (4,668) facilities were offering HIV testing and Counselling Services to clients as at December 2019, with the majority of them (772) located in the Eastern region of Ghana. Four hundred and eighty-eight (488) facilities offered antiretroviral therapy to clients in 2019, with most of them located in the Ashanti Region. Table 1- 2 provides a summary of the coverage of the various services across the regions.

Table 1-2 Sites providing Services across regions

REGION	ANC PROVIDING EMTCT SERVICES	HTS	EID	ART SITES
Ahafo	59	61	9	10
Ashanti	527	534	41	81
Bono	149	150	12	21
Bono East	119	120	11	13
Central	398	424	28	50
Eastern	717	772	29	37
Greater Accra	373	413	49	78
North East	96	97	4	12
Northern	319	322	7	30
Oti	120	150	6	14
Savannah	129	129	4	13
Upper East	328	340	32	26
Upper West	339	347	7	14
Volta	274	301	18	42
Western	326	329	19	37
Western North	173	179	10	10
TOTAL	**4,446**	**4,668**	**286**	**488**

Apart from the Upper West Region, the other nine regions have machines for viral load and DNA PCR testing.

CHAPTER

Interventions to Reduce HIV Transmission.

To reduce the incidence of HIV in the country in 2019, the Programme undertook the following interventions:

- Advocacy, Communication and Social Mobilisation.
- Addressing HIV-related Stigma and human rights abuses.
- HIV Testing and Counselling Service.
- Elimination of Mother to Child Transmission interventions.
- Condom distribution and STI Management.
- Blood safety.
- Post-exposure prophylaxis.

2.1 Advocacy, Communication and Social Mobilisation (ACSM)

To guide its primary prevention efforts, the Programme developed an ACSM plan, with several strategies aimed at ensuring that by December 2020, there will be

- an increase in safer sexual behaviour and demand for HIV prevention, care and treatment services by 50%.
- a reduction in HIV incidence among vulnerable and key populations by 50%.

To achieve this, the plan outlines several time-bound activities involving the engagement of key stakeholders including Civil Society Organisations, the Ministry of Education/Ghana Education Service, faith-based organizations and traditional leaders among others. These activities were selected to be in line with the Ghana HIV Prevention Road Map.

Media engagements

As part of the ACSM activities, the Programme from the national level sensitised the general public on emerging issues in HIV prevention, testing and treatment through 16 media houses in 2019, whose names and respective engagement frequencies are captured in figure 2-1. Though the stations are all located in the Greater Accra Region, their presence online and on digital satellite platforms widened the coverage for the messages. Service providers across the regions also educated the populace in their catchment areas through local media houses and social events. The programme is grateful to these Media Houses, who offered free airtime to the Programme to help the course of our primary prevention activities. In 2020, there shall be more of such collaborations with other public, private and faith-based media outlets. Service providers in the regions shall also be encouraged to continue such media engagements in their local context.

Engagement of faith-based organisations

Having demonstrated success in HIV prevention in other countries through their spiritual mandate credibility, access to sources of political power, creativity in delivering messages, affiliations with large numbers of people and work with vulnerable populations, faith-based organisations are key partners in the fight against HIV and are very pivotal in the attainment of epidemic control. To seek their support in the fight against HIV in the country, the Programme engaged the Catholic Bishops Conference, The Methodist Church, Church of Pentecost and the Christian Council of Ghana.

Following the engagements, the Programme was offered free slots on Radio Angelus, Radio Angelus online and Catholic Digest, which are Catholic Media Houses, to educate the public on various HIV-related issues. The Programme also worked with Christ the King Church to reach out to beneficiaries of the Church's Soup kitchen. These beneficiaries were young persons who were street bound and therefore predisposed to Tuberculosis, Malaria and sexually transmitted infections including HIV. With the support of Nurses, Medical officers and Specialists who worship at the Parish, they were offered Medical Screening, Health Education and Counselling. Those found with various conditions including HIV were linked to health facilities for further assessment and treatment.

Social Media Campaigns

To increase awareness and promote preventive behaviour change and services across the HIV care cascade, the Programme engaged Stratcomm Africa to provide technical assistance with the development and implementation of a Communication Plan. The intervention, which is code-named "Free-to-be", involves engagements largely on social and traditional media as well as the community. It includes the use of influencers of various target populations to help deliver group-specific messages of hope, leading to behaviour change. Social Media handles, named "Operation 90-90-90" have been created on Facebook, Twitter and Instagram since December 2019 and are steadily increasing in followership and activity. These platforms and other spontaneous ones that are likely to spring out of them will be used to mobilise individuals and groups to support efforts towards achieving epidemic control of HIV in the country.

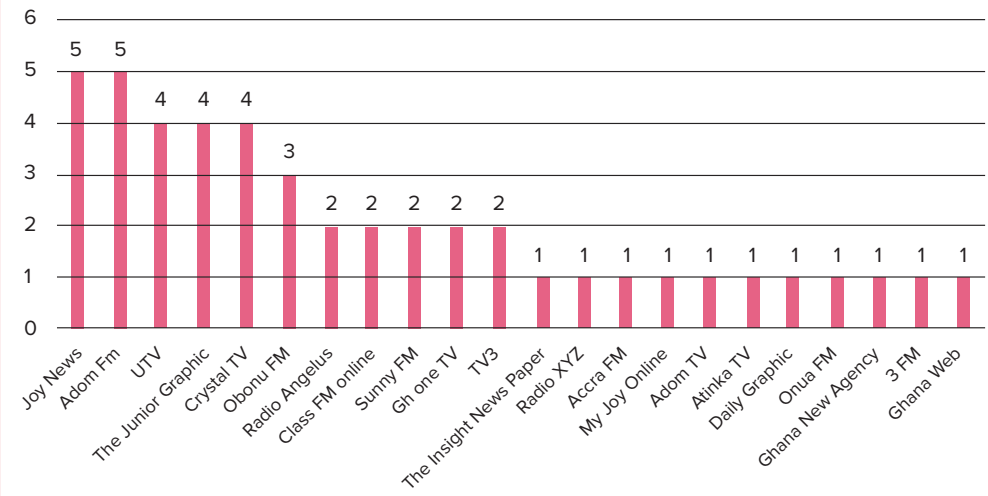


Figure 2-1 Frequency of media engagements-2019

2.2 Addressing HIV-related Stigma and Human Rights Abuses

Human rights abuses remain a significant challenge to HIV prevention efforts globally. In Ghana, these abuses are particularly rife among the key populations, adolescent girls and young women. To address the stigma within health facilities, NACP supported the West African Program to Combat AIDS and STI (WAPCAS) to train service providers in eight facilities on how to reduce stigma in their settings. The Programme again worked with WAPCAS to train senior Police officers across the country on the rights of Key and Vulnerable populations. This was a follow up to an earlier engagement meeting held by key stakeholders with the Inspector General of Police in 2018 on reducing the incidence of human right abuses towards key populations, especially the female sex workers. Unlike other years, this intervention led to the observance of no police swoops and brutalities towards commercial sex workers in December 2019.

The NACP, with the support of the John Snow International (JSI) Care Continuum project, continued to provide capacity building on stigma reduction towards key populations and their management in health care settings for the staff being trained to provide ART.

2.3 HIV Testing and Counselling Services (HTS)

HIV Testing serves as the entry point to antiretroviral treatment and helps to prevent new infections and re-infection in the general population. In 2019, the Programme routinely offered HIV Testing and Counselling (HTC) services to persons who wanted to know their status and learn more about HIV and AIDS to make informed decisions about their sexual and reproductive health.

Index testing

Following the adoption of the UNAIDS "90 90 90" targets for 2020 towards the elimination of HIV by 2030, there has been the need for innovative approaches to achieve these targets. The first step is the attainment of the first "90", which requires that 90% of people living with HIV in Ghana should know their status. Ghana at the end of 2019 was at 58% due to low testing coverage among high risk and vulnerable groups and efforts to accelerate progress led to the pilot of the Family-Based Index client testing (FBIT) strategy.

FBIT is a voluntary process where counsellors or health care workers ask index clients to list all of their family members (children, siblings, or sexual partners) who might be exposed to HIV for testing. It was piloted in 40 purposively selected facilities in the Ashanti, Brong Ahafo, Central, Greater Accra and Western Regions with support from UNICEF-Ghana. The aim of the intervention was to

- Increase HIV testing yield,
- Improve efficacy in testing
- Diagnose and initiate infected partners and children early and
- Link negative partners to prevention services

Participants from pilot facilities received training and were supported to initiate family-based index client HIV testing. After three months of implementation (January-March 2019), data was gathered and validated from all implementing sites.

From the 40 pilot facilities, a total of 1,676 index clients were offered FBIT with an average acceptance rate of 78% across the regions and a contact elicitation rate of 1:1.8. Of the contacts reached, 86% were tested and a yield of 24% recorded (children and partners), which was significantly greater than the provider-initiated testing and counselling (PITC) yield (difference=19%,95% CI=16.6%-22.5%, $p<0.0001$). Compared to PITC initiation rates, a significant proportion of the positives (94%) were initiated on ARVs (difference =52%,95% CI=48%-55%, $p<0.0001$).

Though the use of Community Health Nurses and Models of Hope promoted FBIT, fear of disclosure on the part of index clients, refusal of the partners to report for testing, schooling schedules of listed children, children not living with the index clients and lack of community-level access to ART were barriers to testing and ARV initiation during the pilot.

With this evidence, the country is gradually scaling up index testing across all service delivery points and has developed data capture tools for it to be reported in DHIMS. Figure 2-2 gives the impact of intervention beyond the pilot.

The success of the intervention caused a high-level mission from the UNICEF West and Central African Regional Office (WACARO) to pay a learning visit to Ghana to document the country's index testing experience. The Programme hopes to continue providing supportive supervision for its implementation and to share its experience globally.

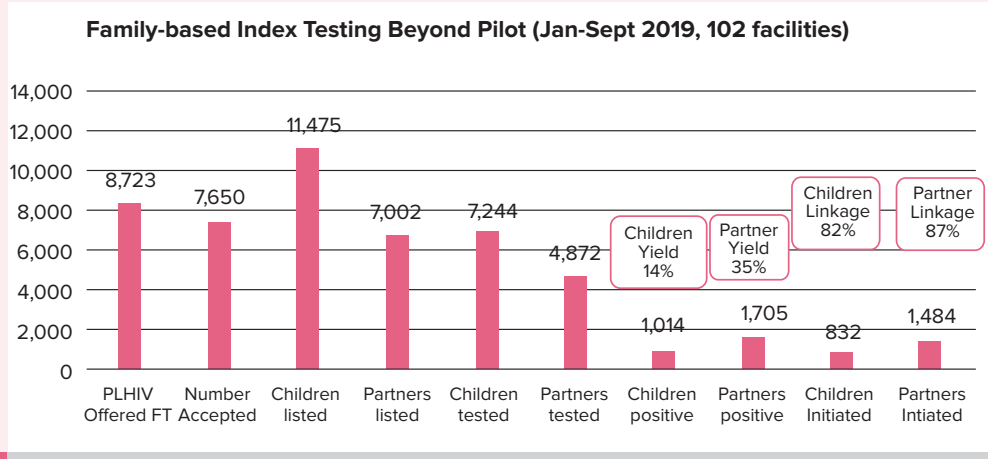


Figure 2-2 Family-based index testing beyond the pilot

HIV Testing Coverage

One Million, eight hundred and twenty-seven thousand, eight hundred and one, (1,827,801) out of a target of 2,635,051 were tested for HIV in 2019, representing 69% target coverage, the highest in the last five years (figure 2-3). The regional coverage of the testing targets is captured in figure 2-4. The majority (48%) of those tested were pregnant women, with men tested being the least (figure 2-5). There was however an improvement in the contribution by non-pregnant women to the testing figures compared to 2018. It is hoped that the recommendations of operational research conducted by the Research Division of Ghana Health Service to assess barriers to male involvement in HIV testing will provide some innovative solutions. By age, most (97%) of those tested were more than 15 years. (figure 2-6).

HIV Testing Among Men

Current facility-based testing and general population outreach models are not well patronised by high-risk men including long-distance drivers, uniformed service personnel and men within high-risk networks regular and non-regular partners of female sex workers, those in discordant relationships and key populations. To reach them, the West African AIDS Foundation(WAAF) was engaged to use strategic community-based interventions to test them and link the positives to care. Out of the 3,393 high-risk men that were tested in the Greater Accra and Western Regions, 92 were found positive and were all initiated on treatment. Those negative were also offered prevention services including condom distribution. This module needs to be scaled up strategically across the country to help improve the testing coverage for these high-risk men.

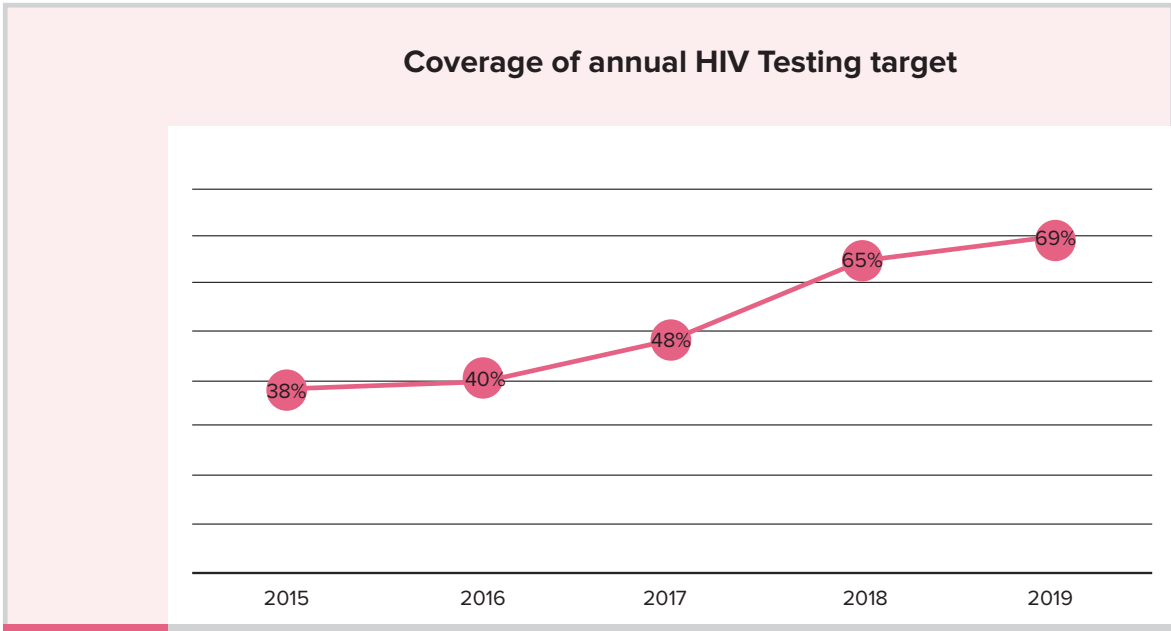


Figure 2-3 Trend in Coverage of Annual HIV testing targets (2015-2019)

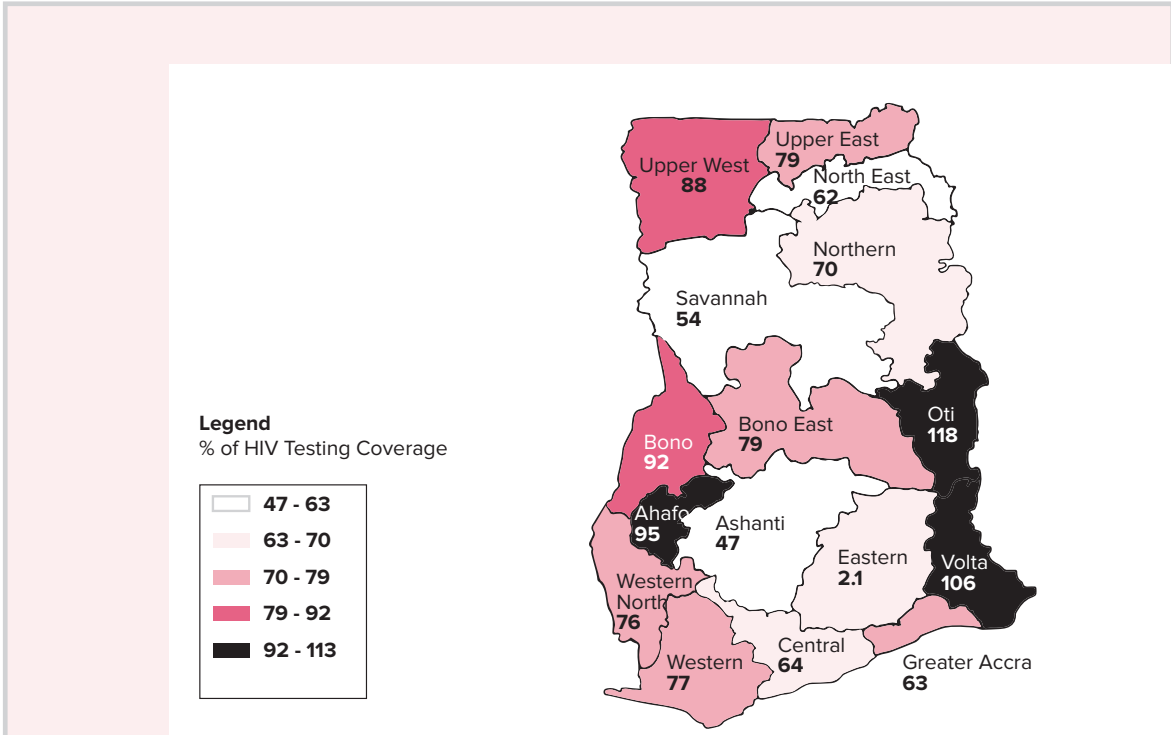


Figure 2-4 HIV testing coverage by region-2019

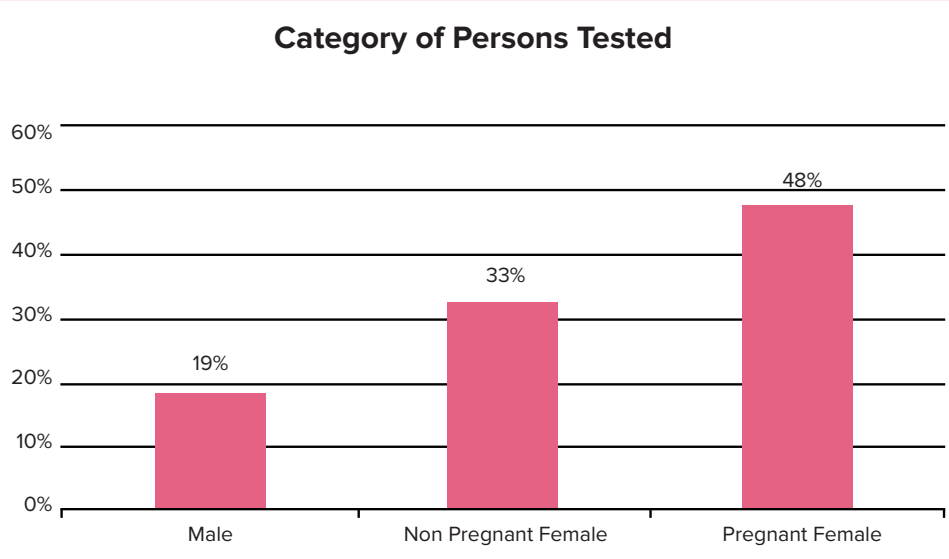


Figure 2-5 Category of persons tested-2019

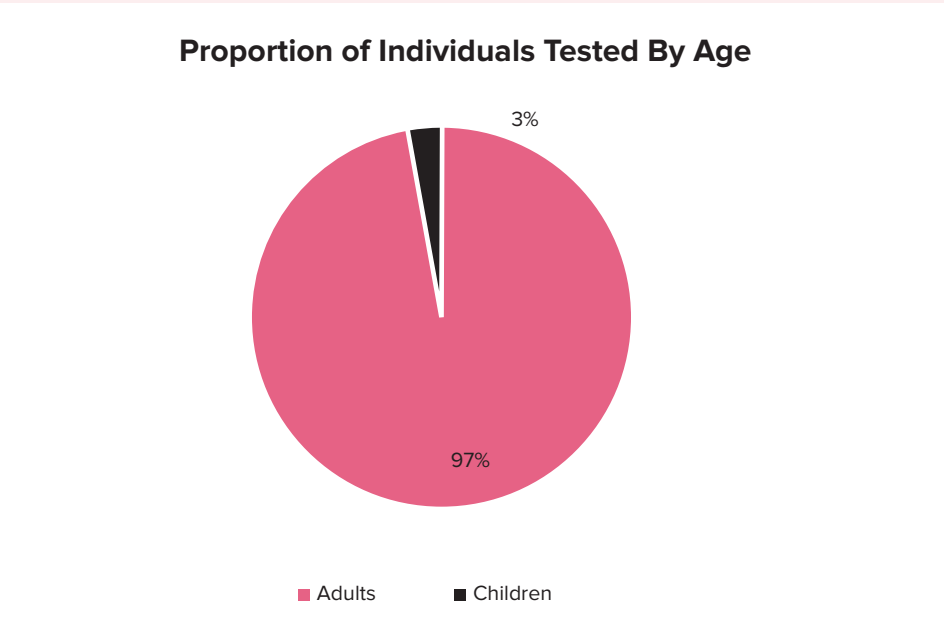


Figure 2. 6 HIV testing by age-2019

HIV Testing Yield

Among those tested, a total of 69,120 persons were found positive in 2019, 99% (68,085) of whom were more than 15 years. The numbers positive translated into a yield of 3.8% from all those tested in the year, the lowest in the last five years (figure 2-7). Due to the poor health-seeking behaviour of men, the yield among males has been consistently higher than that in females in the last five years but is also seeing a downward trend (figure 2-7). Out of the 45,829 children tested, 2.3% (1,035) were found positive, while 3.8% (68,085) of the 1,781,972 adults tested were found positive. The regional distribution of these figures can be found in tables 13-1 and 13-2 in the appendix.

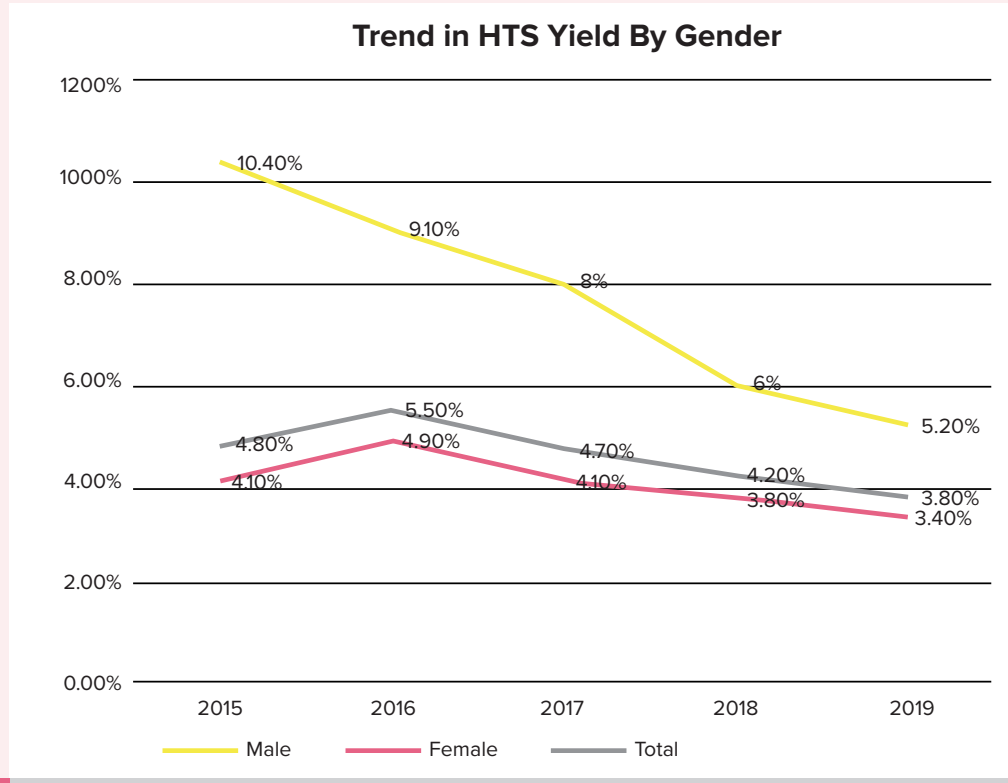


Figure 2-7 HIV testing yield by gender-2019

2.4 Elimination of Mother to Child Transmission

Elimination of Mother-to-Child Transmission (eMTCT) continues to be the flagship programme that integrates Sexual and Reproductive Health (SRH) and HIV services for women and infants and provides an opportunity to expand male participation in SRH and HIV services. Below is a catalogue of activities undertaken in 2019 to achieve this, in addition to the primary prevention activities highlighted earlier.

Prevention of Unintended Pregnancies in HIV positive women

Ghana's PMTCT guidelines recommend the prevention of unintended pregnancies among women in fertility age, living with HIV to have them virally suppressed, or at least on treatment before pregnancy. To achieve this, the Programme liaised with the Family Health Division of the Ghana Health Service and provided Family planning (FP) services as part of ANC at all service delivery points. Women seeking PMTCT services also got family planning services and were catered for or linked to services where necessary during the ante-natal and post-natal periods. HIV positive non-pregnant women were also referred for family planning services. The Family Health Division has detailed data on the provision of Family Planning at its Reproductive and Child Health Unit (RCH).

HIV Testing at Antenatal Care Units

Early diagnosis and initiation of HIV positive pregnant women on ARVs are key in the efforts to achieve the elimination of Mother to Child Transmission(eMTCT). The eMTCT guidelines, therefore, recommend that all pregnant women are tested for HIV at registration and 34 weeks if the earlier test is negative.

HIV Testing Coverage at ANC

Out of a total of 1,211,232 expected pregnancies in 2019, 72% (873,035) were offered HTS (figure 2-8). The general downward trend in the testing coverage for expected pregnancies over the last five years needs to be investigated and the use of Mentor Mothers and other community-based peer support modules strengthened to help improve testing for those who do not assess antenatal care during their pregnancies.

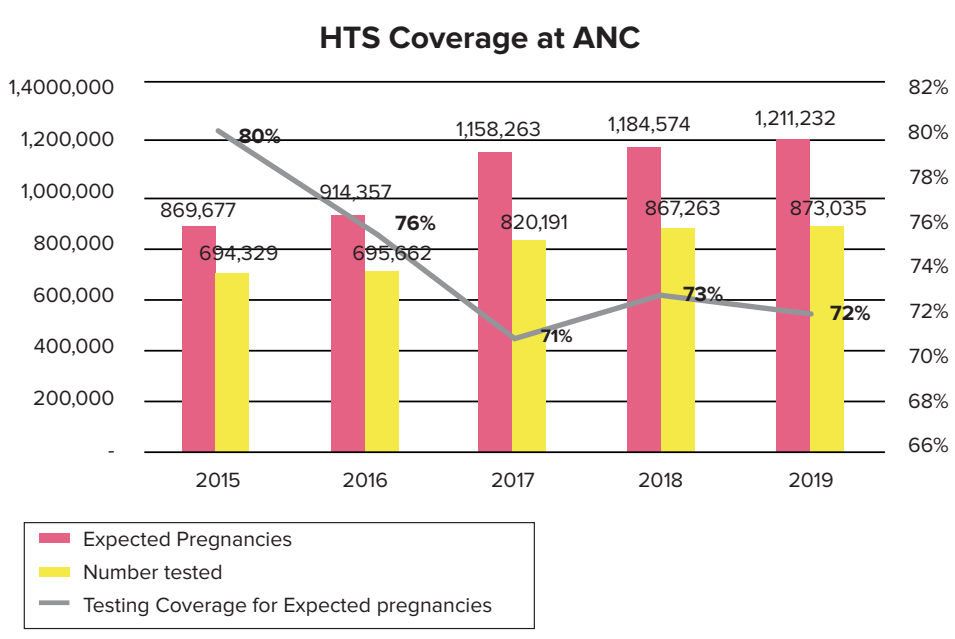


Figure 2-8 Trend in HTS Coverage for expected pregnancies at ANC-2019

HIV Testing Yield at ANC

Of the pregnant women tested, 13,142 were found positive, giving a yield of 1.5%, the lowest since 2015 (figure 2-9). Figure 2-10 gives the ANC testing yields across the regions, with the lowest (0.2%) and the highest (2.1%) being from the North East and Greater Accra Regions respectively.

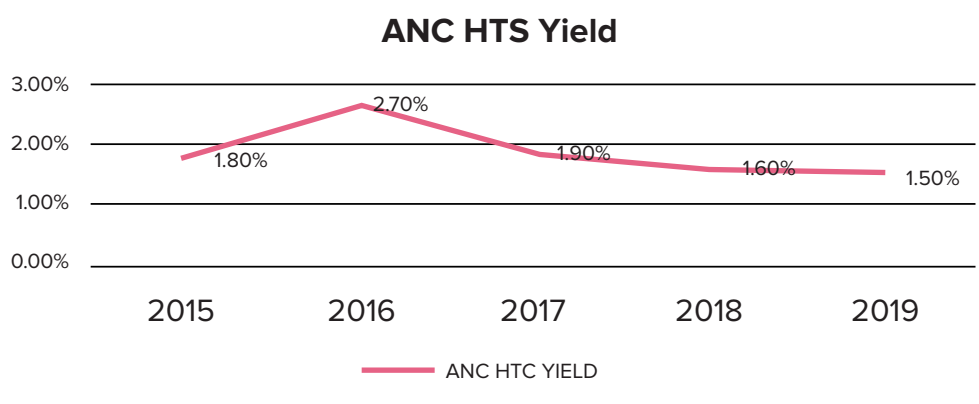


Figure 2-9 Trend in ANC HTS yield

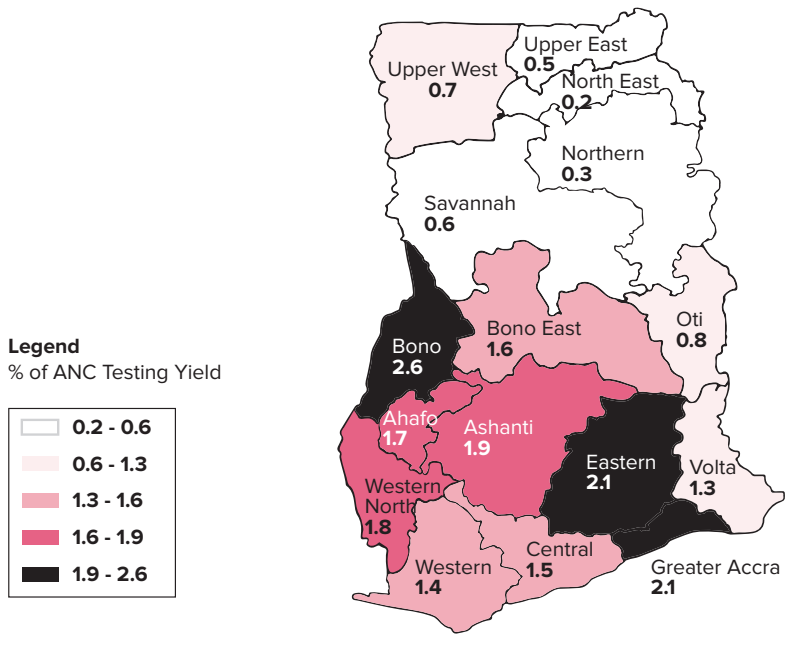


Figure 2-10 Regional distribution of ANC testing yield-2019

Provision of ARVs to HIV Positive Pregnant Women

Provision of ARVs to HIV positive pregnant women reduces their viral loads and their risk of transmitting the infection to the foetus. Ghana adopted the policy of using combination antiretroviral therapy for PMTCT in 2006 and updated its protocol in 2010 to lifelong triple ARVs for HIV positive pregnant women to further reduce Mother-to-Child Transmission (MTCT) rates. From the 13,142 HIV positive pregnant women-11,687 were offered ARVs, giving coverage of 89%, the highest in the last five years (figure 2-11).

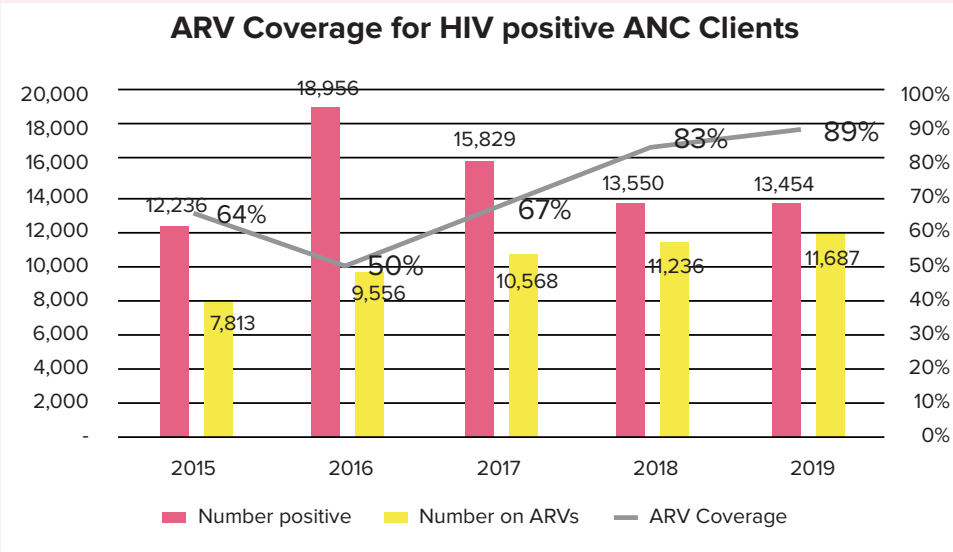


Figure 2-11 Trend in ARV Coverage among HIV positive ANC clients

Provision of Treatment, Care and Support Services for Mothers, their Infants, and Families

Post-natal care, family planning, breastfeeding, and other nutritional support, as well as child welfare services, were offered to HIV positive mothers and their infants at service delivery points for continued care. Due to the rapid course of HIV in infected new-borns, WHO recommends the performance of Nucleic Acid Testing (NAT), using Dried Blood Spot (DBS) samples collected from HIV exposed infants at specified ages below 18 months for early infant diagnosis and provision of ARVs when the infant is found positive.

Nucleic Acid Testing and Yield for Early Infant Diagnosis

From the 13,142 HIV exposed infants delivered in 2019, 77% (10,063) received nucleic acid testing (NAT) for HIV by the 6th week of life (figure 2-12). Due to the increase in the number of staff trained in DBS sample collection and the promotion of testing within the first six weeks of life, NAT coverage at 6 weeks has seen a significant rise since 2015 (figure 2-13).

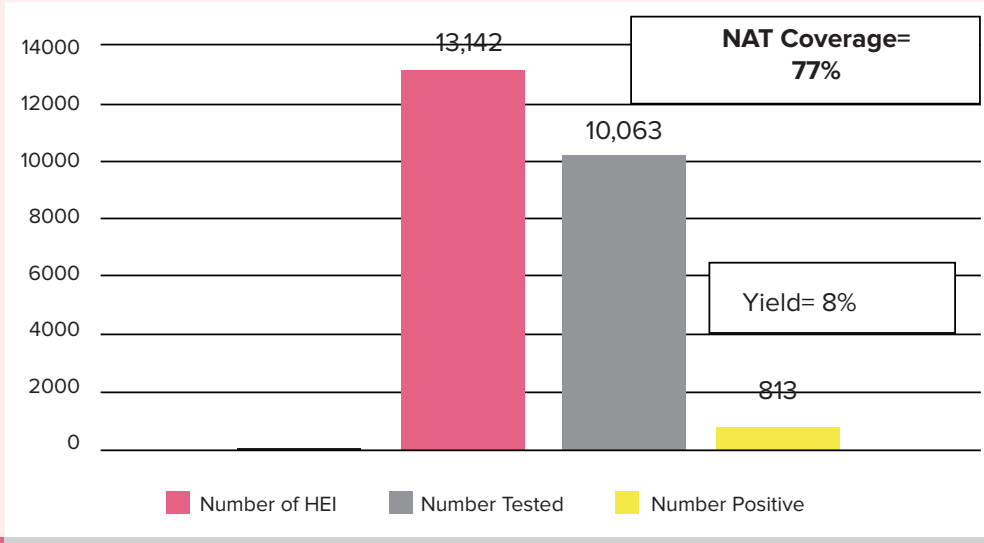


Figure 2-12 Nucleic acid testing coverage (2019)

Eight hundred and thirteen (813) of the HIV exposed infants tested at 6 weeks in 2019, were positive, giving a 6-week transmission rate of 8% which is lower than the spectrum projected rate of 9.06%. Though the rate is projected to decline, the transmission has consistently been higher in the first six weeks of life since 2015 (fig 2-14). The regional breakdown of the tests performed, and their yield can be found in table 13-3.

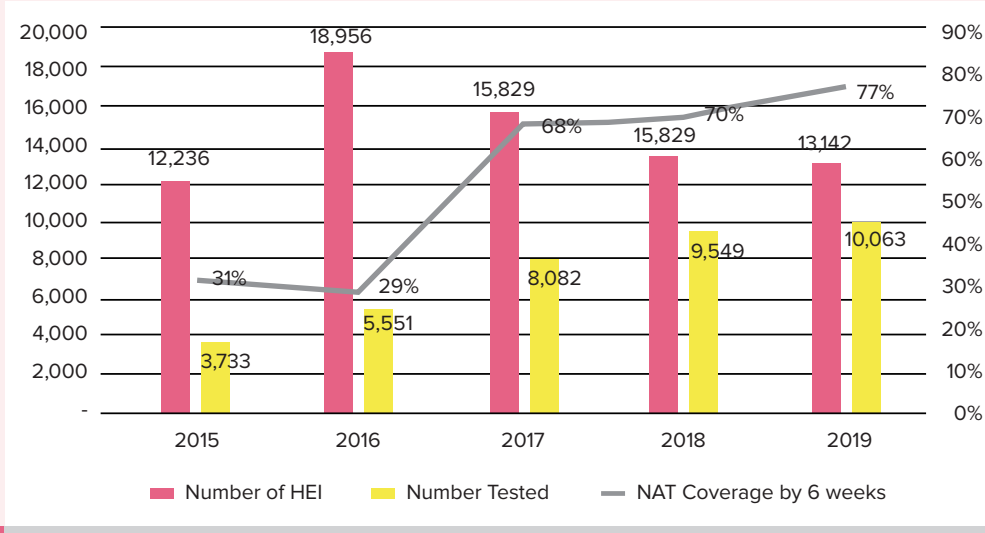


Figure 2-13 Trend in NAT coverage at 6 weeks

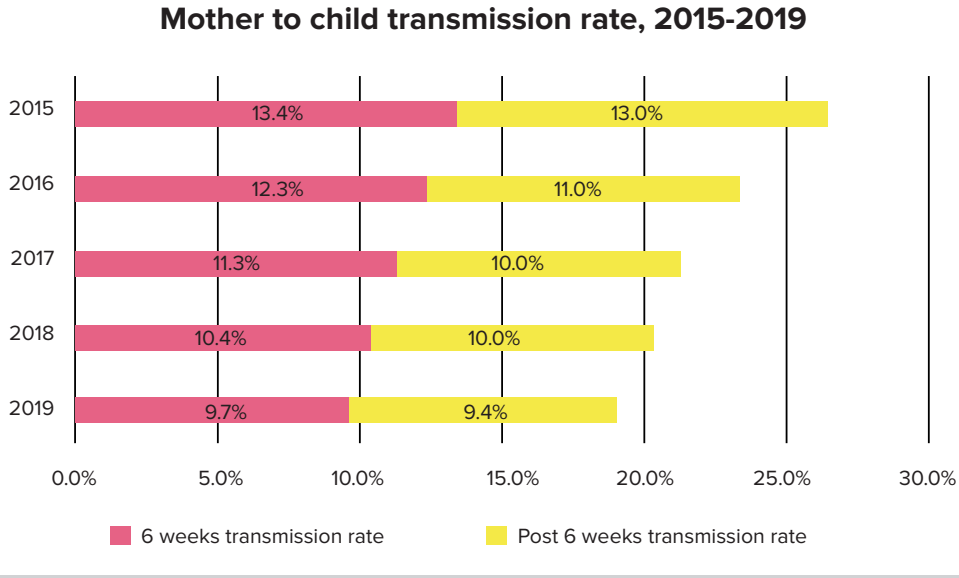


Figure 2-14 Trend in PMTCT rate. Spectrum EPP Outputs, March 2019

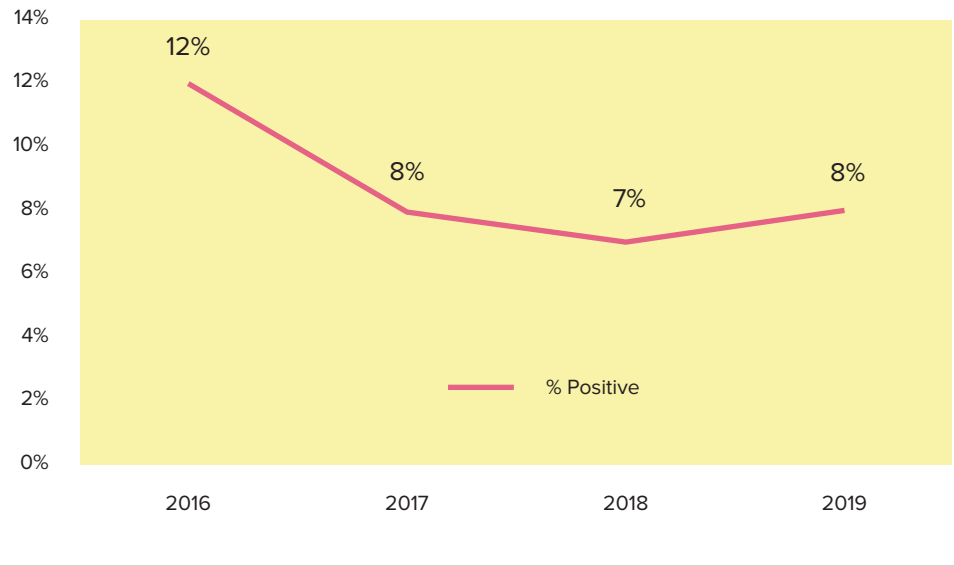


Figure 2-15 Trend in EID positivity rate at 6 weeks- NACP service data

Mentor Mothers

Though Ghana has witnessed a significant improvement in ARV coverage for HIV positive pregnant women, the country's mother to child transmission rate is generally not seeing a significant downward trend. To address this, the Christian Health Association of Ghana(CHAG) and Rural Watch were engaged to pilot the Mentor Mothers intervention, an evidence-based peer support intervention that has significantly improved PMTCT in several contexts. The Mentor Mothers are HIV-positive women who have completed the PMTCT cascade. They are trained to work voluntarily in collaboration with health workers to provide psychosocial and peer support to other pregnant or breastfeeding women living with HIV in their communities. The overall goal is for these Mentor Mothers to support HIV-positive mothers and help them attend necessary health services for themselves and their babies. They support their beneficiaries in the clinics, at home during home visits, during support group sessions and through M-health (calls, SMS and WhatsApp) and also support their partners to know their HIV status and plan their next pregnancy. It is hoped that HIV positive pregnant and breastfeeding mothers will receive greater attention and therefore reduce the mother to child transmission rate in the country when this intervention is scaled up.

Syphilis testing at ANC

One of the strategies recommended by WHO for the elimination of Mother to Child Transmission of HIV and prevention of congenital syphilis is the testing of all pregnant women at their first antenatal care visit for syphilis and management of those found positive. Out of the 529,312 pregnant women tested in 2019 for syphilis, 14,053 were found positive, 95% (13,373) of whom were treated. Table 13-5 in the appendix has the trend in syphilis testing and treatment at ANC in the last five years. It is hoped that the introduction of the first response HIV/Syphilis duo test kits will improve syphilis testing coverage and get infected mothers treated to help reduce mother to child transmission.

2.5 Condom Distribution and Sexually Transmitted Infection Management

Sexually Transmitted Infections (STI) increase the risk of HIV transmission and condoms are known to significantly reduce transmission of these STIs including HIV. With the support of the Ministry of Health, USAID and UNFPA, the Programme distributed a total of 10,581,207 condoms to the public through the Family Health Division of the Ghana Health Service in 2019. This figure is almost twice what was distributed last year and excludes condoms distributed through private-sector channels such as Private Pharmacies and Chemical shops. Though figure 2-16 shows a 22% rise in the number of STI cases reporting for management since 2016, the gradient reduced from 16% increment (27,098) between 2016 and 2017 to 6% increment (11,227) between 2017 and 2018 and a reduction in the number of cases between 2018 and 2019. The increase in the number of condoms distributed could have contributed to this decline but condom utilization within the Public Health facilities is very low due to weak distribution and promotion systems. There is, therefore, the need to address those issues and develop interventions to reduce the stigma that limits access to condoms. The number of STI cases managed in the various regions is as shown in figure 2-17.

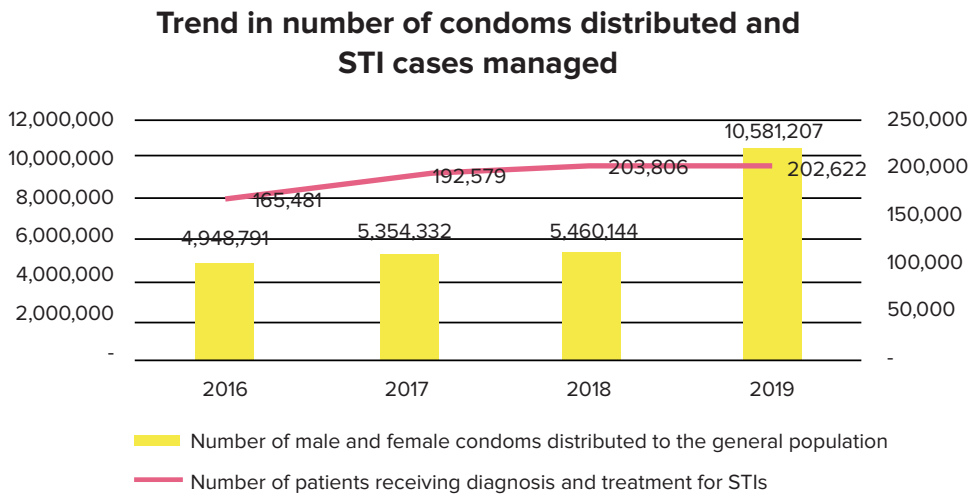


Figure 2-16 Trend in condom distribution and number of STI cases diagnosed and treated

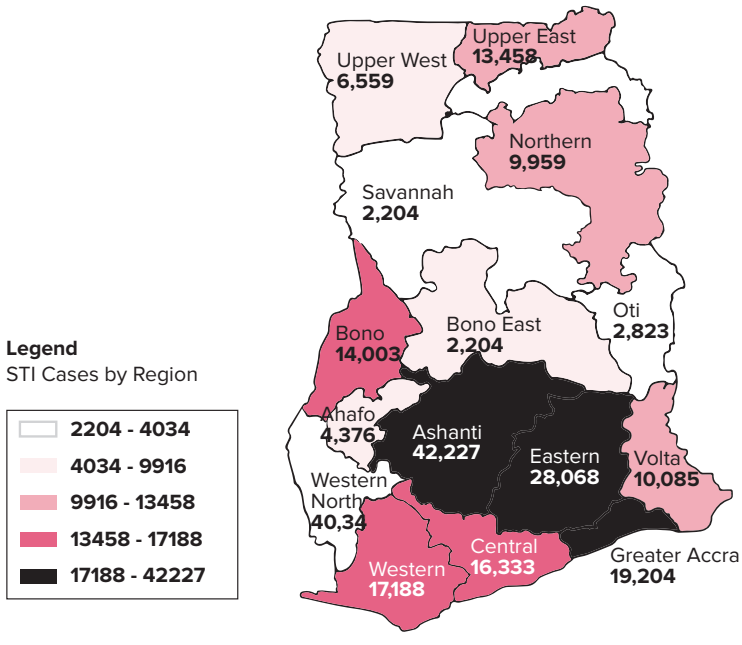


Figure 2-17 Number of STI cases managed in various regions-2019

2.6 Blood Safety

To decrease the risk of transmission of HIV through infected blood and blood products, the Programme supplied health facilities with test kits to screen blood. Out of the 163,028 units of blood screened, 2.4% (3,984) were found reactive, an increase from the 1.4% rate in 2018. Table 2-1 gives the regional distribution of the units tested and their reactivity. The Programme is working with the National Blood Service to get all reactive clients linked to care for confirmation and initiation on ARVs if found positive.

Table 2-1 Yield from Regional Blood Screening-2019

REGION	NUMBER OF BLOOD UNITS SCREENED	NUMBER REACTIVE	% REACTIVE
Ashanti Region	7,698	874	11.4%
Brong Ahafo Region	17,460	418	2.4%
Central Region	19,447	176	0.9%
Eastern Region	26,250	263	1.0%
Greater Accra Region	36,154	724	2.0%
Northern Region	4,392	483	11.0%
Upper East Region	12,725	160	1.3%
Upper West Region	9,870	164	1.7%
Volta Region	13,003	160	1.2%
Western Region	16,029	562	3.5%
Total	**163,028**	**3,984**	**2.4%**

CHAPTER

3.

The Delivery of the Package of Care and Support Services for PLHIV.

Provision of care and support to persons diagnosed with HIV is key to ensure their retention in care, adherence to medication and viral suppression. This, when done, will cause an improvement in their quality of life and reduce the incidence of AIDS-related deaths. To achieve this, the Programme supported service providers to

- Link newly diagnosed clients into care,
- Provide antiretroviral therapy to all positive clients,
- Prevent and manage opportunistic infections (OIs),
- Provide Continuous Supportive Counselling and
- Ensure the delivery of effective home-based Care.

In the year under review, the Programme also worked with various associations of Persons Living with HIV and involved them in intervention planning and implementation.

3.1 Linkage to care

With the 'treat all policy', all persons diagnosed with HIV are eligible for treatment. Out of the 69,120 newly diagnosed persons in 2019, 36,203 clients were initiated on ARVs giving a linkage rate of 52%, which, together with the number of newly initiated clients, is the highest in the last five years (figure 3-1). Adults (15+ years) constituted 95% (34,387) of those initiated and by gender, females formed the majority (71%). Only 51% of the 68,085 adults diagnosed were however initiated on ARVs in 2019. This gap in ARV initiation is significant and needs to be addressed.

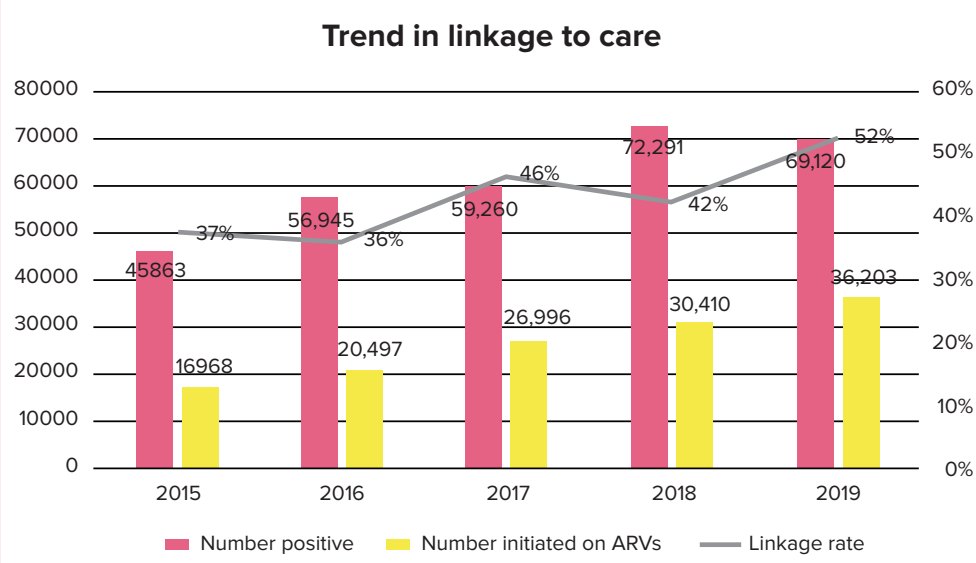


Figure 3-1 Trend in linkage to care

3.2 Losses to adverse events and death.

36,203 were initiated, and 13,510 were lost due to adverse events and death in 2019. The regional breakdown for these can be found in table 3-1.

Table 3-1 Losses to adverse events and death by region 2019

REGION	NEWLY INITIATED IN 2019	LOSSES (DEATH, ADVERSE EVENTS & LOSS TO FOLLOW UP)
Ahafo	847	39
Ashanti	6,584	1,808
Bono	2,269	746
Bono East	1,548	182
Central	2,594	724
Eastern	4,999	3,551
Greater Accra	7,166	2,394
North East	123	66
Northern	747	379
Oti	699	237
Savannah	237	11
Upper East	909	447
Upper West	523	128
Volta	2967	1220
Western	2553	1328
Western North	1438	250
NATIONAL	**36,203**	**13,510**

3.3 Total clients on treatment

As at December 2019, there were a total of 153, 901 clients on treatment, majority of whom were in the Greater Accra Region. The regional breakdown for the clients on treatment is as found in table 3-2.

Table 3-2 Clients on treatment as of December 2019

REGION	CHILD - FEMALE	CHILD - MALE	ADULT - FEMALE	ADULT - MALE	TOTAL
Ahafo	22	19	913	282	**1,236**
Ashanti	579	620	20,521	6,364	**28,084**
Bono	235	255	7,398	2,056	**9,944**
Bono East	151	146	5,443	1,444	**7,184**
Central	151	184	6,855	1,800	**8,990**
Eastern	512	503	16,655	5,204	**22,874**
Greater Accra	655	820	24,300	9,506	**35,281**
North East	28	21	507	147	**703**
Northern	68	72	2,505	860	**3,505**
Oti	54	48	1,410	477	**1,989**
Upper East	163	148	3,823	1,232	**5,366**
Upper West	84	77	2,346	746	**3,253**
Savannah	21	15	735	183	**954**
Volta	240	255	7,590	2,258	**10,343**
Western	214	200	8,073	2,507	**10,994**
Western North	38	33	2,417	713	**3,201**
Total	**3,215**	**3,416**	**111,491**	**35,779**	**153,901**

3.4 Prevention and Management of Opportunistic infections

Due to the immunosuppression induced by infection with HIV, the clients are predisposed to opportunistic infections such as tuberculosis, cryptococcal meningitis, Pneumocystis jiroveci pneumonia, and toxoplasmosis. Because of their 50% chance of acquiring TB in their lifetime, it is recommended that HIV positive clients are screened for TB at every visit and put on treatment when found infected. In 2019, a total of 163,872 HIV positive clients were screened for TB and all 1,860 co-infected individuals were put on treatment. Cotrimoxazole was also offered to 26,043 newly diagnosed and eligible clients to provide primary prophylaxis from toxoplasmosis and Pneumocystis jiroveci pneumonia.

3.5 Provision of Continuous Supportive Counselling and Ensuring delivery of effective home-based Care.

To improve adherence to treatment, reduce missed appointments and loss to follow up as well as provide psychosocial support for children and young persons living with HIV, the Programme, through Inerela Ghana and Planned Parenthood Association of Ghana, engaged and trained Community Adolescent Treatment Supporters (CATS). CATS are young persons 18-22 years old who are HIV positive, virally suppressed and stable on treatment. The beneficiaries of the CATS are Children, adolescents and Young People who are living with HIV, aged 0-24 as well as their caregivers.
The CATS support their beneficiaries to

- Know their HIV Status.
- Understand and accept their HIV status.
- Start ART treatment with understanding and confidence.
- Take their medication.
- Get the services they need.
- Attend clinic review days and support group meetings.
- Feel cared for, understood, valued, supported and have a purpose.
- Have skills to keep themselves well.
- Be linked to HIV prevention services if found HIV negative.

Their beneficiaries are supported during clinic visits, at home, during support group sessions and through M-Health (SMS, WhatsApp messaging and phone calls).

In December 2019, 16 CATS were trained with support from Africaid Zvandiri and deployed to five facilities and had enrolled and supported 119 beneficiaries as of 31st December 2019. It is hoped that funds will be available to strategically scale up their services to other facilities in 2020.

To support adult clients living with HIV, HIV Case Managers will be trained and deployed across the regions in the first quarter of 2020.

3.6 Continuous Quality Improvement in Differentiated Service Delivery for HIV Clients

Following the reprogramming of HIV funds in June 2019, EQUIP Ghana was engaged to provide enhanced site management services in high volume facilities that have been trained to offer differentiated HIV services in the Ashanti, Brong Ahafo, Eastern and Greater Accra Regions to help achieve the national 90-90-90 targets by the year 2020. The goal was to strengthen facility staff knowledge, understanding and use of data for improved quality of care and decision making to ensure attainment of epidemic control through improved health outcomes of clients on treatment. This was done through biweekly monitoring of site performance against targets and prompt feedback on key indicators, biweekly leadership/ partner meetings, regular communication with partners, staff and weekly conferencing to share programmatic progress and lessons learned. Clinical mentors also supported continuous quality improvement, including identifying the top challenges per site, developing an action plan to resolve challenges and in-depth analysis and reporting of site-level data.

The intervention was implemented in 38 facilities in the target regions and apart from a reduction in the testing yield (which was still above the national average), aggregate data from the intervention sites showed a significant improvement in linkage and viral suppression rates from baseline to the last quarter of 2019. All the indicators were also significantly improved in the implementing facilities when compared to their respective Regional averages for the same period. With plans in place to scale up this enhanced site management to more facilities, attainment of the 90-90-90 targets will be accelerated when done.

CHAPTER

Procurement and Supply Management of HIV logistics.

4.1 Introduction

At the end of March 2020, key adult antiretroviral medicines (ARVs) and related commodities required for HIV programme interventions were adequately available. The transition to Dolutegravir containing regimen is steadily ongoing with an increase in uptake across ART sites in the country. However, significant challenges remain with the availability of several paediatric formulations including Nevirapine dispersible tablet and suspension, Abacavir/ Lamivudine, Efavirenz and Zidovudine/Lamivudine. This is mainly due to challenges in obtaining the active pharmaceutical ingredients by suppliers and delayed import waivers. Also, due to a persistent global shortage, significant challenges remain with the availability of Lopinavir/ritonavir which has affected the availability of the other second-line commodities. The Programme is working with the Ministry of Health/Ghana Health Service and the Global Fund PPM team to urgently improve the situation with several shipments of the paediatric formulations expected in February 2020 and those for Lopinavir/ritonavir expected in April and May 2020. Unfortunately, the situation at the regional level is much worse as many regions have low stocks of some critical commodities, some of which are adequately available in-country. This situation resulted from the non-payments to regions and staff for previous work leading to their unwillingness to undertake additional activities although funds are available from the Global Fund.

At the end of the review period, adequate test kits were available in-country with sufficient quantities in the pipeline to avoid imminent shortages. However, due to the significantly increased consumption of First response test kits in the Western region, there is a risk of stockout by the third quarter of 2020 if appropriate action is not taken. This is due to the

significantly increased consumption in the Western region far beyond the recommendations of local and international stakeholders. Therefore, the urgent delivery of HIV test kits being procured by the Government of Ghana (GoG) is required to avoid challenges. Also, the recent change in the testing algorithm from a two-test to a three-test algorithm has resulted in an urgent need for the procurement of the new test kits. To ensure successful implementation of the policy, the Global Fund (GF) and GoG are procuring an initial tranche which is expected to support the transition.

On laboratory monitoring, adequate stocks of Viral Load and EID reagents were available with additional orders in the pipeline to avoid challenges during the period of scale-up. Adequate stock of DBS cards is also available in the country.

Regarding condoms, the delivery of about 13 million pieces of GoG-financed male condoms has significantly improved the in-country stock situation. To maintain adequate levels and ensure uninterrupted service delivery, GoG has commenced the procurement process for HIV medicines estimated to cost $7,959,766.25. Likewise, GoG is procuring HIV test kits estimated to cost $5,809,006.71. The delivery of these commodities is also required to avoid the risk of stock out in 2020.

4.2 TLD Transition Update

The transition to Dolutegravir-containing regimen, particularly Tenofovir/Lamivudine/ Dolutegravir (TLD), was ongoing at the end of the period under review. Below are key activities conducted so far and some data on the transition process.

- The country updated the treatment guidelines to include TLD as the preferred adult first-line regimen,
- Quantification for newly introduced ARV was conducted and procurement initiated for the new formulations,
- ART sites were trained on the updated Guidelines by the end of June 2019, before the planned commencement,
- The plan was to have a 6-month transition period from July to December 2019 during which both outgoing and incoming regimen would be used,
- The commodity arrived in-country in August 2019 due mainly to challenges with import waiver,
- Distribution to regions and sites was done in September 2019.

Although the transition to the new regimen was delayed, consumption has been increasing since commencement as indicated in Figures 4-1.

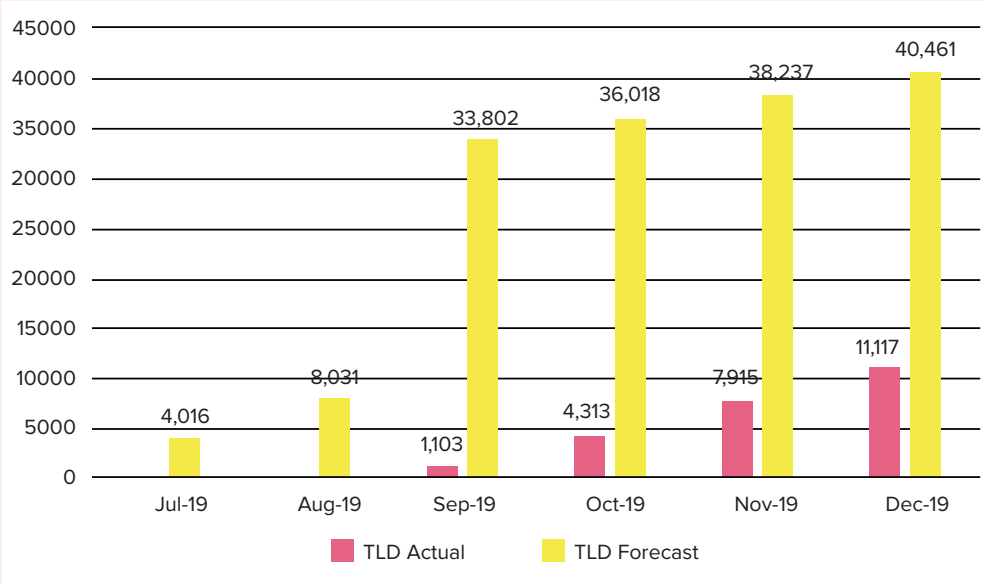


Figure 4-1 Actual vs. Forecasted Consumption of TLD

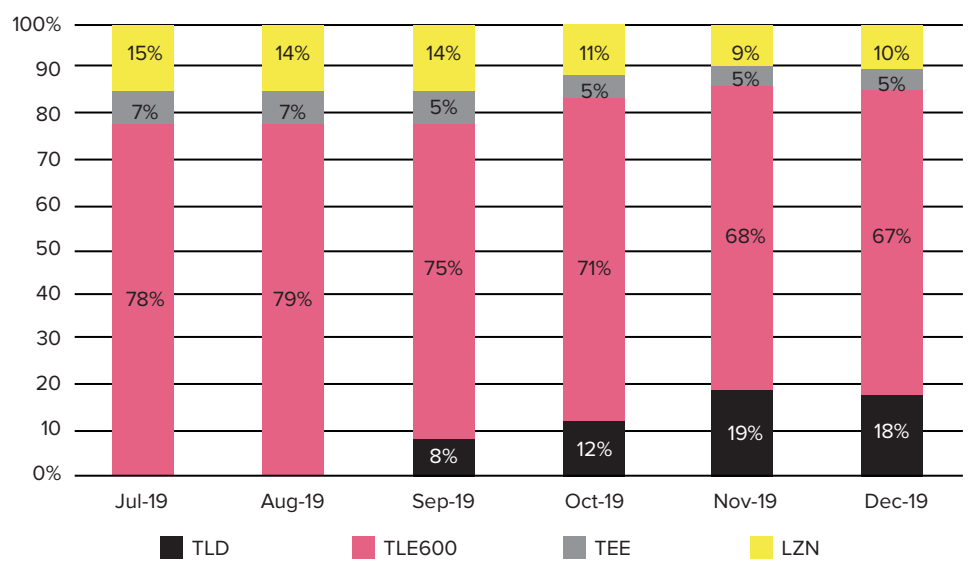


Figure 4-2 Stock on hand at Facility level of selected First line regimen

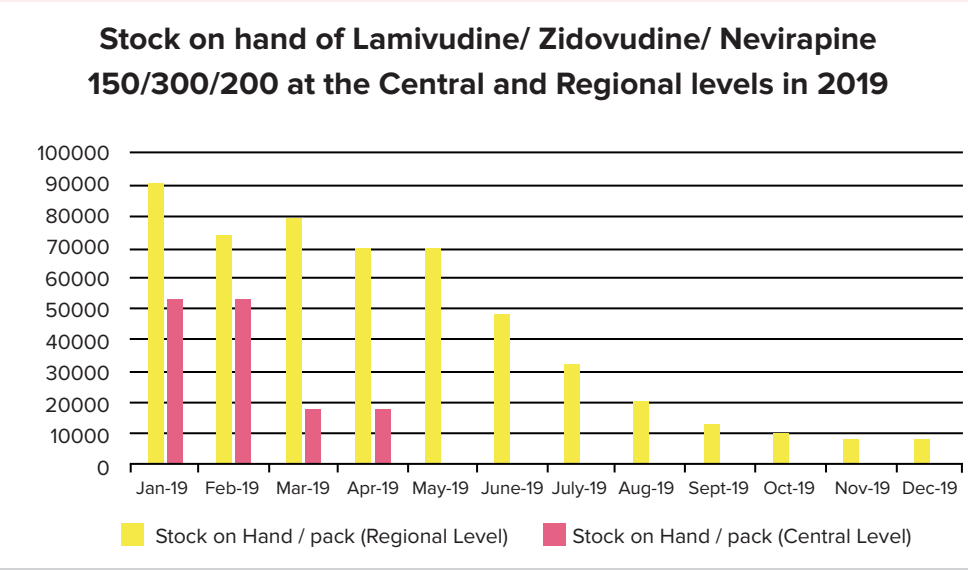


Figure 4-3 Stock on hand of Lamivudine/Zidovudine/Nevirapine 150/300/200 at the Central and Regional levels in 2019

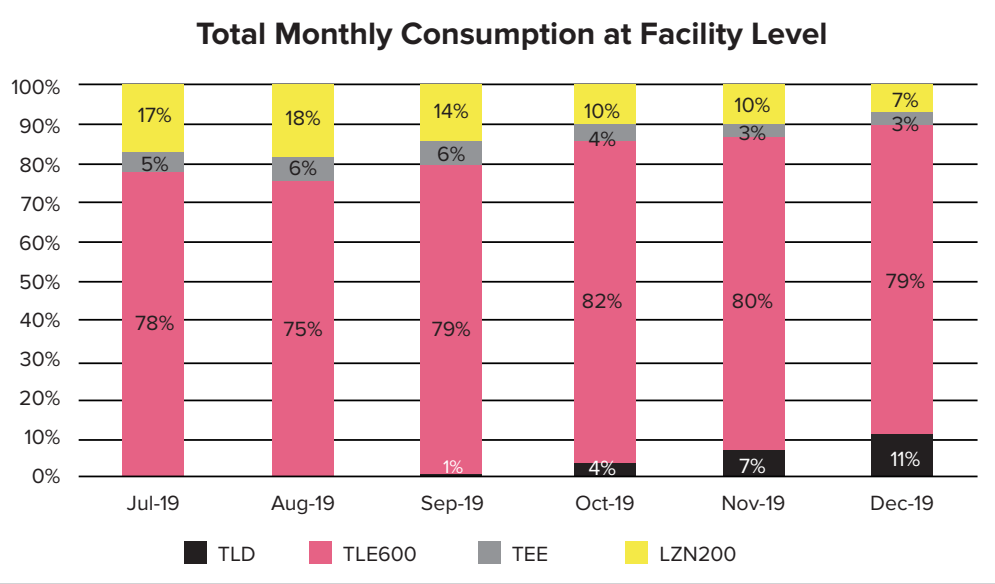


Figure 4-4 Total Monthly Consumption of selected regimen

Based on the transition process so far there have been some challenges as well as successes.

TLD transition update- What has worked?

- Treatment guidelines promptly updated to include TLD as adult first-line regimen.
- TLD transition plan developed between NACP/GHS and other Stakeholders.
- The comprehensive national forecast was done to support the transition to TLD.
- Update of supply chain reporting tools done to include TLD.
- Allocation and active distribution of TLD to sites and monthly stock status monitoring.
- Cancellation of GF shipment of LZN (58,222 packs) to reduce stocks of legacy ARV.
- Dissemination of excerpts of the updated guidelines to all ART sites and facilitating distribution to ART sites to ensure commodity availability.

What has not worked?

- Delay in receipt of the first order of commodities in-country.
- Delay in start of TLD transition in ART sites not trained or oriented on the new treatment guidelines.

4.3 Ghana Integrated Logistics Management Information System (GHILMIS)

The Initial rollout of GhiLMIS was completed in 2019 with 299 facilities onboarded including 9 Health Centres and all four Zipline Distribution Centres. Approximately 961 end-users were trained. The following are some of the notable achievements so far:

- Processed all 21st, 22nd 23rd and 24th Rounds of Central Tier Distribution.
- All Regional Medical Stores have processed their LMD rounds in the system.
- Order Processing Cycle Time significantly reduced where the system is used.

- End to End Visibility for all onboarded sites.
- Ability to track Order and Inventory Management KPIs.
- Recall and quarantine of commodities.

4.4 National Supply Chain Assessment (NSCA) Ghana 2019

The National Supply Chain Assessment (NSCA) was done in 2019 and was planned to:

- Analyse and measure the performance, operational capacity, maturity, and capability of the national public sector-financed health commodity supply chain.
- Identify progress to date on key technical areas outlined in the Supply Chain Master Plan(SCMP) (2015-2020) and gaps in implementation progress.

NSCA Findings

The assessment identified several areas of strengths and some major challenges for the national supply chain system. The National HIV Programme was assessed under the Capability Maturity Model for Vertical Programmes where it obtained the highest overall rating.

4.5 Key Performance Indicators

CMS Fire milestones

The Programme achieved the milestone that required the establishment of an interim LMIS solution to report HIV consumption data and has contributed towards achieving other milestones. Overall, the country made incredible progress with almost all targets achieved at the end of 2019.

Table 4-1 Status of CMS Fire Milestones

PHASES	MILESTONE/DELIVERABLE	STATUS	AMOUNT WAIVED
Last Mile Distribution			
Milestone 1	50% of health facilities (HFs) at Service Delivery + Plan for extension of LMD to lower level	Milestone 1	
Milestone 2	75% of HFs at sub-district + Plan for extension of LMD to lower level	Achieved	$9.5M
Milestone 3	100% of HFs at sub-district + Plan for extension of LMD to lower level	Achieved	
Logistics Management Information System			
Milestone 1	Interim LMIS solution to report HIV consumption data	Achieved	$9.5M
Milestone 2	Definition of user data requirements and system design	Achieved	
Milestone 3	Develop LMIS RFP, select a vendor, and award a contract	Milestone 1	
Milestone 4	GoG Provision of LMIS training and equipment	Partially Achieved	
Milestone 5	LMIS rollout to Regional Medical Stores (RMS)/ zonal WHs, THs, regional and DHs	Achieved	
Warehousing			
Milestone 1	Decide on the most efficient, effective, safety and security warehouse and distribution strategy	Achieved	
Milestone 2	Improve warehousing infrastructure in the RMSs basing on recommendations of the FDA report, to meet FDA requirement	Achieved	$4.4M
Milestone 3	Implementation of the warehousing and distribution strategy	On schedule	
Framework Contracting			
Milestone 1	Signature of long-term framework agreements (FA) for essential medicines	Achieved	$4.0M
Milestone 2	Evidence of use of FAs by all regions	Achieved	

Product availability

The Programme continues to ensure increasing levels of product availability. The Global Fund Local Fund Agent (LFA) reports have reported a continuous improvement from 2016 with 97% availability of First-line ARVs and 99% availability for HIV diagnostics in the latest report in Q4 2019.

Expiry rate

The Programme has consistently reduced expiry rates from 2016 with no commodities expiring at the central level in 2019. Overall, the levels of expiry of Global Fund commodities have shown a similar trend as shown in figure 4-5.

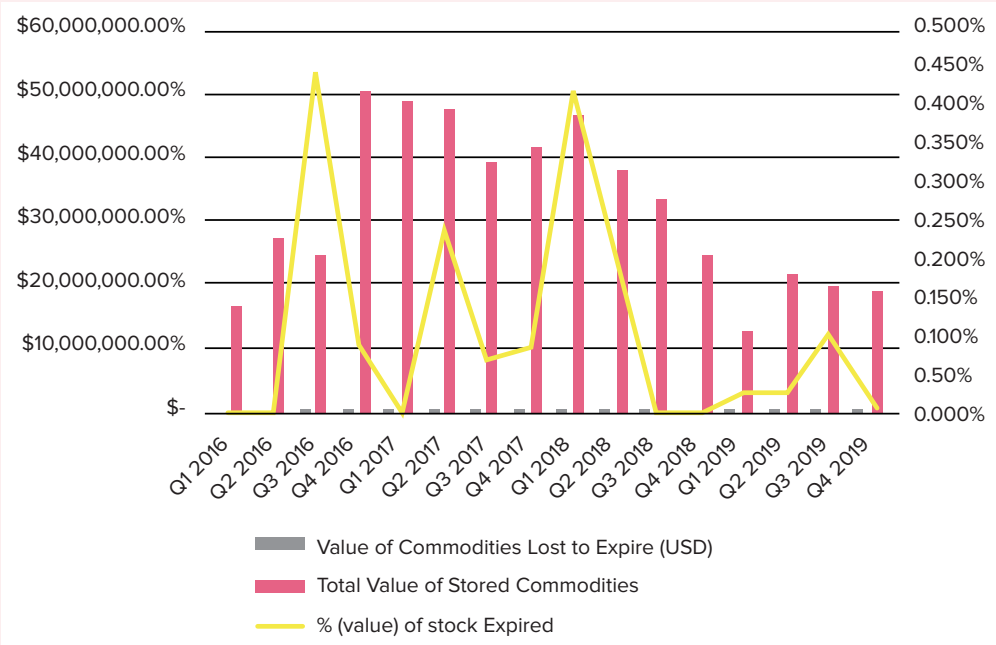


Figure 4-5 Expiry rate of Global Fund commodities at the Central level

Laboratory Commodities

The Global Fund (GF) currently supports the procurement of reagents for HIV Viral Load testing and Early Infant Diagnosis of HIV (EID) only under NFM2 grant. Please find below an update on the availability of laboratory commodities:

- COBAS/AmpliPrep COBAS Taqman 48 Qualitative (EID) Reagents- A total of 427 packs or 20,496 tests (22.5 months of stock) of the reagents required for early infant diagnosis of HIV were available at the central level as at the end of December 2019.

- COBAS/AmpliPrep COBAS Taqman 48 Quantitative (Viral Load)- Adequate stocks were available with 1,731 packs or 83,088 tests (9 months of stock) available at the central level. Additional orders have been initiated and will be fast-tracked depending on the consumption pattern.

Antiretroviral Medicines And HIV Rapid Diagnostic Test Kits

December 2019 Stock status

Table 4. 2 Stock levels of adult first-line antiretroviral medicines

Products	Unit of issue	Inventory (in packs) at Central level	Inventory (in packs) at 10RMSs	Forecast AMC	Estimated MoS (Central)	Estimated MoS (Regional).	Estimated Total MoS (Regional + Central).	Next expected shipment - Qty	Next expected shipment Delivery date	MoS of next shipments
Adult First Line										
Abacavir+ Lamivudine, 600mg+300mg	30	9,156	4,330	8,348	1.10	0.52	1.62	2,112	31-Jan-20	0.25
Dolutegravir Tablet 50mg	30	9,838	12,254	5,466	1.80	2.24	4.04	21350	28-Feb-20	3.91
Efavirenz Capsule, 600mg	30	117,281	58,392	19,636	5.97	2.97	8.95	-		0.00
Emtricitabine+ Tenofovir , 200mg+300mg	30	13,004	7,010	2,868	4.53	2.44	6.98	13276	8-Feb-20	4.63
Lamivudine + Tenofovir, 300mg+ 300mg	30	22,095	84,529	15,784	1.40	5.36	6.76	64800	8-Feb-20	4.11
Lamivudine+ Zidovudine+ Nevirapine 150+ 300+200	60	-	7,711	12,035	-	0.64	0.64			0.00
Tenofovir + Lamivudine+ Dolutegravir, 300mg+300mg+ 50mg	30	71,535	15,524	14,054	5.09	1.10	6.19	65,000	28-Feb-20	4.63
Tenofovir + Lamivudine+ Efavirenz, 300mg+ 300mg+600mg	30	275,389	53,523	74,389	3.70	0.72	4.42	-		0.00
Zidovudine+ Lamivudine Tablet 300mg+150mg	60	38,800	29,313	6,887	5.63	4.26	9.89			0.00

Table 4-3 Stock levels of adult second-line antiretroviral medicines

Products	Unit of issue	Inventory (in packs) at Central level	Inventory (in packs) at 10RMSs	Forecast AMC	Estimated MoS (Central)	Estimated MoS (Regional).	Estimated Total MoS (Regional + Central).	Next expected shipment - Qty	Next expected shipment Delivery date	MoS of next shipments
Adult 2nd Line										
Atazanavir + Ritonavir, 300mg+100mg	30	209	1,026	475	0.44	2.16	2.60	1,967	15-Dec-19	4.14
Lopinavir + Ritonavir Tablet, 200 mg +50 mg	120	244	6,955	3,547	0.07	1.96	2.03	9,184	30-Apr-20	2.59

Table 4-4 Stock levels of paediatric antiretroviral medicines

Products	Unit of issue	Inventory (in packs) at Central level	Inventory (in packs) at 10RMSs	Forecast AMC	Estimated MoS (Central)	Estimated MoS (Regional).	Estimated Total MoS (Regional + Central).	Next expected shipment - Qty	Next expected shipment Delivery date	MoS of next shipments
Paediatric										
Abacavir + Lamivudine, 60mg+30mg Dispersible Tab	60	1,638	929	1,824	0.90	0.51	1.41	-		0.00
Efavirenz Capsule, 200 mg	90	485	1,391	1,033	0.47	1.35	1.82	3000	30-Aug-20	2.90
Lopinavir + Ritonavir Tablet, 100 mg +25mg	60	1,870	736	162	11.54	4.54	16.09	-		0.00
Nevirapine 50mg dispersible tablet	30	786	733	2,621	0.30	0.28	0.58	10,000	30-Jan-20	3.82
Nevirapine Suspension, 10 mg/ml	bottle	-	832	948	-	0.88	0.88	5600	30-Jan-20	5.91
Zidovudine + Lamivudine, 60 mg +30 mg Disp. Tab	60	182	6,283	3,519	0.05	1.79	1.84	10,440	30-Dec-19	2.97
Zidovudine Syrup, 10 mg/ml	bottle	11,791	7,330	1,232	9.57	5.95	15.52			0.00

Table 4-5 Stock levels of HIV test kits

Products	Unit of issue	Inventory (in packs) at Central level	Inventory (in packs) at 10RMSs	Forecast AMC	Estimated MoS (Central)	Estimated MoS (Regional).	Estimated Total MoS (Regional + Central).	Next expected shipment - Qty	Next expected shipment Delivery date	MoS of next shipments
Test Kits										
HIV Test Kit (First Response)	Piece	1,747,076	464,947	358,825	4.87	1.30	6.16	194,246	30-Jan-20	0.54
HIV/Syphilis Combo (First Response)	Piece	-	-	-	-	-	INDETERMINATE	401,532	31-Dec-19	-
Oraquick Test Kit	Piece	201,650	24,824	19,642	10.27	1.26	11.53	19,440	30-Jan-20	0.99
SD Bioline HIV 1&2	Piece	-	-	-	-	-	INDETERMINATE	27,980	31-Dec-19	-

Legend

>12 Months	6 to 12 Months	<6 Months	0 Stock

4.6 Update On Government of Ghana (GOG) Procurement

GoG procurement- PEPFAR agreement

Under the terms of the expired PEPFAR Agreement, GoG was required to show evidence of procurement of commodities valued at $3,200,000 after the initial fulfilment of the PEPFAR obligation. In line with this, the process for the purchase of commodities in the table below (estimated to cost of $3,442,970.88) was commenced in the second quarter of 2017. All commodities have now been delivered.

Table 4-6 Procurement request to GoG in 2017

PRODUCT	QUANTITY	STATUS
Lamivudine 150mg + Zidovudine 300mg	53,026	Delivered
Atazanavir 300mg+Ritonavir 100mg (ATV/r)	3,025	Delivered
Tenofovir 300mg+Lamivudine 300mg+EFV 600mg	260,963	Delivered
First Response HIV 1.2.0 Test kits	576	Delivered
OraQuick HIV 1/2 Test kits	1,040	Delivered

GoG procurement- Rapid Test Kits

Based on the quantification in 2017 and subsequent Pipeline updates, the test kits in table 4-7, estimated at $6,590,755.08, were procured by MoH and delivered in 2018. The last tranche was delivered in August 2019.

Table 4-7 Procurement request to GoG in 2018 for HIV Rapid diagnostic test kits

PRODUCT	QUANTITY	PRODUCT COSTS	SUPPLY CHAIN COSTS	Total Costs (USD)	STATUS
First Response HIV 1.2.0 kits	7,008	781,392.00	203,161.92	984,553.92	Delivered
First Response HIV 1.2.0 kits	19,971	2,226,766.50	578,959.29	2,805,725.79	Delivered
First Response HIV 1.2.0 kits	7,032	784,068.00	203,857.68	987,925.68	Delivered
First Response HIV 1.2.0 kits	8,265	921,547.50	239,602.35	1,161,149.85	Delivered
OraQuick HIV ½ kits	1,200	516,984.00	134,415.84	651,399.84	Delivered
				6,590,755.08	

Based on the new testing algorithm, an additional order for HIV test kits (Table4-8) has been initiated. It should also be noted that GoG is now the main source of HIV test kits.

Table 4-8 Procurement request to GoG in 2019 for HIV Rapid diagnostic test kits

PRODUCT	QUANTITY	PACK SIZE	UNIT COST	PRODUCT COSTS	SUPPLY CHAIN COSTS	TOTAL COSTS
First Response HIV1+2/ Syphillis Combo Card Test	2,457,859	piece	$1.30	$3,195,216.67	$830,756.33	$4,025,973.00
First Response	1,610,131	piece	$0.90	$1,449,117.84	$376,770.64	$1,825,888.48
Oraquick	248,637	piece	$3.50	$870,227.76	$226,259.22	$1,096,486.98
SD Bioline HIV-1/2	248,637	piece	$0.82	$203,881.93	$53,009.30	$256,891.24
TOTAL				**$5,718,444.21**		**$7,205,239.70**
PRODUCT	**QUANTITY**	**PACK SIZE**	**UNIT COST**	**PRODUCT COSTS**	**SUPPLY CHAIN COSTS**	**TOTAL COSTS**
Hepatitis B First Response Rapid Diagnostic test	630	100	$143.75	**$90,562.50**	$27,621.56	**$118,184.06**
TOTAL				**$90,562.50**		**$118,184.06**

GoG procurement- Antiretroviral medicines

The request for commodities in table 4-9, estimated to cost $7,959,766.25 was submitted by NACP/GHS to GoG for procurement in January 2019. This request is based on the quantification exercise for HIV commodities conducted in November 2018. Almost all the GF HIV commodity budget for the current grant has been used. Therefore, prompt procurement is necessary to avoid imminent stock-out.

Table 4-9 GoG Procurement Request for ARVs in 2019

PRODUCT	QUANTITY	PRODUCT COSTS (USD)	ESTIMATED RECEIVE DATE
Abacavir 600mg+Lamivudine 300mg	65,000	637,000.00	31/12/2019
Abacavir 60mg+Lamivudine 30mg	20,000	80,000.00	31/12/2019
Atazanavir 300mg+Ritonavir 100mg	1,000	13,250.00	31/12/2019
Efavirenz 200mg Capsule	12,000	76,800.00	31/12/2019
Lamivudine30mg+Zidovudine 60mg	20,000	38,000.00	31/12/2019
Efavirenz 600mg	70,000	192,500.00	31/12/2019
Lopinavir 100mg+ Ritonavir 25mg	4,000	23,760.00	01/09/2019
Lopinavir 200Mg + Ritonavir 50mg	20,000	368,200.00	31/08/2019
Nevirapine 50mg	25,000	36,250.00	31/12/2019
Tenofovir 300mg+Lamivudine 300mg	70,000	262,500.00	31/12/2019
Tenofovir 300mg+Lamivudine 300mg+DTG 50mg	400,000	2,400,000.00	31/12/2019
Tenofovir 300mg+Lamivudine 300mg+EFV 600mg	600,000	3,750,000.00	31/12/2019
Hepatitis B First response Rapid Diagnostic test	567	81,506.25	31/12/2019
		7,959,766.25	

4.7 Condom Availability

Condom Gap analysis

The Ghana Health Service (GHS) in collaboration with partners and stakeholders prepare annual contraceptive forecasts in February which is reviewed in August. Assumptions are usually based on organisational programme plans and consumption or distribution data. Contraceptive Procurement Tables (CPT) is the result of the forecast.

Condom Supply

The first tranche of 13,424,976 pieces of male condoms was procured by the Ministry of Health and delivered in August 2019 and has subsequently been cleared by the FDA. The remaining tranche is expected by March 2020 to avoid challenges as indicated in Table 4-10 below.

Table 4-10 Male Condom orders in the pipeline

ON ORDER					
Funding	**Product**	**Receive Date**	**Quantity**	**Status**	**Product Costs (USD)**
WAHO	Be Safe/ No logo	30-Jun-20	13,824,000	Ordered	331,776
MOH	Be Safe/ No logo	31-Mar-20	13,424,976	Ordered	322,199
TOTAL			**27,248,976**		**653,975**

Table 4-11 Male condom requirement gap analysis for 2020

GAP					
Funding	**Product**	**Receive Date**	**Quantity**	**Status**	**Product Costs (USD)**
To be determined	Be Safe/ No logo	31-Jul-20	9,826,616	Planned	235,839
To be determined	Be Safe/ No logo	31-Dec-20	20,400,000	Planned	489,600
TOTAL			**30,226,616**		**725,439**

Table 4-12 Female condom requirement gap analysis for 2020

GAP					
Funding	**Product**	**Receive Date**	**Quantity**	**Status**	**Product Costs (USD)**
To be determined	Female Condom	31-Mar-20	1,181,375	Planned	649756.25
To be determined	Female Condom	30-Sep-20	545,250	Planned	299,888
To be determined	Female Condom	31-Dec-20	31,296	Planned	17,213
			1,757,921		317,100

The stock status of condoms

At the end of December 2019, the available pieces of male condoms were 25,810,392 (11.14mos) at the central level with 21,436 pieces (1.08mos) of female condoms.

Table 4-13 Condoms at the Regional and Central levels as at the end of December 2019

Products	Unit of issue	Forecast AMC	Estimated MoS (Central).	Estimated MoS (Regional).	Estimated Total MoS (Regional + Central).	Next expected shipment - Qty	Next expected shipment Delivery date	MoS of next shipments
Contraceptives								
Female Condom	Piece	19,850	1.08	1.24	2.32			0.00
Male Condom	Piece	2,317,471	11.14	0.19	11.33	13,424,976	30-Mar-20	5.79

4.8 Procurement System Strengthening

Quality Assurance

Funding has been provided by GF in the 2019 reprogramming of the NFM2 grant to support the Food and Drugs Authority (FDA) to undertake various activities to enhance the quality of HIV and other commodities available at the service delivery points.

Capacity Building

An intensive capacity building workshop conducted for relevant staff of GHS and MoH on the latest quantification and forecasting tools is expected to further improve forecast accuracy and minimise wastage.

Warehouse Optimization

As part of the warehousing optimisation, the MoH is improving storage and other infrastructure at the Regional Medical Stores to reduce the stock holding costs at the private central warehouse in Tema (Imperial Health Sciences). This has already resulted in a significant reduction of storage costs making more funds available for the procurement of health commodities.

CHAPTER

5.

Laboratory Systems Strengthening and Viral Load Testing.

The United States Government under the Co-operative Agreement (CoAg) between the Ghana Health Service and the Centres for Disease Control and Prevention, Atlanta Georgia, U.S.A together with the Global Fund for AIDS, Tuberculosis and Malaria, provided funding for some activities which were implemented by the NACP in collaboration with the Institutional Care Division (ICD) on behalf of the Ghana Health Service. Main activities undertaken were under the following broad headings:

5.1 Proficiency Testing Programs (PT)

Two proficiency testing schemes were facilitated by the National AIDS/STI Control Programme in the year under review. These were proficiency testing Programmes for viral load/EID and Dried Tube Specimen (DTS) PT Programme for HIV rapid testing.

Proficiency testing for viral load/EID

This is a US Centres for Disease Control (CDC) and Prevention supported scheme which is administered from Senegal through the Institut de Recherché en Santé, de Surveillance Epidémiologique et de Formation (IRESSEF) or Institute for Health Research, Epidemiological Surveillance and Training and Cheikh Anta Diop University (CADU). The nine PCR sites in Greater Accra, Western, Eastern, Central, Brong- Ahafo, Ashanti, Northern, Volta and Upper East regions were enrolled in the external quality assurance Programme for viral load and early infant diagnosis of HIV. Of the nine sites that enrolled in the PT programme, seven received satisfactory scores in the round one and in round two, only six sites participated in the scheme and they all performed satisfactorily.

The Dried Tube Specimen Proficiency Testing (DTSPT)

The DTS PT Programme is administered locally by NACP through the support of regional and zonal coordinators on a biannual basis in the Ashanti, Brong Ahafo, Eastern, Greater Accra, and Western regions. Two rounds of PT challenges (round 7 and round 8) were administered in 2019.

A total of 630 sites were enrolled in each round. The PT sites consisted of 432 ANC/PMTCT, 88 HTC and 110 laboratories (including the 40 HIV Sentinel testing sites). Of the 630 sites enrolled in round 7, 80% received satisfactory scores. This was an increase from a pass rate of 76% in round 6. A further increase in performance was registered in round 8 with 88% of the sites enrolled receiving satisfactory scores. Some of the reasons identified for sites that failed included non-adherence to national HIV testing algorithm, incorrect panel results, the omission of test kits information and non-reporting of final test results.

5.2 Specimen Referral System

Operationalization of the sample referral system

Specimen referral networks and strengthening of laboratories play a key role in the scale-up of viral load (VL) testing and continued enhancement of early infant diagnosis of HIV. To operationalize the sample referral system, the Ghana Health Service signed a memorandum of understanding with the Ghana Post Company Ltd to offer third-party courier services for sample transport and return of results to the referring facilities for decision making. The specimen referral system using the Ghana Post Company Ltd was rolled out to all the ART sites in the 16 regions of Ghana. Its implementation has significantly improved on HIV viral load test coverage by about 71% (from 54,538 in 2018 to 93,013 in 2019).

Viral Load sample referral stakeholders review meeting

There was a review meeting in September 2019 for key stakeholders to deliberate on strategies to strengthen the specimen referral system. Region-specific action plans were developed for implementation towards the improvement of the specimen transport system.

5.3 Laboratory quality management system (QMS)

HIV Viral Load testing is currently available at nine Viral Load Testing Centres in the country and over 93,000 tests were conducted in 2019. With the increase in testing numbers comes greater need to assure the quality of results generated by these laboratories. In line with this, baseline quality audit was conducted in these facilities in November 2019 and corrective action plans were developed for subsequent implementation in 2020 through onsite training and mentorship.

5.4 Refresher training for data officers on data completeness and quality:

E-tracker refresher training for newly recruited data officers was conducted. They were taken through the general use of e-tracker especially with the tracker capture application and event reports.

5.5 Viral Load Testing

Viral load testing is done to objectively assess client adherence to medications, the progress of treatment and to diagnose treatment failure or drug resistance. To increase demand for viral load testing, orientation on the need for viral load testing was included in all training sessions organized by the Programme for service providers. These included ART training for newly accredited facilities, orientation on Differentiated Service delivery, orientation on TLD transition and the Paediatric HIV SOPs and job aids as well as facility engagements during supportive supervisory visits. The staff was also encouraged to educate clients on viral load testing, so they will remind the service providers when they are due to be tested. SOPs, job aids and patient education posters meant to promote viral load testing were also distributed as part of the DSD orientation.

5.6 Progress towards epidemic control

As at June 2019, there were 124,416 clients on treatment, who were all eligible for viral load testing by December 2019. From these, 93,013 viral load tests had been done as at 31st December 2018 (figure 5-1) out of which 63,526 were found virally suppressed, giving a crude suppression rate of 68%. The testing coverage and the suppression rates have all seen improvements over the 2018 figures of 55% and 66% respectively. Figures 4-2 and 4-3 provide the full 90-90-90 cascade and the testing and treatment cascade respectively for the country as of December 2019.

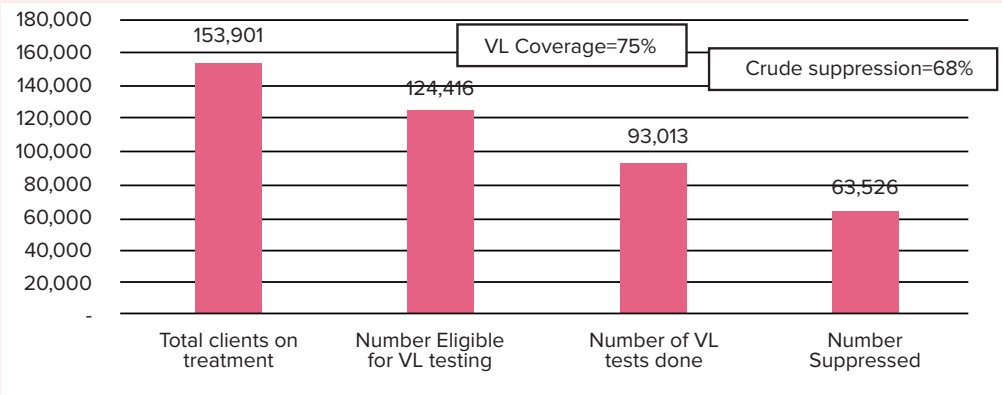


Figure 5-1 Viral Load Testing cascade, 2019

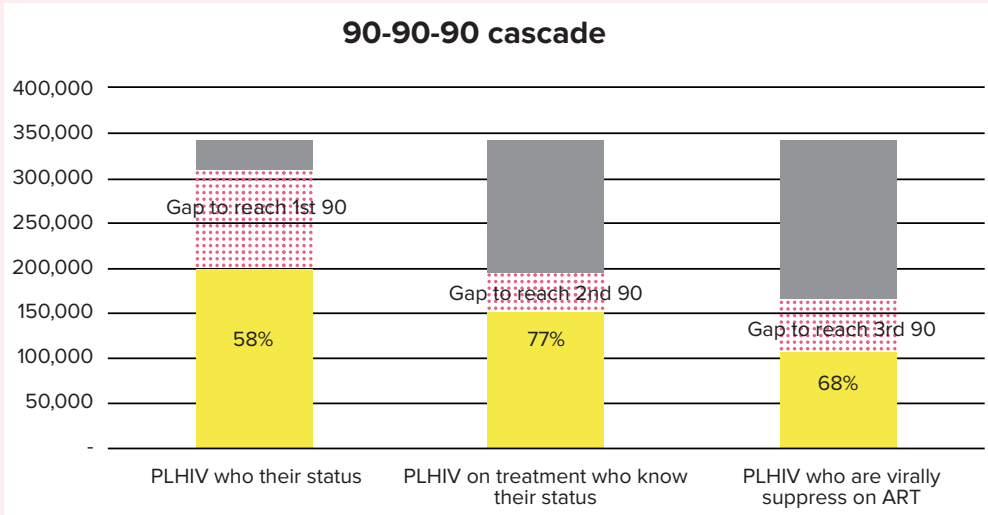


Figure 5-2 Viral Load Testing cascade, 2019

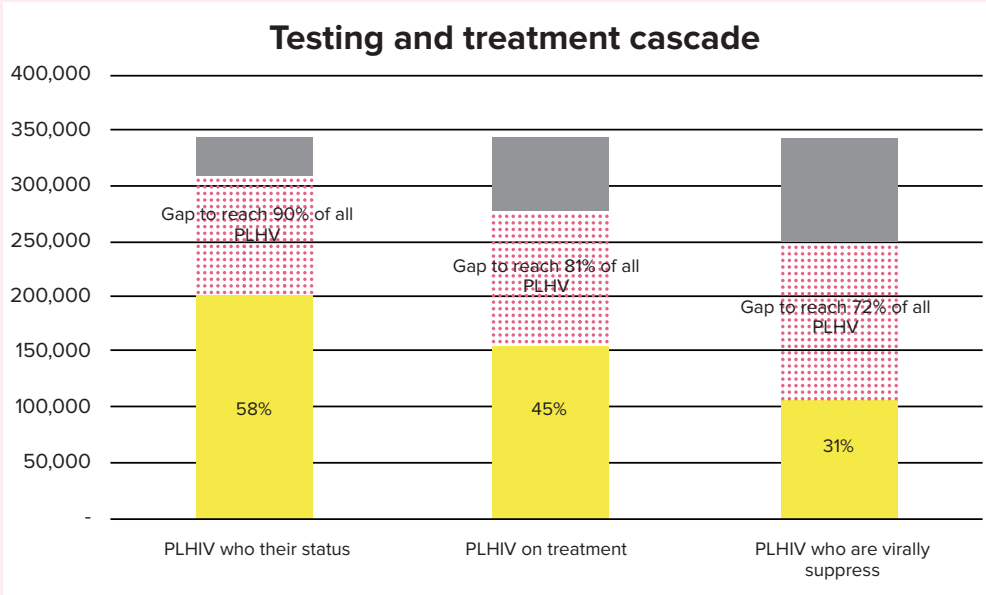


Figure 5. 3 Testing and Treatment cascade-2019

CHAPTER

The Delivery of Strategic Information on HIV and AIDS

6.1 Guideline development

In 2019, the following documents were developed or reviewed according to WHO recommendations to guide service delivery for clients:

HIV Testing Algorithm Review

To reduce the frequency of false-positive HIV results, the World Health Organisation recommends the use of a three-test instead of the current two-test algorithm for HIV diagnosis in settings with HIV prevalence below five per cent. The current HIV testing guidelines require three consecutive reactive tests from three different kits, used sequentially, as the basis for HIV-positive diagnosis. If the first test is reactive but at most one of the subsequent tests is non-reactive, the result is described as indeterminate and should be repeated in 14 days. If it remains indeterminate, a tie-breaker nucleic acid test needs to be performed. The HIV Technical Working group reviewed the WHO recommendation and adapted it for the country's use. First response HIV 1&2 ®(HIV/Syphilis DUO for antenatal population), OraquickHIV1&2® and SD Bioline HIV 1&2 ® have been qualified for use sequentially as listed.

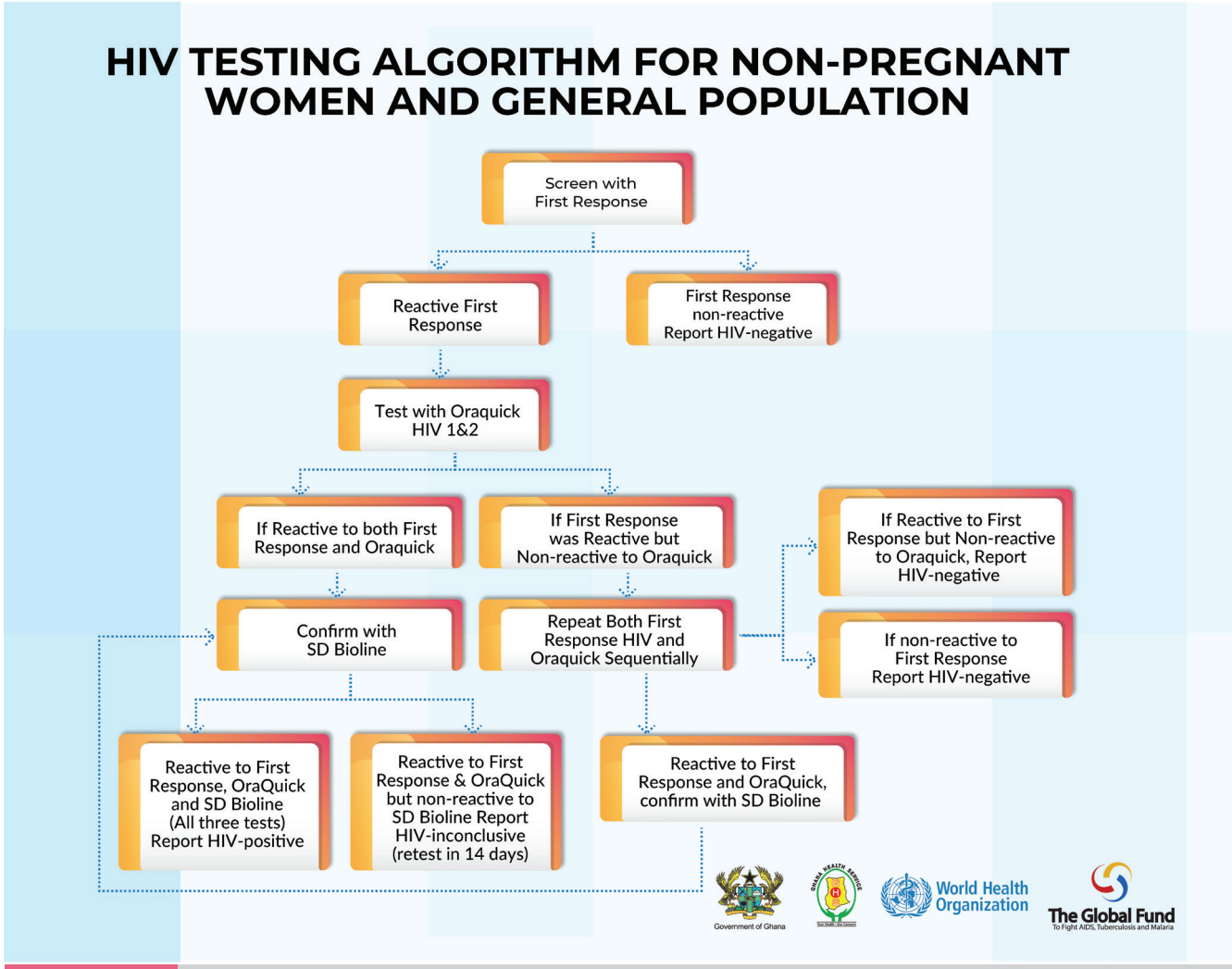


Figure 6-1 National HIV testing algorithm for Non-pregnant women and the general population

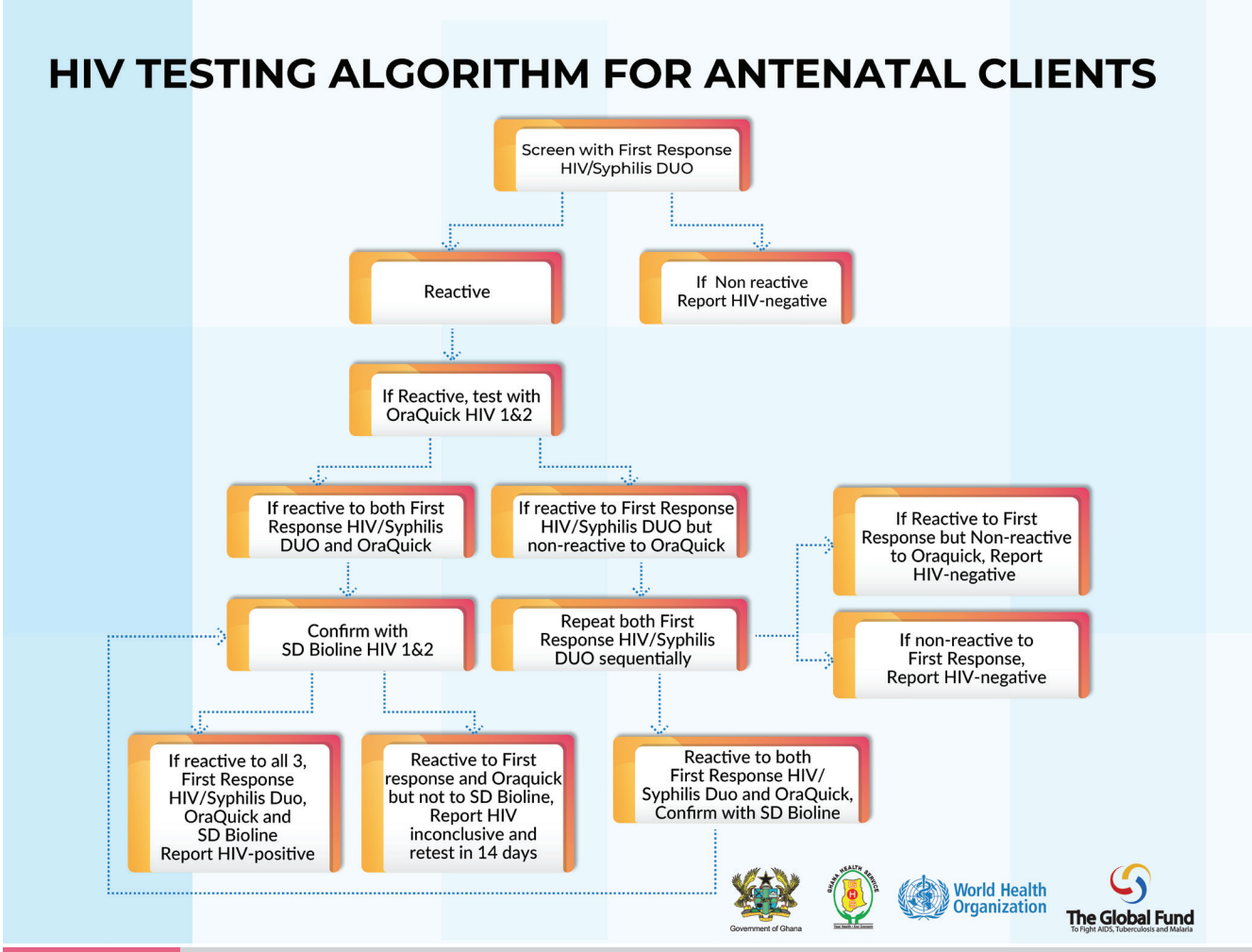


Figure 6-2 National HIV testing algorithm for pregnant women

Algorithm for Early Infant Diagnosis(EID) and Prophylaxis

Following a WHO/UNICEF supported Technical Working Group meeting held to discuss Prevention of Mother to Child Transmission of HIV, Paediatric adolescent HIV, the TWG revised the early infant diagnosis and prophylaxis algorithm to reflect the current evidence and recommendations. A summary of the revisions is as follows, with details captured in figure 6.3

- All HIV exposed infants are considered high risk and are to take 12 weeks of ARV prophylaxis with zidovudine and nevirapine by weight, starting within 48 hours of birth.
- The first dried blood spot sample from an HIV exposed infant for DNA PCR testing should be taken within the first 6 weeks of life or at the earliest opportunity.
- The DNA PCR should be repeated when the infant turns nine months if the first test was negative.
- At 18 months, all infants, previously negative to DNA PCR, should have an antibody test per formed on them.

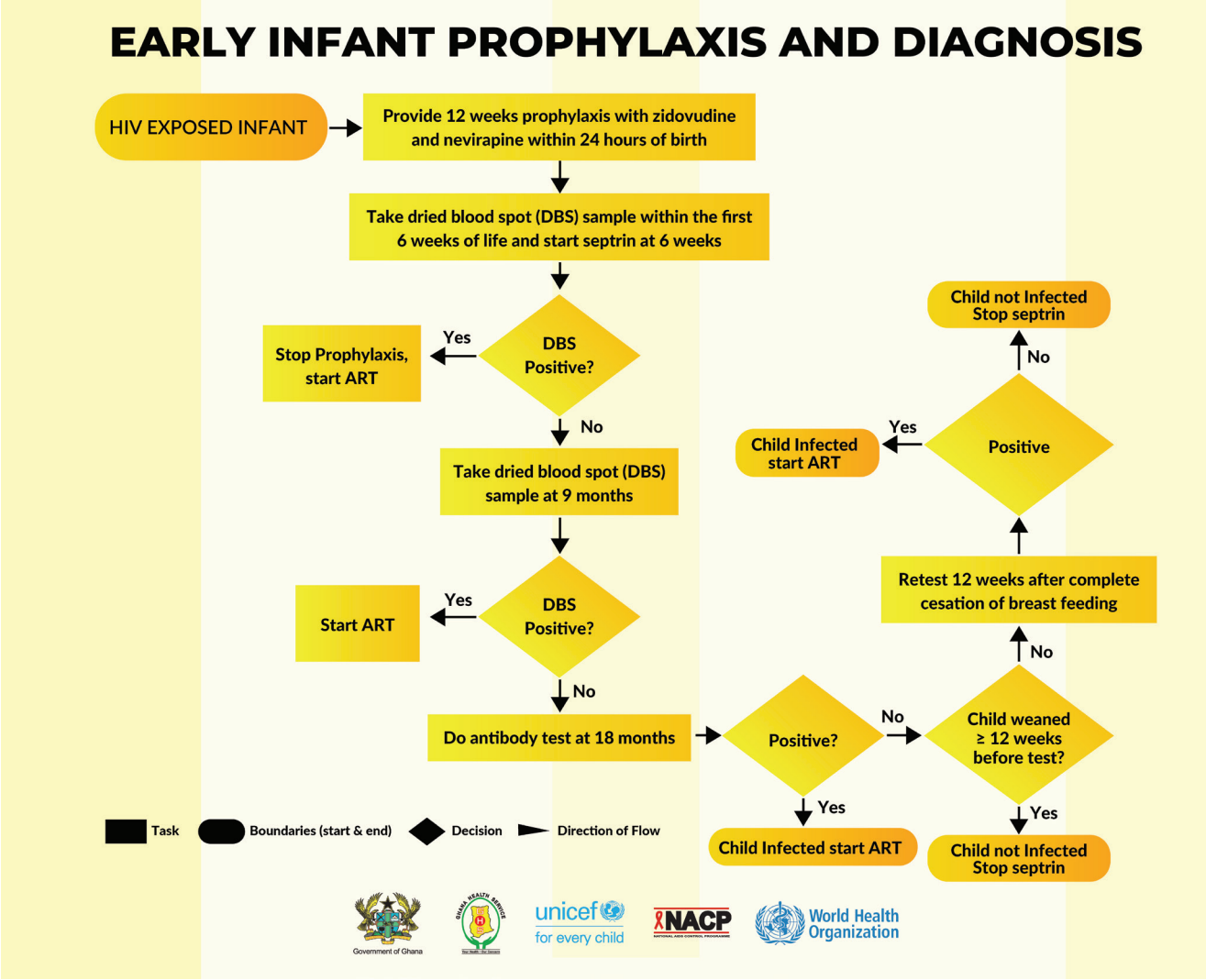


Figure 6-3 Algorithm for Early Infant Prophylaxis and Diagnosis

Adolescent Specific HIV Job Aids for Adolescent Friendly Corners

To guide HIV-related communication with all adolescents, improve the care provided to adolescents living with HIV, promote adherence, reduce loss to follow up and improve their health-related quality of life, Job aids were developed with support from the West African Health Organisation (WAHO). The tools are targeted at service providers, especially those in adolescent health corners. A total of 12 tools were developed covering the following:

- Psychosocial and developmental assessment
- Information guide to facilitate easy navigation of the Adolescent Living with HIV into the complex medical system
- A healthcare provider's guide to counselling adolescents
- ART adherence guide
- Health promotion and maintenance, and
- Disease prevention for Adolescents living with HIV.

6.2 HIV sentinel Survey

As part of its mandate to provide strategic information to guide the control of the HIV epidemic in Ghana, the NACP conducts HIV sentinel surveys (HSS) annually. The objectives of the HSS are

- To determine the HIV and syphilis prevalence among ANC and STI clients.
- To monitor the trends in HIV and syphilis prevalence among ANC and STI clients at sentinel sites.
- To provide data for the estimation and projection of HIV prevalence in the general population of Ghana.
- To provide data to inform intervention programs and policy decisions.

It is based on an annual HIV seroprevalence survey conducted using unlinked anonymous samples from pregnant women accessing antenatal services for the first time and clients seeking treatment for STI during the survey period at 93 antenatal clinics from 54 sentinel sites. The Survey results are the primary data for the estimation and projection of HIV infection in the general population which provides a firm basis for planning and forecasting for prevention, treatment, management, and care-related programmes.

In 2019, samples were collected from the 54 sentinel sites. The site prevalence ranged from 0.0% in Adibo to 4.8% in Fanteakwa. The overall national median prevalence was 2.0%. Figure 6-4 shows the ANC prevalence for various regions from the 2019 HSS.

Figure 6-4 ANC prevalence(%) by Region -HSS 2019

6.3 Participation In Conferences

In 2019, the Programme participated in local and international conferences to learn and share ideas on how to effectively control the epidemic.
The programme made both oral and poster presentations at the;

- International Conference on HIV Treatment, Pathogenesis, and Prevention Research in Resource-Limited Settings-Accra.
- International AIDS Conference-Mexico.
- International Workshop on Adolescence and HIV-Nairobi, Kenya.
- Health and Humanitarian Logistics Conference- Kigali, Rwanda.
- International Conference on AIDS and STIs in Africa (ICASA)-Kigali, Rwanda.

The Programme also took part in the High-level Meeting for Elimination of Mother-to-Child Transmission of HIV (eMTCT) and Universal Coverage of Paediatric HIV Testing and Treatment in West and Central Africa (WCA) Region, Held in Dakar, Senegal. The main goal of the High-Level meeting was to take stock of progress made by WCA countries on eMTCT, and universal coverage of quality paediatric HIV testing (including early Infant diagnosis), treatment and care; and to renew high-level commitments towards the 2020 targets for HIV response in children in WCAR. Following the meeting, Country- specific gaps were identified and a roadmap developed to bridge them which is currently being implemented and tracked by all stakeholders.

CHAPTER

Provision of Essential Technical Support to All MDAS in the Implementation of their Programmes.

The NACP continued to provide technical support to various MDAs and stakeholders in their workplace HIV and AIDS programs. The Programme participated fully in most activities of the Ghana AIDS Commission and the Country Coordinating Mechanism (CCM) of the Global Fund by providing technical assistance to enhance their advocacy role.

7.1 Academic Institutions

Students from the Ghana College of Physicians and Surgeons, University of Ghana School of Medicine and Dentistry, School of Nursing and School of Public Health spent weeks with the Programme to gain practical skills on what they had been taught. Students from other foreign and local institutions were also supported to undertake HIV-related research for the fulfilment of their Masters and PhD requirements.

7.2 The Free to Shine Campaign

In 2018, the Programme supported the development of Terms of Reference for the “Free to Shine” Campaign, an initiative of the African Union (AU), the Organisation of African First Ladies Against HIV/AIDS (OAFLA) and their partners to contribute to ending the paediatric HIV epidemic by 2030 through the elimination of new infections in children and keeping mothers alive. The Programme took part in the launch of the intervention in the first quarter of 2019 and worked with the Ghana AIDS Commission to select priority sites for its pilot and subse

quent scale-up. The program will sustain its support for this intervention by;

- Contributing to the content of the campaign messages.
- Supporting the delivery of campaign messages.
- Supporting the development of proposals for resource mobilization.
- Supporting the management of dedicated social media platforms designed for the campaign.
- Supporting the First Lady's advocacy drives.
- Supporting the sustainability of the campaign and maintenance of the momentum that will be generated.

7.3 Community Health Workers Training Module Development

To help improve the health workforce and in line with the Task Sharing Policy adopted by the Ghana Health Service, The Programme provided Technical Assistance to the Youth Employment Agency and Millennium Promise, in the development of a training syllabus, manuals, SOPs and job aids for Community Health Workers in Ghana.

CHAPTER

8.1 Capacity building

To update service providers on new knowledge in HIV care and improve their skills in service delivery, the Programme organized some training sessions in 2019 which are captured below:

Capacity building for Early infant diagnosis

Without ARVs, HIV infection progresses very fast among infected new-borns, with up to 50% dying before their second birthday. To diagnose them and intervene early, Ghana's early infant diagnosis algorithm was revised by the Paediatric HIV Task Team, to include testing within the first six weeks of life, at 9 months and 18 months. To increase demand for testing and increase the testing coverage for HIV exposed infants, staff from selected facilities were trained in Dried Blood Spots (DBS) sample collection, storage, and transport in all 16 regions of the country.

Capacity building for family-based index client testing

Following a successful pilot of family-based index testing in five regions, the programme took advantage of several gatherings of service providers to orient them on index testing. A job aid for index testing has been added to the revised ART Client care booklet which will hopefully be used in 2020 to manage clients. Data capture tools for index testing have also been developed to capture data disaggregated by age and gender at the facility level. It is hoped that by the end of 2020, national data on index testing services shall be available to guide intervention development and resource distribution.

Antiretroviral Therapy training and orientation on TLD transition

In line with plans to improve access to services for HIV positive clients, a total of 96 staff from 24 PMTCT sites in the Central Region were given a five-day training using the Integrated Management of Adolescent and Adult Illness (IMAI) and Treat all Concepts. Among the participants were prescribers, HIV counsellors, Midwives, General Nurses, and Biomedical Scientists. All the facilities were after the training, eligible to make requisition for ARVs, test kits, and other commodities and were also assigned reporting forms in DHIMS. Sixteen of the facilities were trained with the support of UNICEF and the remaining with support from Global Fund.

Following the country's adoption of WHO recommendations to use dolutegravir as part of the first-line regimen, the programme, with support from the Global Fund, oriented 300 service providers from selected facilities with high client load across the 16 regions. This was done before the arrival of the commodity into the country and thus aided its smooth transition into facilities.

PMTCT Training

The past five years have seen an improvement in the ART coverage for HIV positive pregnant women from 66% in 2014 to 83% in 2018. As of June 2019, about 84% of the diagnosed pregnant women had been initiated on ARVs. There were however huge gaps in the coverage, with more than 25% of the pregnant women not initiated in the Ashanti, Central, Northern (Savana, Northern, North East) and Upper East Regions. These regions also had a high 6-week mother to child transmission rate, ranging from 5% in the Ashanti Region to 15% in the Central Region in the first half of 2019. To improve access to ARVs for pregnant women, the Programme with support from UNICEF, expanded ART to additional antenatal clinics with a high client load in these regions. A total 60 participants from 15 facilities across the regions took part in this training and their respective facilities were after the training, eligible to receive antiretroviral supplies either from their respective regional medical stores or through the hub and spoke approach from a nearby facility.

Differentiated Service Delivery Orientation

To deliver client-centred HIV care while introducing efficiency in service provision, the country adopted the Differentiated Model of Care for HIV and developed its manual. A task team was constituted and met in May 2018 to develop a costed implementation plan for roll out in Ghana. Trainer of Trainers Orientation sessions was organized for regional facilitators in the southern, middle and northern zones of the country. With the support of CDC, ten facilities in the Greater Accra Region were given a three-day on-site orientation on the DSD guidelines. They were taken through differentiated HIV testing, ARV delivery, and viral load testing and were provided support for facility-specific challenges. At the end of the orientation, they were guided to develop facility-specific implementation plans, influenced by the gaps identified by a baseline assessment tool that was administered before the orientation. In all, 244 facilities across the country and in all regions had been oriented on DSD as at December 2019. It is hoped that the remaining facilities shall be covered by December 2020.

Orientation on TB Preventive Therapy

As part of the implementation road map for TB Preventive Therapy in Ghana, the Global Fund provided resources for the training of 710 health workers in regions that have a high burden of TB/HIV co-infection. In line with this, 10 facilities in the Greater Accra Region were provided a one-day orientation on TB preventive therapy, client monitoring, and data capture in 2018. As of December 2019, 244 facilities had been oriented on TPT, which was done along with the orientation on DSD. They are therefore ready to start immediately commodities procured get to their facilities.

Training of Community Adolescent Treatment Supporters and Mentor Mothers

During a joint WHO/UNICEF supported Technical Working Group meeting held in March 2019, the gaps in PMTCT, paediatric and adolescent HIV care in Ghana came to light. Present at the meeting to make a presentation were staff of Africaid Zvandiri in Zimbabwe, who have developed and implemented a differentiated Model of care for children and young persons living with HIV using Community Adolescent Treatment Supporters (CATS) as described in Chapter 3. Following the meeting, Africaid Zvandiri sponsored three persons from Ghana to understudy the implementation of the module in Zimbabwe. This was followed by a baseline assessment, selection of CATS and their training, all with Technical assistance from Africaid and funding from Global Fund.

To improve psychosocial and adherence support for HIV pregnant and breastfeeding mothers as described in Chapter 2, reprogrammed funds were made available for a three-day training of 100 Mentor Mothers who were selected by the 29 implementing facilities. It is hoped that their numbers will be increased in the next funding cycle to cover more facilities.

8.2 Supportive supervisory visits to service delivery sites

To address service delivery challenges, update service providers on new guidelines and policies, ensure quality in service provision and get the support of facility management for HIV services, the programme undertakes quarterly monitoring activities to purposively selected facilities in all regions. Each region was visited at least twice in alternate quarters in 2019 during the planned quarterly visits. Also, the Ashanti, Central and Northern Regions were provided Paediatric-focussed supportive visits to identify and help resolve the bottlenecks that were hampering progress in PMTCT, paediatric and adolescent HIV indicators in the respective Regions.

CHAPTER

Programme Performance Review.

9.1 Staff meetings

The Programme held four quarterly staff meetings where the performance of various units against their planned activities for the quarter was reviewed and plans for subsequent quarters developed.

9.2 Technical Working Group (TWG) Meetings:

The HIV Technical Working group also had all its quarterly meetings held, to review the Programme's data, level of implementation of activities and to address key challenges that bedevil the Programme. The second meeting for the year was jointly sponsored by WHO and UNICEF and focused mainly on PMTCT, Paediatric and Adolescent HIV.

9.3 Joint TB/HIV Review Meeting

The annual joint TB/HIV Review meeting was held in Kumasi to review the performance of the Regions and Teaching Hospitals for the year 2018.

9.4 Joint Implementation Support Mission

The Joint Implementation Support Mission is one of the essential mechanisms for monitoring and supervision of national and sub-national HIV response. It provides GAC, Development Partners, Ministries, Departments and Agencies; and Civil Society Organisations with first-hand information about the progress of the national and sub-national response and challenges relating to local-level implementation, coordination, planning, monitoring, evaluation and financial management. Between 14th and 31st July 2019, representatives from Ghana AIDS

Commission, NACP, Development Partners and Civil Society Organizations undertook this mission to all the 16 regions to

- Assess the status of implementation of key policies at the sub-national level.
- Assess the scope and quality of local responses and linkages between community systems and health facilities.
- Identify challenges and opportunities to inform programmatic decisions.
- Provide backstopping and feedback to personnel of implementing agencies and other stakeholders.
- Make recommendations for the enhancement of the implementation of key policies.

CHAPTER

10.

Financial Information.

From January to December 2019, the Programme had a budget of $17,268,646.51 under the Global Fund grant and spent all. The programme, therefore, recorded a 100 % Burn Rate for both programme activities and Pooled Procurement Mechanism(PPM). Expenditure from other donors (CDC, WHO and the UNICEF) amounted to $ 1,283,600.75, representing 114% of total receipts of $1,126,310.17 due to unutilized funds in 2018.

These Funds supported the GHS/MOH in the implementation of its strategic activities such as PMTCT, Antiretroviral Therapy, HIV Testing, HIV/TB Collaboration, Health Systems Strengthening, Programme Management as well as Monitoring and Evaluation. The year's total expenditure was $18,552,247.26. A summary of the breakdown showing the budget, disbursement and expenditures as at the end of 2019 is as shown in table 10-1.

Table 10-1 Financial Summaries for 2019

Source of Funding	Total Grant	Budget		Total Disbursement		Total Expenditure
		US$	US$	US$	US$	US$
		2019	2018	2019	2018	2019
NFM 2 Grant (1 Jan 2018 to 31 Dec 2020)		17,268,646.51	10,245,498.54	17,268,646.51	10,245,498.54	17,268,646.51
Others			825,433.46	1,126,310.17	683,605.77	1,283,600.75
Total			11,070,932.00	18,394,956.68	10,929,104.31	18,552,247.26

10.1 Total Expenditure within 2019

Expenditure under the NFM 2 amounted to $17,268,646.51 whiles expenditure under other budget lines amounted to $1,283,600.75.

The cost categories are as defined below:

1. **Human Resource -** includes all HR expenditure under the grants.
2. **Travel Related Cost -** includes training, Supervision, surveys, data collection, meeting, advocacy-related costs etc.
3. **External Professional services -** includes Data Quality Assessment, HIV Sentinel Survey, DHIMS activities etc.
4. **Health Products -** Pharmaceutical Products - includes Procurement of ARVs for ART etc.
5. **Health Products -** Non-Pharmaceuticals
   -includes Procurement of HIV Test kits, BD, Viral Load, Haematology and Chemistry reagents etc.
6. **Health Products and Equipment -** i ncludes the cost of Maintaining Laboratory equipment, CD4 and Hematology Machines etc.
7. **Procurement and Supply -** Chain Management costs (PSM)-includes Freight and Insurance, Warehouse and Storage, distribution etc.
8. **Non-health equipment -** includes the procurement of Computers and Accessories for ART client Data capture and monitoring.
10. **Communication Material and Publications** - includes the cost of printing of tools and registers, IEC materials, reports, PMTCT and HTC manuals etc.
11. **Programme Administration costs** - includes office-related costs.
    The total expenditure in 2019 as defined according to Cost Groupings and Modules respectively are shown in tables 10-2 and 10-3 as well as their respective figures.

Table 10-2 Total Expenditure by cost grouping

COST GROUPINGS	NFM GRANT	OTHERS	TOTAL EXPENDITURES
	US$	US$	US$
1.0 Human Resources (HR)	1,182,367.37	177,428.61	1,359,795.98
2.0 Travel related costs (TRC)	1,437,548.36	939,775.88	2,377,324.24
3.0 External Professional services (EPS)	168,140.98		168,140.98
4.0 Health Products - Pharmaceutical Products (HPPP)	9,259,835.18		9,259,835.18
5.0 Health Products - Non-Pharmaceuticals (HPNP)	1,505,466.92		1,505,466.92
6.0 Health Products - Equipment (HPE)	1,676,755.83		1,676,755.83
7.0 Procurement and Supply-Chain Management costs (PSM)	1,798,935.64		1,798,935.64
8.0 Infrastructure (INF)	4,354.03		4,354.03
10.0 Communication Material and Publications (CMP)	130,980.39		130,980.39
11.0 Programme Administration costs (PA)	104,261.81	166,396.26	270,658.07
TOTAL	**17,268,646.51**	**1,283,600.75**	**18,552,247.26**

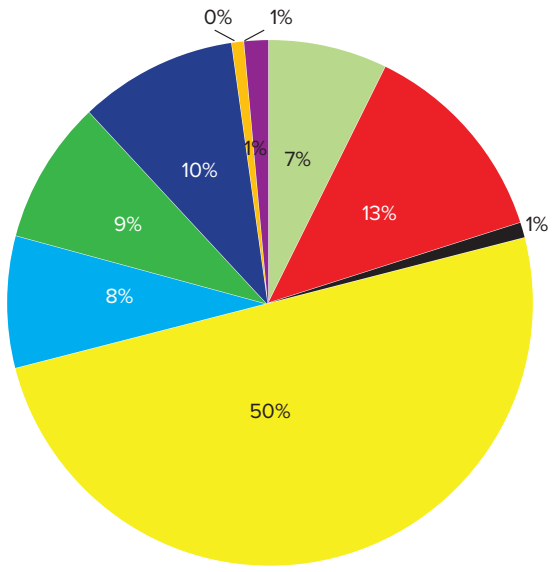


Figure 10-1 Total expenditure by Cost Groupings(%) in 2019

Table 10-3 Total Expenditure by Modules

BY MODULE	NFM GRANT	OTHERS	TOTAL EXPENDITURES
	US$	US$	US$
Program management	773,292.91	1,283,600.75	2,056,893.66
HIV Testing Services	1,909,520.01		1,909,520.01
RSSH: Health management information systems and M&E	755,822.42		755,822.42
PMTCT	770,236.72		770,236.72
Treatment, care and support	12,951,168.23		12,951,168.23
Prevention programs for general population	19,485.77		19,485.77
RSSH: Procurement and supply chain management systems	37,562.52		37,562.52
TB care and prevention	51,557.93		51,557.93
TOTAL	**17,268,646.51**	**1,283,600.75**	**18,552,247.26**

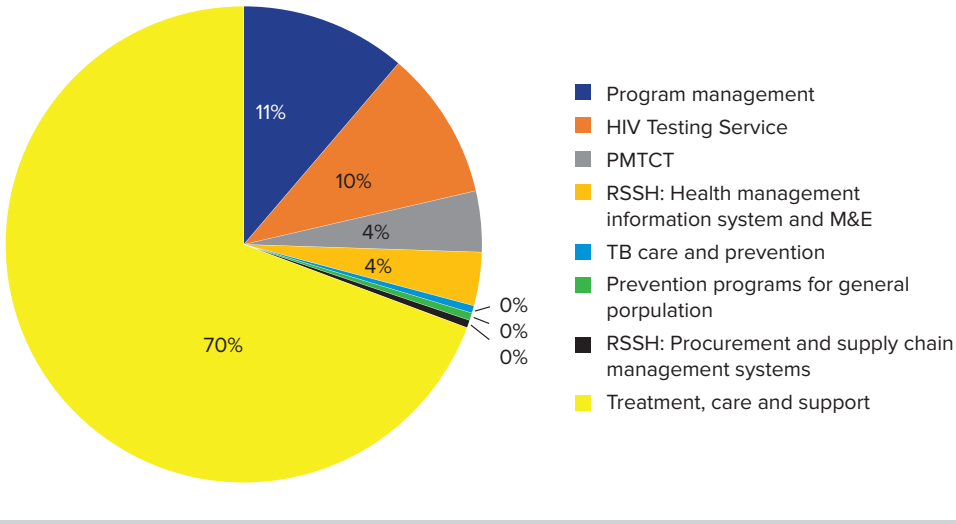


Figure 10-2 Total expenditure by Modules in 2019

10.2 Financial Support to Regions and Implementing Partners

The Programme disbursed a total amount of $1,108,411.53 to all the ten regions and Implementing Partners Including EQUIP Ghana, Christian Health Association of Ghana(CHAG), West African AID Foundation(WAAF), Planned Parenthood Association of Ghana(PPAG), The School of Public Health(SPH), INERELA Gh, Rural Watch and Stratcomm Africa. Table 10-4 and figure 10-3 show the actual amounts allocated to each Region and the implementing partners.

Table 10-4 Financial Support to Regions and Implementing partners

REGION	MONITORING
	US$
Ashanti Region	66,805.08
Brong Ahafo Region	66,031.53
Central Region	17,953.70
Eastern Region	66,030.58
Greater Accra Region	64,117.02
Northern Region	19,100.38
Upper East Region	16,422.42
Upper West Region	16,422.88
Volta Region	19,100.38
Western Region	18,334.75
CHAG	148,343.37
EQUIP	371,565.4
WAAF	19,485.77
PPAG	17,720.81
SPH	107,477.84
INERELA	5,906.94
RURAL WATCH	44,503.01
STRATCOM	23,089.67
TOTAL	1,108,411.53

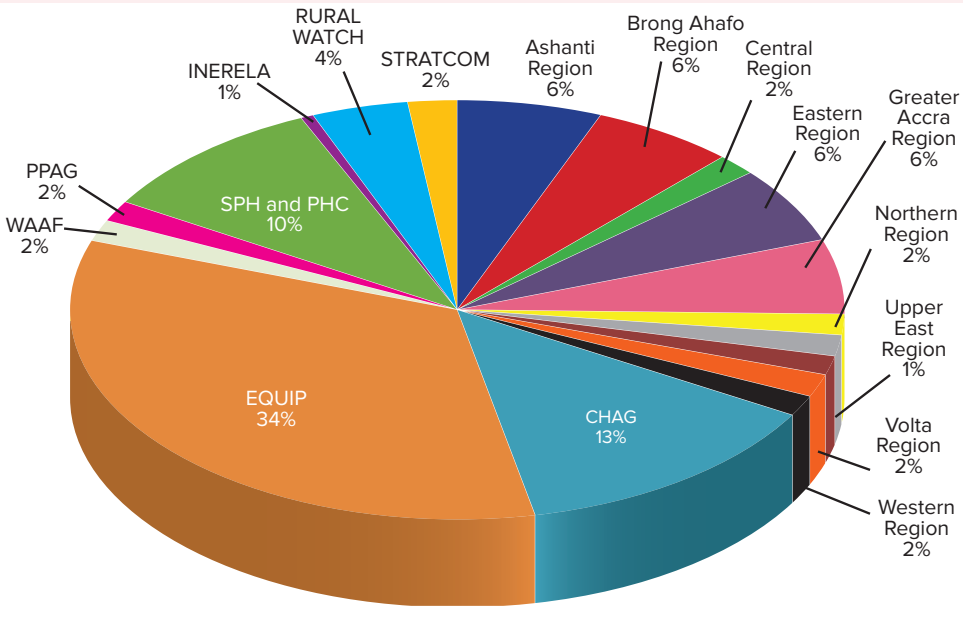


Figure 10-3 Total Support to Regions and Implementing partners in 2019

CHAPTER

11

Implementation Challenges.

The following were challenges that hampered the attainment of set goals in 2019:

11.1 Procurement

- Supply chain bottlenecks from procurement to last-mile distribution.
- Limited visibility of stock at the IHS warehouse and all RMSs posed risk for expiry.
- Expired commodities were not disposed of timely.
- Unpredictable delivery timelines for the Government of Ghana procurement.
- Difficulty in accessing delivery van for distribution/ redistribution.
- Unavailability of adequate cold storage facilities at the regional level resulting in large volumes being stored in the private warehouse (I.H.S) at a high cost.

11.2 Financial

- Significant funding gap for implementation of critical interventions such as Differentiated Service Delivery and orientation of service providers on Paediatric HIV SOPs and the viral load scale-up plan.
- Delayed disbursement of funds from Global Fund and bottlenecks in getting approvals from the ministry.

11.3 Data Management

- Inadequacy of integrated RCH registers for EMTCT and EID resulting in under-reporting of results.
- Lack of funds for routine quarterly data monitoring.
- Poor data collection on viral load.

11.4 Service Delivery

- No funding support for preventive activities despite the need to prevent new infections.
- Limited Human resource at ART sites and low capacity in HIV-related counselling due to staff attrition.
- Low ART linkage rate and high lost-to-follow-up of clients.
- Challenges with the last mile distribution of ARVs leading to stock-outs of commodities.
- Frequent break down of DNA PCR machines.

11.5 Administrative

- Transitioning of Data Officers from GF to GOG payroll led to the loss of data officers and gaps in data entry tasks.
- Continued delays in replacement of very old Programme vehicles continues to create a huge maintenance bill.
- Difficulties in getting vehicles and drivers outside NACP.
- Delayed approval of requests by the RMU of MOH delayed the execution of workplan.

CHAPTER

12.

Conclusion and Way Forward.

Much more progress has been witnessed in 2019 compared to previous years. The Programme is working assiduously with the Global Fund and partners to implement the reprogrammed activities towards the attainment of the 90/90/90 under NFM 2.

To further accelerate the progress towards epidemic control, interventions have been planned to

- Enhance onsite supportive supervision and mentorship.
- Scale-up DSD implementation and decentralization of ART to PMTCT sites.
- Engage faith-based organizations, CSOs and media houses for greater involvement in prevention campaigns.
- Engage Regional Health Directorates and facility heads to improve ownership and oversight for HIV interventions at the sub-national level.
- Strengthen the sample referral system nationwide and continue implementation of the viral load Scale-up plan.
- Revise the of the Paediatric Acceleration Plan (2016-2020).
- Build capacity for NACP staff to be able to support e-Tracker functionality and offer intense supportive supervision for HIV e-Tracker.
- Improve differentiated HIV care at the community level by sharing some tasks with the Community Health Workers such as Models of Hope, CATS and Mentor Mothers.
- Enhance quality assurance and delivery of care interventions towards the achievement of 90/90/90 targets.
- Ensure a Successful GF NFM 3 application for 2021 - 2023.
- Improve timelines and predictability of GOG procurement of Key HIV commodities.
- Sustain the technical support to GAC to fast track the operationalization of the AIDS fund, to ensure a sustainable financing ot the national HIV/ AIDS Response.

CHAPTER

13

Appendix

Table 13-1 Regional distribution of HIV tests done by age and gender-2019

REGION	MALE TESTED	FEMALE TESTED	ADULT TESTED	CHILD TESTED	TOTAL TESTED
Ahafo	6,770	30,092	36,120	742	36,862
Ashanti	39,350	205,695	242,076	2,969	245,045
Bono	15,286	63,019	76,985	1,320	78,305
Bono East	20,235	73,029	90,359	2,905	93,264
Central	27,722	128,397	151,953	4,166	156,119
Eastern	43,263	147,738	186,062	4,939	191,001
Greater Accra	53,472	227,758	278,155	3,075	281,230
North East	2,684	29,475	31,614	545	32,159
Northern	11,910	98,030	107,357	2,583	109,940
Oti	15,625	50,854	63,278	3,201	66,479
Savannah	4,258	29,468	32,527	1,199	33,726
Upper East	15,031	63,988	76,355	2,664	79,019
Upper West	13,182	49,750	59,492	3,440	62,932
Volta	49,240	126,943	166,903	9,280	176,183
Western	26,514	105,766	130,274	2,006	132,280
Western North	7,469	45,788	52,462	795	53,257
National	**352,011**	**1,475,790**	**1,781,972**	**45,829**	**1,827,801**

Table 13-2 Regional Distribution of persons testing HIV positive by age and gender-2019

REGION	MALE	FEMALE	ADULT	CHILD	TOTAL
Ahafo	330	1,364	1,680	14	1,694
Ashanti	2,860	9,066	11,818	108	11,926
Bono	1,071	3,313	4,333	51	4,384
Bono East	928	2,725	3,616	37	3,653
Central	1,306	4,231	5,479	58	5,537
Eastern	2,846	6,961	9,678	129	9,807
Greater Accra	4,450	10,522	14,722	250	14,972
North East	36	148	182	2	184
Northern	612	1,318	1,782	148	1,930
Oti	374	1,049	1,375	48	1,423
Savannah	74	311	370	15	385
Upper East	301	777	1,066	12	1,078
Upper West	164	457	616	5	621
Volta	1,031	3,071	4,042	60	4,102
Western	1,237	3,545	4,718	64	4,782
Western North	679	1,963	2,608	34	2,642
National	**18,299**	**50,821**	**68,085**	**1,035**	**69,120**

Table 13-3 HIV Exposed Infants Screened for HIV by regional testing sites

REGION	BABIES SCREENED	TESTED POSITIVE	% TESTED POSITIVE
Ashanti	1,583	108	7%
Brong Ahafo	1,878	138	7%
Central	677	91	13%
Eastern	498	13	3%
Greater Accra	3,510	301	9%
Northern	126	28	22%
Upper East	234	20	9%
Upper West	325	41	13%
Volta	513	41	8%
Western	719	32	4%
National	**10,063**	**813**	**8%**

Table 13-4 Regional Distribution of clients currently on treatment

REGION	FEMALE CHILD	MALE CHILD	FEMALE ADULT	MALE ADULT
Ahafo	22	19	913	282
Ashanti	579	620	20,521	6,364
Bono	235	255	7,398	2,056
Bono East	151	146	5,443	1,444
Central	151	184	6,855	1,800
Eastern	512	503	16,655	5,204
Greater Accra	655	820	24,300	9,506
North East	28	21	507	147
Northern	68	72	2,505	860
Oti	54	48	1,410	477
Upper East	163	148	3,823	1,232
Upper West	84	77	2,346	746
Savannah	21	15	735	183
Volta	240	255	7,590	2,258
Western	214	200	8,073	2,507
Western North	38	33	2,417	713
Total	3,215	3,416	111,491	35,779

Table 13-5 Trend in Syphilis testing and treatment at ANC

INDICATOR	2015	2016	2017	2018	2019
No. of Pregnant Women Tested for Syphilis	471,284	603,465	420,681	496,665	529312
No. Positive for syphilis	12,885	13,065	12,883	13,668	14053
No. Treated for syphilis	12,498	13,065	11,776	13, 135	13373
% Treated for syphilis	97%	100%	91%	96%	95%

CHAPTER

14.



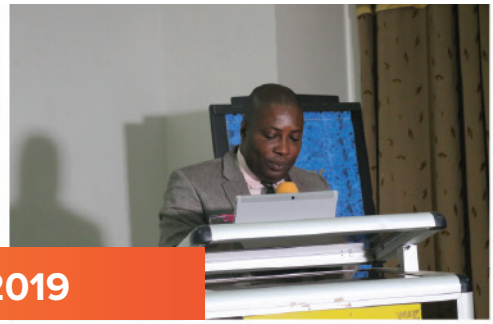




Staff Retreat 2019



TB HIV Review Meeting 2019













HSS Dissemination









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TLD Transition And Paediatric Mentorship Training

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Tel: (0)302 678456-9

Email: info@nacp.org.gh