EXECUTIVE SUMMARY

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List of Abbreviations

ABFA	Annual Budget Funding Amount
AGM&SC	Annual General Meeting & Scientific Conference
ANC	Antenatal Care
ART	Anti-Retroviral Therapy
ARVs	Anti-Retrovirals
CDC	Center for Disease Control and Prevention
CHAG	Christian Health Association Ghana
CHPS	Community-based Health Planning and Services
CMA	Common Management Arrangement
CPD	Continuous Professional Development
DALYs	Disability-Adjusted Life Years
DHIMS	District Health Information Management System
DHS	Demographic Health Survey
DPs	Development Partners
EMR	Electronic Medical Records
EMTCT	Elimination of Mother to Child Transmission
EMTs	Emergency Medical Technician
ENT	Ear, Nose and Threat
EPA	Environmental Protection Agency
FDA	Food and Drugs Authority
MDC	Medical and Dental Council
MHA	Mental Health Authority
FNS	Food and Nutrition Security
FP	Family Planning
GDP	Gross Domestic Product
GHS	Ghana Health Service
GLSS	Ghana Living Standards Survey
GMP	Good Manufacturing Practices
GoG	Government of Ghana
GSGDA	Ghana Shared Growth and Development Agenda
HA	Holistic Assessment
HAI	Healthcare Associated Infection
HeFRA	Health Facilities Regulatory Agency
HFS	Health Financing Strategy
HSMTDP	Health Sector Medium-Term Development Plan
HSWG	Health Sector Working Group
HTC	HIV Counselling and Testing
IDRS	Integrated Disease Surveillance and Response
IGF	Internally Generated Funds
IHR	International Health Regulations
IPC	Infection Prevention and Control
IPPD	Integrated Personnel and Payroll Database
ITN	Insecticide-Treated Net
LI	Legislative Instrument
M&E	Monitoring and Evaluation
MDAs	Ministries, Departments and Agencies
MDGs	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MoH	Ministry of Health
MTCTHIV	Mother to Child Transmission of HIV
MTEF	Medium-Term Expenditure Framework
NACP	National Aids Control Program
NADMO	National Disaster Management Organization
NAS	National Ambulance Service
NBS	National Blood Service

NCD	Non-Communicable Disease
NHA	National Health Accounts
NHIA	National Health Insurance Authority
NHIF	National Health Insurance Fund
NHIS	National Health Insurance Scheme
NTP	National Tuberculosis Program
OPD	Out-Patient Department
OPV	Oral Polio Vaccine
PA	Physician Assistant
PBU	Planning and Budgeting Unit
PFM	Public Financial Management
PLHIV	People Living with HIV/AIDS
PMTCT	Prevention of Mother to Child Transmission
PoW	Program of Work
PPME	Policy, Planning, Monitoring and Evaluation
QA	Quality Assurance
RHNP	Regenerative Health and Nutrition Program
SDGs	Sustainable Development Goals
STI	Sexually Transmitted Infection
SWOT	Strengths, Weaknesses, Opportunities and Threats
TB	Tuberculosos
THs	Teaching Hospitals
U5M	Under-five mortality
UHC	Universal Health Coverage
WASH	Water, Sanitation & Hygiene
WHO	World Health Organization
WIFA	Women in Fertility Age

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CHAPTER 1: PERFORMANCE REVIEW AND PROFILE

1.1 Vision, Mission and Functions

1.1.1 Vision

The vision of the health sector is to have a healthy population for national development.

1.1.2 Mission

The mission is to contribute to socio-economic development by promoting health and vitality through access to quality health for all people living in Ghana, using well-motivated personnel.

1.1.3 Functions of Ministry of Health and its Agencies

The functions of the Ministry of Health and its Agencies are to:

1. Formulate, coordinate and monitor the implementation of sector policies and programmes.
2. Provide public health and clinical services at primary, secondary and tertiary levels.
3. Regulate registration and accreditation of health service delivery facilities as well as the training and practice of various health professions regarding standards and professional conduct.
4. Regulate the manufacture, implementation, exportation, distribution, use and advertisement of all food, drugs, cosmetics, medical devices and household chemical substances as well as the marketing and utilization of traditional medicinal products in the country.
5. Conduct and promote scientific research into plant and herbal medicine.
6. Provide pre-hospital care during accidents, emergencies and disasters.

1.2 Health Sector Performance 2014-2017

Health sector performance is assessed annually by the Ministry of Health, through the Holistic Assessment. The 2017 Holistic Assessment (HA) reviewed the performance for the entire 4-year period that fell under the previous Health Sector Medium-Term Plan (2014-2017). An extract from the 2017 HA follows in section 2.1. See Annex A.1 for an additional extract from the 2017 HA, in which more descriptive analysis is provided. Section 2.2 details the budget allocations and actual expenditures for the MoH over the 2014-2017 period.

1.2.1 Holistic Assessment report 2017

The 2014-2017 HSMTDP was categorized according to six main Objectives. The Objectives, stated below, were used to guide the Holistic Assessment.

1. Bridging the equity gaps in geographical access to health services
2. Ensuring sustainable financing arrangement and financial protection for the poor
3. Efficiency in governance
4. Improving service delivery quality
5. Enhancing capacity to attain the health-related MDGs
6. Intensifying prevention and control of non-communicable and other communicable diseases

See the extract from the 2017 Holistic Assessment report below.

The Holistic Assessment Tool

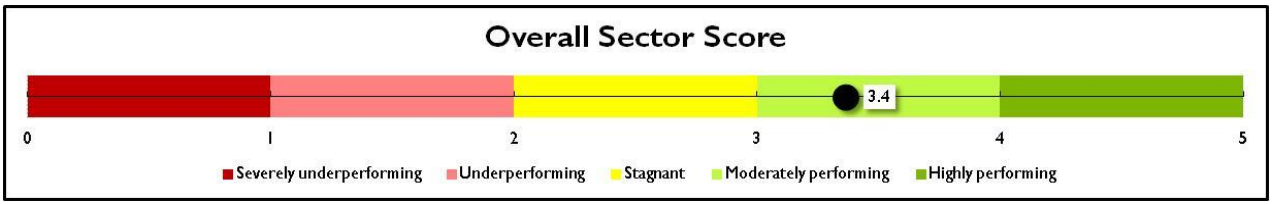
The Holistic Assessment Tool was designed to offer stakeholders the opportunity to dialogue on sector performance within an agreed framework. It is a departure from assessing a basket of few indicators and generalizing such performance as representative of the whole sector. The tool provides a broader framework for assessing the health sector in a more comprehensive and holistic manner. The primary objective of the holistic assessment of the health sector is to provide a very brief but well-informed, balanced and transparent assessment of the sector's performance and factors that are likely to influence this performance. The outcome of the assessment should lead to proposals for remedial measures to be put in place. The rationale is to encourage incremental improvement in service delivery outcomes over a specified period.

The tool was revised in 2014 to address issues of weights and to allow for balanced and credible assessment. Compared to the assessment of previous Medium-Term Plans, the revised tool applies weights to all indicators and objectives. Milestones have been given substantially more weight and carry 25% of the total weight for each objective. Each indicator and milestone is assigned a numerical value of -1, 0 or +1 depending on realization of milestones and trend of indicators. If there was an improvement of a minimum of 5%, it was scored positive. If there was a deterioration of a minimum of 5% or the data to be assessed was not available, it was scored negative. Data is said to be stagnating at a score of 0. Thus, the assessment provides for punitive score when data cannot be provided for any reason. The tool further graphically presents performance for each objective on a scale of 0 to 5 with five colour codes. […]

During the period under review, indicators for which survey results (mainly DHS and MICS) are required for assessment were excluded because there was no survey results available for 2017.

Overall Sector Score

The overall sector score for 2017 is 3.4 on a scale of 0-5. This is categorized as Moderate performance and represent an improvement when compared with the past three years (2014, 2015 and 2016) performances.

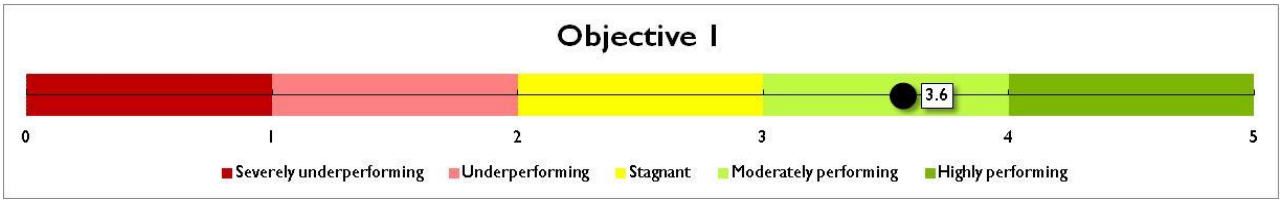


OBJECTIVE 1

There are eight (one survey) indicators under objective 1. Two of these indicators (proportion of CHPS zones that are functional and equity in geographical access to doctors) had positive scores. One indicator, Outpatient (OPD) attendance per capita, had a negative score because this indicator worsened by more than 5%. The remaining four indicators stagnated which means there was no significant progress and or deterioration regarding these indicators. They were therefore scored zero. These are;

- Proportion of functional ambulance service centers
- Equity geography: Supervised deliveries
- Equity geography: Nurse to population ratio
- Equity gender: Female/Male NHIS active membership

The milestone under this objective was scored positive. The Ministry of Health was expected to develop a Health Financing Strategy for the sector and establish Telemedicine Centres to help increase access to health care services. These two milestones were achieved.

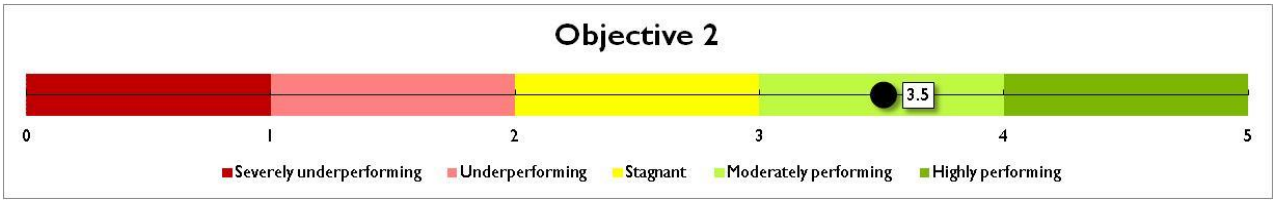


OBJECTIVE 2

Objective 2 has eight indicators. One that looks at NHIS membership according wealth quintiles was not assessed because it is a survey indicator and no survey result is available for the year under reference. Three of the remaining seven indicators were scored positive. These are, per capita expenditure on health (USD), budget execution rate (Goods and Service as proxy) and proportion of NHIS expenditure on claims reimbursement.

Two indicators scored negative, since progress deteriorated. These are, proportion of population with active NHIS membership and proportion of population covered by NHIS as indigents. The last two indicators under this objective were scored zero because they stagnated in performance during the period. These are proportion of total MTEF allocation to health and proportion of NHIS members in exempt categories.

There were two milestones under objective 2 for 2017. The Ghana Health Service was to ensure that districts prepare composite plans in collaboration with the local government in the districts for service delivery and program implementation. The Ministry of Health was also to ensure the inclusion of client satisfaction questions into the Demographic and Health Survey (DHS). These milestones were achieved and therefore scored positive. Although districts developed composite plans, adherence to the plans were not consistent due to erratic flow or sometimes non-availability of funds. The 2014 DHS which is the most recent survey included questions on client satisfaction to health services.



OBJECTIVE 3

There are nine (9) indicators under objective 3. Four out of the nine scored positive. These indicators are, doctor to population ratio, nurse to population ratio (including CHNs), midwife to WIFA population ratio and proportion of GOG spent on goods and services. One indicator (proportion of health facilities in current registration) scored zero because HeFRA could not report for the period 2015 to 2016. The evidence of performance 2017 therefore served as the 'new' based for this indicator.

The remaining 4 indicators were scored negative for either deteriorating performance or the absence of data as detailed below;

- Proportion of NHIF budget released to NHIS. This indicator deteriorated compared with 2016 performance

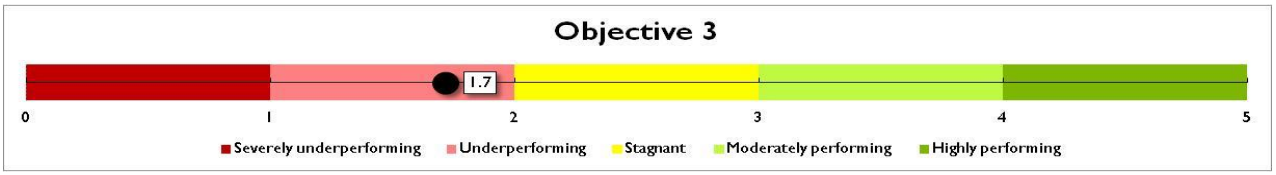
- Proportion of NHIS claims settled within 12 weeks. This indicator was assigned a negative score for absence. This indicator has never been measured since the inception of the assessment although there is a legal provision that provide the basis for this indicator. The NHIA has not reported level of performance for this indicator.

- Proportion of GOG budget spent on assets: Performance of this indicator worsened.

- Proportion of health budget (goods and services) allocated to research activities. This indicator was assigned a negative score for absence. No budgetary allocation has ever been made since a decision was made to assign a certain proportion of the health budget to support research activities.

The milestone for objective 3 required the Ministry to institutionalize performance contracting and fully integrate private sector data into the public sector data platform. This milestone was adjudged uncompleted, although a substantial proportion of private sector data is being collected

through the DHIMS2 platform. Secondly, the institutionalisation of performance contract is to be done by all agencies in the sector.



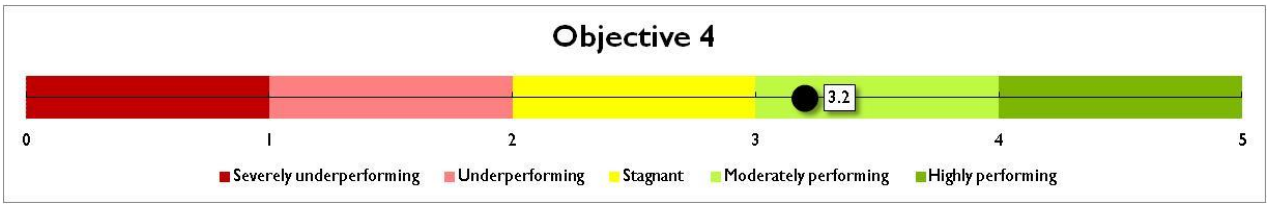
OBJECTIVE 4

Objective 4 has six indicators. Four indicators showed improved performance and therefore scored positive;

- Institutional all-cause mortality;
- Proportion of public hospitals offering mental health services;
- Institutional Malaria Under 5 Case Fatality Rate
- Proportion of public hospitals with trained emergency teams

The indicator measuring proportion of public health facilities offering traditional (Herbal) medicine practice stagnated and was scored zero while the remaining one (Surgical site infection rate) indicators was scored negative for non-availability of data.

The milestone under objective 4 was scored negative for incomplete implementation. The Ministry of Health through its agencies was expected (i) to equip 90% of District Hospitals and 70% of Health Centers with comprehensive and basic emergency obstetric and newborn care equipment respectively, (ii) establish adolescent corners in 30 hospitals throughout the country and (iii) provide specialist mentorship programs to the lower level health facilities. The health facilities were not equipped as required in (i). Adolescent corners were established in 76 hospitals thereby exceeding the target and provision of specialist mentorship programs to the lower level is also ongoing.



OBJECTIVE 5

Objective 5 has 20 indicators, eight of which are population-based survey indicators and were therefore not assessed. Seven indicators scored positive because their performances improved relative to 2016. These indicators are:

- Couple Year Protection (CYP)
- Proportion of infected pregnant women who received ARVs for PMTCT
- Proportion of children fully immunized (proxy Penta 3 coverage)
- Still birth rate (/1000 LB)

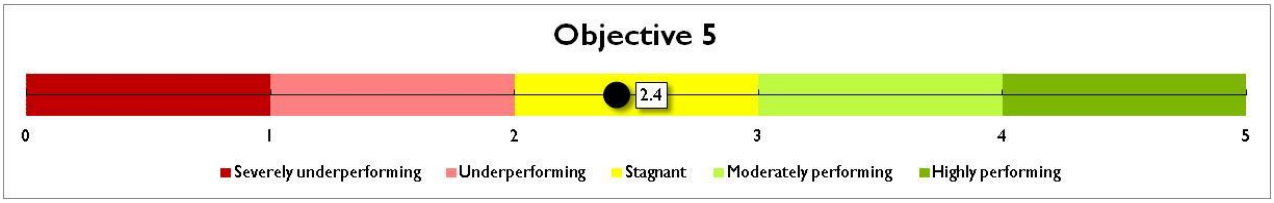
- Postnatal care coverage for newborn babies
- HIV prevalence rate
- TB treatment success rate

Four indicators listed below scored zero because performance stagnated;

- Institutional Maternal Mortality Ratio
- Proportion of deliveries attended by a trained health worker
- TB treatment success rate
- Proportion of babies born to HIV mothers being HIV negative after 18 months

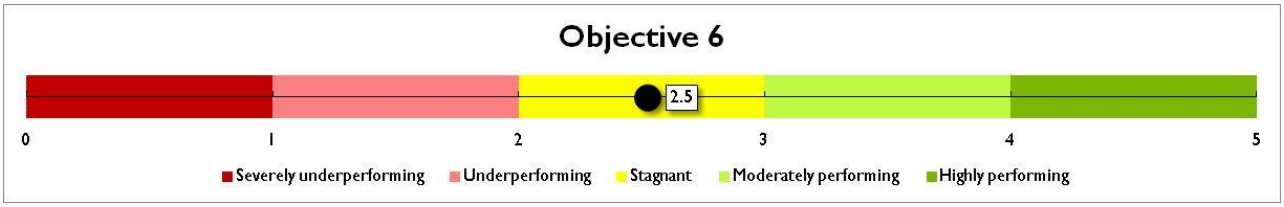
Two indicators, institutional neonatal mortality rate and proportion of pregnant women making four or more ANC visit, scored negative because their performance deteriorated in 2017.

The milestone for required the Ministry to carry out Maternal Health Survey and it was scored positive because the maternal health survey was carried out successfully and preliminary report published.



OBJECTIVE 6

Objective 6 scored 2.5 on a scale of 5. It has only three indicators. The indicator on prevalence of hypertension is a population-based survey indicator and therefore was not assessed. AFP polio rate was scored positive because target was achieved whilst data on number of deaths attributable to selected cancers was scored negative because data is not .



Trends of Sector Wide Indicators, 2014 to 2017

Trends of Sector Wide Indicators, 2014 to 2017

No.	Indicator	Trend				Performance Code
		2014	2015	2016	2017	
Objective 1: Bridge the equity gaps in geographical access to health services						
1.1	Proportion of functional ambulance service centers	128	127	133	133	
1.2	Proportion functional CHPS zones	2,948	3,951	4,034	5,100	
1.3	Per capita OPD attendance	1.17	1.08	1.06	0.98	
1.4	Equity poverty: U5MR	1.4	N/A	N/A	N/A	N/A
1.5	Equity geography: Supervised deliveries	1.4	1.7	1.7	1.6	
1.6	Equity geography: Doctor to population	13.1	9.6	7.1	8.1	
1.7	Equity geography: Nurse to population	1.9	2.1	2.1	2.1	
1.8	Equity gender: Female/ male NHIS active membership	1.38	1.37	1.43	1.44	
Objective 2: Ensure sustainable financing for health care delivery and financial protection for the poor						
2.1	Proportion of total MTEF allocation to health	10.6%	7.0%	6.8%	6.5%	
2.2	Per capita expenditure on health (USD)	32.8	37.6	24.8	43.0	
2.3	Budget execution rate (Goods and Service as proxy)	61.0%	503.0%	46.1%	55.1%	
2.4	Proportion of population with active NHIS membership	38.0%	40.0%	38.4%	35.3%	
2.5	Proportion of NHIS members in exempt categories	66.0%	66.9%	71.6%	70.1%	
2.6	Proportion of population covered by NHIS as indigents	5.5%	530.0%	5.4%	2.3%	
2.7	Proportion of NHIS expenditure on claims reimbursement	69.5%	76.1%	68.2%	81.1%	
2.8	Equity poverty: NHIS members	1.04	N/A	N/A	N/A	N/A
Objective 3: Improve efficiency in governance and management of the health system						
3.1	Doctor : Population ratio	1:9,043	1:8,934	1:8,301	1:8,098	
3.2	Nurse : Population ratio including CHNs	1:959	1:865	1:834	1:799	
3.3	Midwife : WIFA Population ratio	1:1,374	1:1,175	1:943	1:720	
3.4	Proportion of health facilities	22%	-	-	1%	

No.	Indicator	Trend				Performance
	in current registration					
3.5	*Proportion of receivable funding for NHIS received from MOF*	*79%*	*100%*	*86%*	*69%*	
3.6	*Proportion of NHIS claims settled within 12 weeks*	-	-	-	-	
3.7	*Proportion of GOG spent on goods and services*	*11.5%*	*8.0%*	*8.0%*	*34.8%*	
3.8	*Proportion of GOG spent on assets*	*18.40%*	*0.50%*	*12.0%*	*0.06%*	
3.9	*Proportion of health budget (goods and services) allocated to research activities*	-	-	-	-	
Objective 4: Improve quality of health services delivery including mental health services						
4.1	*Institutional all-cause mortality (per 1,000 Admissions)*	*21.3*	*23.1*	*22.8*	*23.6*	
4.2	*Proportion of regional and district public hospitals offering Traditional medicine practice*	*9.0%*	*11.2%*	*13.2%*	*13.1%*	
4.3	*Proportion of public hospitals offering mental health services*	*2.0%*	*19.3%*	*98.8%*	*100.0%*	
4.4	*Institutional Malaria Under 5 Case Fatality Rate (/1,000)*	*0.54*	*0.51*	*0.32*	*0.20*	
4.5	*Surgical site infection rate*	*5.3%*	*4.6%*	*N/A*		
4.6	*Percentage of public hospitals with functional emergency team*	-	*6.7%*	*18.5%*	*25.5%*	
Objective 5: Enhance national capacity for the attainment of the health related MDGs and sustain the gains						
5.1	*Unmet need for contraception*	*30%*	*N/A*	*N/A*	*N/A*	N/A
5.2	*Couple Year Protection (CYP), All sources incl. the private sector*	*2,608,352*	*2,758,970*	*2,331,449*	*3,039,413*	
5.3	*Infant Mortality Rate*	*41*	*N/A*	*N/A*	*N/A*	N/A
5.4	*Institutional Neonatal Mortality Rate (/ 1,000)*	*4.3*	*5.3*	*6.3*	*8.4*	
5.5	*Neonatal Mortality Rate*	*29*	*N/A*	*N/A*	*N/A*	N/A
5.6	*Under-5 Mortality Rate*	*60*	*N/A*	*N/A*	*N/A*	N/A
5.7	*Maternal Mortality Ratio*	*319*	*N/A*	*N/A*	*N/A*	N/A
5.8	*Institutional Maternal Mortality Ratio (/100,000*	*144*	*142*	*151*	*147*	

No.	Indicator	Trend				Performance
	LBs)					
5.9	HIV prevalence rate	1.6%	1.8%	2.4%	2.1%	
5.10	Proportion of infected pregnant women who received ARVs for PMTCT	66%	64%	50%	67%	
5.11	Proportion of babies born to HIV mothers being HIV negative after 18 months	92%	91%	92%	92%	
5.12	Proportion of children U5 who are stunted	19%	N/A	N/A	N/A	N/A
5.13	Proportion of children fully immunized (proxy Penta 3 coverage)	90%	90%	95%	98%	
5.14	Proportion of mothers making fourth ANC visit	67%	63%	63%	61%	
5.15	Exclusive breast feeding for six months	52%	N/A	N/A	NA	N/A
5.16	Proportion of deliveries attended by a trained health worker	57%	55%	56%	57%	
5.17	Still birth rate (/1,000 LBs)	18	17	19	15	
5.18	Postnatal care coverage for newborn babies	44%	45%	47%	50%	
5.19	Proportion of children under 5 years sleeping under ITN	47%	N/A	N/A	NA	N/A
5.20	TB treatment success rate	87%	85%	86%	87%	
Objective 6: Intensify prevention and control of non-communicable and other communicable diseases						
6.1	Non-AFP polio rate	3.0	7.1	3.5	4.3	
6.2	Population prevalence of hypertension	13%	N/A	N/A	N/A	N/A
6.3	Number of deaths attributable to selected cancers	-	-	-	-	

1.2.2 Budgets and expenditure 2014-2017

Health sector funding comes from three major sources: Government of Ghana, Internally Generated Funds and donor support. ABFA (Annual Budget Funding Amount), a fund containing oil and gas revenues, was introduced as a new source of funding during the period under review. Table 1 shows the approved budgets from 2014 to 2017, disaggregated by source of funding.

Table 1 – Health sector approved budget (millions GH₵) 2014 -2017

Funding source	2014	2015	2016	2017

GoG	1,209	1,308	1,613	2,480
IGF	1,364	1,004	1,294	977
ABFA	-	44	33	50
Donor	781	713	447	719
Total	**3,354**	**3,068**	**3,387**	**4,226**
Year-on-year change	**-**	**-9.3%**	**10.4%**	**24.8%**

Table 1 shows that the MoH budget decreased by 9.3% between 2014 and 2015. It increased nominally by 10.4% in 2016 and 24.8% in 2017. In relation to the Abuja Declaration, the health sector approved budget performed poorly. The share of health sector approved budget to total government approved budget was 7.0%, 6.8% and 6.9% for the years 2015, 2016 and 2017 respectively. GoG approved budget rose steadily over the period. The approved budget for donor funding and IGF were somewhat volatile but both were lower in 2017 than in 2014.

Throughout the period, almost all of the GoG funding was used for compensation, with limited allocations to goods and services and investment activities. See Table 2. Service delivery was supported by IGF and donor funds. Table 3 shows that for both IGF and donor support the actual amount received was much higher than the approved budget in 2016.

Table 2 – Approved budget vs. actual expenditure 2014-2017, by category

	Compensation			Goods and Services			Capital expenditure		
Year	***Approved budget***	***Actual expenditure***	***Variance***	***Approved budget***	***Actual expenditure***	***Variance***	***Approved budget***	***Actual expenditure***	***Variance***
2014	1,122,792,776	1,504,582,766	134%	70,586,640	115,479,213	164%	15,443,598	10,257,787	66%
2015	1,271,838,482	2,034,667,789	160%	35,293,320	185,112,829	524%	44,550,000	11,258,494	25%
2016	2,120,518,059	2,112,327,134	100%	17,600,000	27,287,832	155%	25,302,315	2,185,653	9%
2017	2,117,502,279	-	-	356,519,625	-	-	56,000,000	-	-

Table 3 – Approved budget vs. amount received 2014-2016, by source of funding

	GoG			IGF			Donor		
Year	***Approved budget***	***Amount received***	***Variance***	***Approved budget***	***Amount received***	***Variance***	***Approved budget***	***Amount received***	***Variance***
2014	1,208,823,014	1,572,898,149	130%	1,363,622,800	741,313,053	54%	781,262,000	605,398,707	77%
2015	1,351,681,802	2,235,601,034	165%	1,003,783,071	975,769,263	97%	789,089,755	860,439,904	109%
2016	2,163,420,374	2,134,847,880	99%	527,256,758	1,044,221,691	198%	413,603,249	910,976,828	220%

1.3 Profile of the Health Sector

1.3.1 The Ministry of Health and its Agencies

The Ministry of Health (MoH) is responsible for the formulation, coordination and monitoring and evaluation of policies, and resource mobilization in the health sector. The Ministry of Health provides strategic direction for governance and financing, service delivery, training and regulation.

1.3.1.1 Insurance

The **National Health Insurance Authority (NHIA)** operates the National Health Insurance Scheme (NHIS), registers and supervises private health insurance schemes and manages the National Health Insurance Fund (NHIF). As part of its mandate the Authority acts as the purchaser of healthcare services to all registered clients.

1.3.1.2 Service delivery

Healthcare services in Ghana are supplied by both public and private providers. The main public providers are the **Ghana Health Service (GHS)**, the **Teaching Hospitals** and the **Psychiatric Hospitals**. Two non-state faith-based providers, the **Christian Health Associations Ghana (CHAG)** and **Ahmadiyya Muslim Mission Health Services**, work relatively closely with the public sector. The Teaching and Psychiatric Hospitals provide tertiary and specialist services. GHS, CHAG and Ahmadiyya Mission Hospitals provide both primary and secondary level services. The private providers are active at all three levels of care. They generally focus mostly on clinical care services. The **National Ambulance Service** provides pre-hospital emergency care services (24-hour service) nationwide. The **National Blood Service** ensures safe blood and blood products.

1.3.1.3 Training and education

The training of health professionals in the public sector is done by the **Health Training Institutions** and three Colleges. The Health Training Institutions offer pre-service and post basic courses. The **Ghana College of Pharmacists**, **Ghana College of Nurses and Midwives**, and the **Ghana College of Physicians and Surgeons** provide specialist training.

1.3.1.4 Regulation

Regulatory activities, aimed at ensuring standards and protecting the public, take place in three main areas: professional practice, health facilities, medical and non-medical products. The regulatory function for professional practice is performed by various councils: **Pharmacy Council**, **Nursing & Midwifery Council**, **Psychology Council**, **Medical & Dental Council**, and **Allied Health Professions Council**. The **Health Facilities Regulatory Agency** is responsible for the licensing of health facilities. The **Food & Drugs Authority** regulates the manufacture, import, export, distribution and sale of food, drugs, food supplements, herbal and homeopathic

medicines, veterinary medicines, cosmetics, medical devices, household and chemical substances.

1.3.2 Institutional Capacity

Tables 4-6 give an insight into the number of health workers, hospital beds and health facilities currently available in the health sector.

Table 4 – Health workers on public sector payroll (May 2018)

Profession	Male	Female
Doctor	2,038	1,169
Physician Assistant	1,450	3,541
Staff Nurse	13,479	39,556
Pharmacist	1,018	514
Allied Health Professional	6,488	3,337
Support Staff	12,266	9,138
Community Health Nurse	2,381	12,848
Total	**39,120**	**70,103**

Source: Integrated Personnel and Payroll Database (IPPD), May 2018

Table 5 – Number of hospital beds, by region and ownership

Ownership → Region ↓	CHAG	Government	Private	Quasi-Government	TOTAL	% of total, by region
Ashanti	1,274	1,543	879	0	3,696	15.5%
Brong Ahafo	1,611	973	366	0	2,950	12.4%
Central	491	1,357	232	0	2,080	8.7%
Eastern	895	1,816	1,017	0	3,728	15.6%
Greater Accra	68	1,882	99	0	2,049	8.6%
Northern	394	1,452	0	0	1,846	7.7%
Upper East	388	925	50	0	1,363	5.7%
Upper West	404	629	0	0	1,033	4.3%
Volta	875	1,500	60	0	2,435	10.2%
Western	580	1,487	478	104	2,649	11.1%
Ghana	6,980	13,564	3,181	104	23,829	100%
% of total, by ownership	29.3%	56.9%	13.3%	0.4%	100%	

Table 6 – Number of health facilities, by region and type

Facility type → Region ↓	CHPS	Clinic	District Hospital	Health Centre	Hospitals	Maternity Home	Mines	Polyclinic	Psychiatric Hospital
Ashanti	1,122	149	25	164	128	69	1	1	0
Brong Ahafo	665	74	20	131	19	39	0	4	0
Central	364	78	12	75	17	36	0	3	1
Eastern	747	81	18	131	18	29	0	3	0
Greater Accra	498	322	8	40	99	104	0	14	2
Northern	459	57	17	105	16	8	0	5	0
Upper East	255	46	6	55	4	2	0	0	0
Upper West	256	13	1	71	11	5	0	4	0
Volta	454	44	17	154	11	14	0	4	0
Western	601	134	16	78	34	40	10	0	0
National	5,421	998	140	1,004	357	346	11	38	3

1.3.3 Challenges

Ghana's population continues to increase with a growth rate of 2.1% and a fertility rate of 4.1 children/woman. The population is projected to be 30,733,751 by 2020 (United Nations, Department of Economic and Social Affairs, Population Division).

Over the 2014-2017 period, the health sector has seen improvements in health outcomes as well as several challenges. Key concerns in terms of disease burden include: high morbidity and mortality from communicable diseases (e.g. malaria, HIV and TB); high neonatal, infant and maternal mortality; issues of climate change and associated public health emergencies; emerging threat of non-communicable diseases due to lifestyle changes; neglected tropical diseases; and weak mental health services.

Donor support has been declining, which puts additional importance on the health financing issues the sector is facing. The expanded immunization program and various maternal and child health programs are highly donor-dependent and will need more domestic funding going forward. There is the need to look at NHIA cost containment and sustainability, while at the same time ensuring access to healthcare for the poor. Compensation cost is extremely high compared to service and investment cost and generally takes up over 90% of the annual MoH budget.

While the human resources policies over recent years have yielded significant improvement in the quantity of human resources in the health sector, the equitable distribution of critical health personnel is a great challenge. Similarly, while the implementation of the CHPS strategy has improved access and quality of healthcare services at the sub-district level, there are still huge geographic disparities in access and quality of care.

Below follows an overview of challenges in the health sector, discussed per thematic area.

1.3.3.1 Human Resources

Distribution

The establishment of the specialized colleges with the mandate of training middle level cadres and specialist has over the years improved the human resources situation of the sector. However, equitable distribution of the trained professionals remains a challenge. The distribution is skewed towards the south (nationally) and urban areas (within the regions). Health workers are often reluctant to work in rural areas, for a host of reasons, which may include (among others): unavailability of residential accommodation; lack of financial incentives; weak health infrastructure and obsolete equipment; and unavailability of social infrastructure such as schools, electricity, running water and roads.

Pre and Post Basic Training
Training is based on schools' capacity rather than need. There are no strict rules and guidelines on training. New schools are established without much consultation and analysis whilst new programmes are introduced in schools with no linkage to the demand for such services. This has led to over-training of some middle level cadres such as Health Assistants, to the neglect of other areas like medical laboratory scientists, Mental Health Nurses and Field Technicians among others.

The weak application of standards to govern the growing numbers of new schools and programs, coupled with limited infrastructure for training (including training materials, classrooms and clinical attachment), is affecting the quality of training.

Specialized Training
The College of Physicians and Surgeons, College of Pharmacy, and College of Nurses and Midwives were established to train specialists for the country. The Colleges have recorded remarkable success by improving specialist training. Nonetheless, national policies to guide the training of specialists are lacking. Also, central government funding for specialized training is not available thereby limiting the Ministry's plan to support deprived specialized areas such as Mental Health and Anaesthesia.

1.3.3.2 Health Financing
Financing is a critical input in healthcare delivery. The financing of the sector over the last 10 years has seen some changes. Although the revenue to the health sector has increased in absolute terms in recent years, health sector revenue has decreased both as a percentage of general government expenditure and as a percentage of Gross Domestic Product (GDP). Over the last five years there has been a dramatic shift from international to domestic funding as government is gradually becoming the lead financier. However, GoG allocation to the sector remains far below the level Ghana agreed to at the Abuja Declaration (15% of general government expenditure to health). Allocation to the health sector is skewed towards payment of compensation rather than service delivery and investment. Withdrawal of support by some donor agencies (because of Ghana's middle-income status) coupled with targeted support has been a challenge and will likely continue in future years. This has been manifested in the difficulties in meeting Ghana's co-financing contribution for the procurement of vaccines and Anti-Retroviral Therapy (ART) medicines.

1.3.3.3 Governance
Governance remains a great challenge for the health sector. The sector created a number of Agencies to help carry out its activities but often without the supporting legislation and resources to support their activities. The lack of funding contributes to power struggles between the various Agencies regarding the ownership over various IGF-generating activities.

1.3.3.4 Financial Management

There are concerns regarding the management of funds especially at the sub-regional level. There are large delays in the transfers of funds to the sub-district and CHPS Zones. In some districts, funds meant for the sub-district and CHPS Zones are retained by the District Health Management Team and used on behalf of the sub-district and CHPS Zones. There are also challenges with accounting for funds disbursed to the sub-national level. The challenges include limited capacity in accounting for funds, misapplication of funds and delays in submission of financial reports.

1.3.3.5 Supply Chain

Availability of health commodities in the right place, at the right time, in the right quantities and of the right quality is critical to health service delivery. Since 2015 the Ministry has not had a central medical store to house essential health commodities. Several storage facilities are currently being rented, which is costly. Procurement is fragmented, which arguably prevents the sector from taking advantage of economies of scale, leading to high prices of health commodities

1.3.3.6 Health Infrastructure

Health infrastructure remains a challenge to the health sector. Facilities are not evenly distributed in the country. Their locations are generally not decided upon in an evidence-based manner but driven by local politics. There is a gap between urban and rural, regional and district infrastructure (CHPS, clinics, polyclinics, hospitals and equipment) and accommodation (office and residential).

1.3.3.7 Regulation of the Health Sector

The health regulatory agencies are challenged by the high operational cost of monitoring, supervision and surveillance. Inadequate staff and unavailability of appropriate technology have contributed to the ongoing proliferation of unregistered products, ‘fake doctors’ and false messages on social media. There are many outstanding legislative instruments that need to be drafted and submitted to Parliament for approval. Both the drafting and approval processes of Legislative Instruments and amendments to laws have been slow. This has affected the operations of some agencies in the health sector (including FDA, MDC, MHA).

1.3.3.8 National Health Insurance Scheme

In 2003 the National Health Insurance Scheme (NHIS) was introduced, with the aim of increasing access to healthcare and ultimately achieving universal health coverage. In 2017 around 35% of the population were NHIS members. After over ten years of implementation of the National Health Insurance Scheme, the health sector conducted a review of the policy. The review focused on the financial sustainability of the NHIS as the scheme has been facing deficits since 2009. Several issues were identified.

Some of the main challenges facing the NHIS are the increasing demand for health services, limited NHIS funding, non-adherence to standard protocols by healthcare providers, and weak claims management allowing for abuse and fraud. There are large delays in reimbursement of claims to providers (nine months on average) resulting in increased cost of services to providers and households (paying out of pocket at the point of receiving services especially for medicines).

The debt profile of many health facilities who are dependent on the revenues from NHIS for their non-wage recurrent expenditure has risen and they are facing legal actions from their suppliers. In addition, the quality of healthcare is compromised because of the frequent shortages of medicines and medical consumables in health facilities.

1.3.3.9 Quality of Care

Quality of healthcare services has been affected mainly by lack of adequate health infrastructure, health equipment, timely availability of health commodities and absence of a well-structured and equitable incentive system for health staff working in deprived and challenging conditions. Weak coordination and accountability, including limited supervision and monitoring, have also affected the quality of healthcare services. There is an increasing number of medico-legal issues (suits) brought against health facilities.

1.3.3.10 ICT in Service Delivery

The deployment of ICT software and hardware in the health sector tends to be unstructured and uncoordinated. Even though the use of ICT in health service delivery was among the priorities in the Health Sector Medium-Term Development Plan (2014-17), the level of public funds invested in ICT has been low.

1.3.3.11 Primary Healthcare Services

The delivery of primary healthcare services has been unsatisfactory, partly due to insufficient funding for the expansion of functional CHPS Zones and construction of CHPS Compounds. Furthermore, the delivery of services at the community level and in hard-to-reach areas, as well as supervision and monitoring activities, are hindered by Ghana's inadequate road network, especially in the rural areas. The health sector does not have enough resources to procure and manage the necessary fleet of cross-country vehicles, pickups, motorbikes, bicycles and boats.

Although there is great variability across communities, community involvement in the delivery of primary healthcare services has generally proven to be a challenge. The prescribed community structures for supporting the implementation of the CHPS strategy (Community Health Management Committees, Community Volunteers and opinion leaders) are often not operational and/or effective, which has been a bottleneck to the rapid expansion of health services at the community level.

1.3.3.12 Monitoring and Evaluation

The Ministry over the years have made some strides in the area of monitoring and evaluation by adopting the annual sector review, joint monitoring and Agency routine monitoring. However, M&E governance in the sector remains weak. The area is further weakened by the absence of M&E directorates or units in some Agencies and the limited number of M&E professionals. These factors contribute to gaps in data completeness and quality, as well as delays in the submission of reports by Agencies. Supervision in the sector is also weak due to the absence of funding and means of transportation.

There have been calls for a common platform for integrating data from all the various sources for analysis and use by the Ministry.

1.3.4 Overview key issues

Below follows an overview of identified key issues:

- Inequitable geographic distribution of health professionals
- Health financing challenges (most notably due to decreasing donor support, increasing expenditure on health worker compensation, insufficient funding for NHIS claims reimbursements)
- Weak district and sub-district structures
- Rapid urbanization associated with an increased demand for health services particularly in the peri-urban areas
- Inadequate and deteriorating health infrastructure and equipment
- Weak regulation
- Poor quality of healthcare
- Inadequate and slow deployment of ICT
- Inadequate transportation system at the district and sub-district
- Weak Public Health Emergency services
- Absence of unified data collection tools such as registers and reporting forms

CHAPTER 2: DEVELOPMENT ISSUES

2.1 Issues adopted for prioritization

Both the achievements and concerns identified over the 2014-2017 period were used to inform the development of the new HSMTDP (2018-20121). SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis, impact analysis and sustainability analysis were used to identify key development issues for prioritization in the 2018-2021 HSMTDP. The issues to be prioritized are as follows:

- Gaps in physical access to quality healthcare
- Inadequate emergency services
- Poor quality of healthcare services
- Unmet need for mental health services
- Unmet health needs of women and girls
- Increased cost of healthcare delivery
- Inadequate financing of the health sector
- Inadequate capacity to use health information for decision making at all levels
- Inadequate and inequitable distribution of critical staff mix
- Wide gaps in health service data
- Increasing morbidity, mortality and disability due to communicable, non-communicable and emerging diseases
- High HIV and AIDS stigmatization and discrimination
- Lack of comprehensive knowledge of HIV and AIDS/STIs, especially among vulnerable groups
- High incidence of HIV and AIDS among young persons
- Periodic shortages of HIV and AIDS commodities (ARVs, test kits, condoms)
- Infant and adult malnutrition
- Increased incidence of diet-related, non-communicable diseases
- Weak nutrition-sensitive planning and programming
- Inadequate nutrition education
- Inadequate Food and Nutrition Security (FNS) research, data and information systems

2.2 Aligning GSGDAII 2014-2017 and Agenda for Jobs 2018-2021

Table 7 shows how the thematic areas of the GSGDAII (Ghana Shared Growth and Development Agenda II) relate to the key issues identified under the current framework of Agenda for Jobs 2018-2021.

Table 7 – Aligning Agenda for Jobs 2018-2021 to GSGDAII 2014-2017

GSGDAII 2014-2017		Agenda for Jobs 2018-2021	
Thematic Area	**Identified key development issues**	**Development Dimension**	**Identified key development issues**
Human Development, Productivity and Employment	Rapid urbanization associated with an increased demand for health services, particularly in the peri-urban areas	Social Development	- Gaps in physical access to quality healthcare - Increased cost of healthcare delivery - Unmet need for mental health services - Increasing morbidity, mortality and disability due to communicable, non-communicable and emerging diseases - High incidence of HIV and AIDS among young persons
	Inadequate and deteriorating health infrastructure and equipment		- Gaps in physical access to quality healthcare - Poor quality of healthcare services - Unmet need for mental health services· - Unmet health needs of women and girls - Increasing morbidity, mortality and disability due to communicable, non-communicable and emerging diseases
	Inadequate transportation system at the district and sub-district		- Gaps in physical access to quality healthcare - Poor quality of healthcare services - Increasing morbidity, mortality and disability due to communicable, non-communicable and emerging diseases

	Weak district and sub-district structures		- Gaps in physical access to quality healthcare - Poor quality of healthcare services - Unmet need for mental health services - Unmet health needs of women and girls - High incidence of HIV and AIDS among young persons - Infant and adult malnutrition - Increased incidence of diet-related, non-communicable diseases - Inadequate nutrition education
	Inequitable distribution of health professionals		- Poor quality of healthcare services - Inadequate and inequitable distribution of critical staff - Unmet need for mental health services - Unmet health needs of women and girls - Increasing morbidity, mortality and disability due to communicable, non-communicable and emerging diseases
	Weak Public Health Emergency services		- Inadequate emergency services - Poor quality of healthcare services - Increasing morbidity, mortality and disability due to communicable, non-communicable and emerging diseases
	Inadequate and slow deployment of ICT		- Inadequate capacity to use health information for decision making at all levels
	Absence of unified data collection tools such as register and reporting forms		- Inadequate capacity to use health information for decision making at all levels · - Wide gaps in health service data

	Weak regulation		- Inadequate capacity to use health information for decision making at all levels - Wide gaps in health service data - Poor quality of healthcare services
	Health financing challenges		- Inadequate financing for the health sector - Increased cost of healthcare delivery
	Weak coordination (governance) of the sector		- Inadequate capacity to use health information for decision making at all levels - Wide gaps in health service data - Poor quality of healthcare services - High HIV/AIDS stigmatization and discrimination - Lack of comprehensive knowledge of HIV and AIDS/STIs, especially among vulnerable groups - High incidence of HIV and AIDS among young persons - Weak nutrition-sensitive planning and programming - Inadequate food and nutrition security research, data and information
	Weak supply chain management		Periodic shortages of HIV and AIDS commodities (ARVs, test kits, condoms)

2.3 Priority Strategies

Based on the key development issues, a number of strategies were identified that will receive priority during the 2018-2021 period. The strategies are shown below, categorised according to the thematic areas of the government medium-term priorities.

2.3.1 Building a Resilient National Health System

- Strengthen Public Health Emergency preparedness and response (use evidence-based solutions for preventing, detecting and response)
- Strengthen surveillance against all diseases including vector-borne zoonotic diseases
- Reduce the threat of communicable and non-communicable diseases
- Promote a healthy environment, food safety and personal hygiene
- Contribute to improved sanitation
- Improve emergency preparedness to deal with acute injuries and disasters (e.g. road traffic accidents)

2.3.2 Improve Access, Equity and Quality of Healthcare Services

- Improve access to quality and equitable health services
- Address the disparities in health service delivery (health equity) through expansion of the CHPS programs
- Redistribute critical health personnel, considering infrastructure, housing and incentive packages
- Increase access to Mental Health Services
- Address the sustainability of the support on vaccines and antiretroviral medicines from external sources
- Implementation of the Test, Treat and Track (90-90-90) policy on HIV
- Introduce a quality culture and improve quality of care
- Strengthen Maternal, Neonatal, Child Health and Nutrition services
- Improve Health Promotion
- Collaborate and coordinate with civil societies at community levels
- Implement the Malaria Control Program

2.3.3 Improving Health Infrastructure at the Primary Healthcare Level

- Accelerate the construction of CHPS Compounds
- Complete ongoing development of health infrastructure (hospitals and polyclinics)
- Complete and construct residential and office accommodation

2.3.4 Funding and Financial Sustainability

- Address co-financing for HIV/AIDS and immunization programs and the sustainability of public health commodities

- Advocate for an increase in the government budget to the health sector
- Explore innovative financing from domestic sources and increase the proportion of total health expenditure from domestic sources
- Review the National Health Insurance Scheme

2.3.5 Governance, Leadership and Regulation of the Health Sector

- Reconstruct the Central Medical Store
- Establish a national database for medical equipment
- Promote Ghana as a destination for Medical Tourism
- Decentralize the health sector
- Accelerate the drafting of Legislative Instruments and amendment of laws
- Strengthen sub-district health systems

CHAPTER 3: DEVELOPMENT GOAL, ADOPTED OBJECTIVES AND STRATEGIES, AND PROJECTIONS

3.1 Goal and Objectives HSMTDP 2018-2021

The overall goal and main objectives for this Health Sector Medium-Term Development Plan were developed based on various national and international strategic documents as well as extensive deliberations with stakeholders. Key documents used were the Sustainable Development Goals (2015-2030), the Coordinated Programme of Economic and Social Development Policies (2017-2024) and the Medium-Term National Development Policy Framework (2017-2024).

3.1.1 Overall Goal

The overall goal is to have a healthy and productive population that reproduces itself safely.

3.1.2 Main Objectives

The four main Objectives for the HSMTDP 2018-2021 are as follows:

1. Ensuring sustainable, affordable, equitable, easily accessible healthcare services
2. Strengthening healthcare management system
3. Reducing morbidity, disability and mortality
4. Ensuring reduction of new HIV, AIDS/STIs and other infections, especially among vulnerable groups

3.2 Strategies

See Table 8 for an overview of the broad strategies under each Objective, as well as the issues the strategies are aiming to address. The strategies have been linked to relevant targets of the Sustainable Development Goals.

Table 8 – Policy Objectives and corresponding issues and strategies

POLICY OBJECTIVES	KEY ISSUES	STRATEGIES
HEALTH AND HEALTH SERVICES		
1.1 Ensure affordable, equitable, easily accessible and Universal Health Coverage (UHC)	• Gaps in physical access to quality healthcare • Inadequate emergency services • Poor quality of healthcare services • Unmet need for mental health services • Unmet health needs of women and girls • Increased cost of healthcare delivery • Inadequate financing of the health sector	1.1.1 Accelerate implementation of Community-based Health Planning and Services (CHPS) policy to ensure equity in access to quality healthcare **(SDG Targets 1.2, 1.3, 3.1, 3.2, 3.3, 3.8, 16.6)** 1.1.2 Expand and equip health facilities **(SDG Target 3.8)** 1.1.3 Revamp emergency medical preparedness and response services **(SDG Target 3.d)** 1.1.4 Adopt and implement strategy for development of local pharmaceutical production **(SDG Targets 3.8, 3.b)** 1.1.5 Strengthen the referral system **(SDG Targets 3.1, 3.6, 3.7, 16.6)** 1.1.6 Strengthen the district and sub-district health systems as the bedrock of the national primary healthcare strategy **(SDG Targets 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.6, 3.7, 3.8, 16.6)** 1.1.7 Scale up the integration of traditional medicine in the health service delivery system **(SDG Targets 1.4, 3.8, 3.b, 16.6)** 1.1.8 Improve medical supply chain management system **(SDG Targets 3.8, 3.b, 16.6)** 1.1.9 Accelerate implementation of the mental health strategy **(SDG Targets 3.4, 3.5, 16.6)** 1.1.10 Ensure enactment and implementation of legislative instrument for the Mental Health Act. **(SDG Targets 3.4, 16.6)** 1.1.11 Ensure gender mainstreaming in the provision of healthcare services **(SDG Targets 1.4, 5.c)** 1.1.12 Promote health tourism **(SDG Targets 10.7, 16.6)** 1.1.13 Promote use of ICT and e-health strategies in healthcare delivery **(SDG Targets 9.c, 16.6)** 1.1.14 Expand specialist and allied health services (e.g. diagnostics, ENT, physiotherapy, etc.) **(SDG Target 3.c)** 1.1.15 Strengthen the National Health Insurance Scheme (NHIS) **(SDG Targets 1.3, 3.c)** 1.1.16 Effectively implement the health financing strategy **(SDG Targets 1.3, 3.c, 16.6)**

		1.1.17 Improve the use of ICT in health insurance and facility management **(SDG Targets 3.8, 9.c)**
1.2 Strengthen healthcare management system	• Inadequate capacity to use health information for decision making at all levels • Inadequate and inequitable distribution of critical staff mix • Wide gaps in health service data	1.2.1 Enhance efficiency in governance and management of the health system **(SDG Target 16.6)** 1.2.2 Strengthen coverage and quality of healthcare data in both public and private sectors **(SDG Target 17.18)** 1.2.3 Formulate and implement health sector capital investment policy and plan **(SDG Target 17.14)** 1.2.4 Improve production and distribution mix of critical staff **(SDG Target 3.c)** 1.2.5 Finalize and implement health sector decentralization policy and strategy **(SDG Target 16.6)** 1.2.6 Strengthen collaboration and partnership with the private sector to provide health services **(SDG Target 17.17)** 1.2.7 Improve health information management systems, including research in the health sector **(SDG Target 16.6)** 1.2.8 Build capacity for monitoring and evaluation in the health sector **(SDG Target 16.6)** 1.2.9 Expand and equip medical training facilities **(SDG Target 3.8)** 1.2.10 Provide incentives for pre-service and specialist postgraduate trainees **(SDG Target 3.c)**
1.3 Reduce disability morbidity, and mortality	• Increasing morbidity, mortality and disability due to communicable, non-communicable and emerging diseases	1.3.1 Strengthen maternal, newborn care and adolescent services **(SDG Targets 3.1, 3.2)** 1.3.2 Intensify implementation of Malaria Control Program **(SDG Target 3.3)** 1.3.3 Strengthen prevention and management of malaria cases. **(SDGs Targets 3.3, 16.6)** 1.3.4 Formulate national strategy to mitigate climate change-induced diseases **(SDG Target 3.3)** 1.3.5 Implement the non-communicable diseases (NCD) control strategy **(SDG Targets 3.4, 3.b)** 1.3.6 Strengthen rehabilitation services **(SDG Target 16.6)** 1.3.7 Intensify polio eradication efforts **(SDG Target 3.2)** 1.3.8 Accelerate implementation of the national strategy for elimination of yaws, leprosy, buruli ulcer, filariasis and neglected tropical diseases **(SDG Target 3.3)** 1.3.9 Review and scale-up Regenerative Health and Nutrition Program (RHNP) **(SDG Target 2.2)** 1.3.10 Develop and implement a national health policy for the aged **(SDG Target**

		16.6) 1.3.11 Strengthen Integrated Disease Surveillance and Response (IDRS) at all levels **(SDG Target 16.6)** 1.3.12 Fully implement International Health Regulations (IHR) **(SDG Targets 3.a, 16.6)**
1.4 Ensure reduction of new HIV, AIDS/STIs and other infections, especially among vulnerable groups	• High HIV and AIDS stigmatization and discrimination • Lack of comprehensive knowledge of HIV and AIDS/STIs, especially among vulnerable groups • High incidence of HIV and AIDS among young persons • Periodic shortages of HIV and AIDS commodities (ARVs, test kits, condoms)	1.4.1 Expand and intensify HIV Counselling and Testing (HTC) programs **(SDG Targets 3.3, 3.7)** 1.4.2 Intensify education to reduce stigmatization **(SDG Target 3.7)** 1.4.3 Intensify behavioral change strategies, especially for high-risk groups for HIV and AIDS and TB **(SDG Targets 3.3, 3.7)** 1.4.4 Strengthen collaboration among HIV and AIDS, TB and sexual and reproductive health programs **(SDG Target 3.3)** 1.4.5 Intensify efforts to eliminate mother-to-child transmission of HIV (MTCTHIV) **(SDG Target 3.3)** 1.4.6 Ensure access to antiretroviral therapy **(SDG Target 3.8)** 1.4.7 Support local production of antiretroviral therapy (ART) commodities **(SDG Target 3.b)**
FOOD AND NUTRITION SECURITY		
2.1 Ensure food and nutrition security (FNS)	• Prevalence of hunger in certain areas • Household food insecurity • Prevalence of micro- and macro-nutritional deficiencies • Inadequate efforts to manage food maintenance systems • Weak nutrition-sensitive food production systems • Infant and adult malnutrition • Increased incidence of diet-related, non-communicable diseases	2.1.1 Institute measures to reduce food loss and waste **(SDG Targets 2.c, 12.3)** 2.1.2 Promote the production of diversified, nutrient-rich food and consumption of nutritious foods **(SDG Targets 2.1, 2.2)** 2.1.3 Strengthen early-warning and emergency preparedness systems **(SDG Target 3.d)** 2.1.4 Promote healthy diets and lifestyles **(SDG Target 2.1)** 2.1.5 Reduce infant and adult malnutrition **(SDG Target 2.2)** 2.1.6 Develop and implement a food and nutrition security strategy which adopts a life-cycle approach to addressing malnutrition at all levels **(SDG Target 2.2)** 2.1.7 Scale up proven, cost-effective, nutrition-sensitive and nutrition-specific interventions **(SDG Targets 2.1, 2.2)**
2.2 Strengthen food and nutrition security governance	• Weak FNS institutional framework and coordination • Poorly coordinated M&E for FNS across sectors • Inadequate FNS research, data and information systems • Inadequate social mobilization,	2.2.1 Develop and implement legal framework for food and nutrition security governance **(SDG Target 16.6)** 2.2.2 Strengthen a multi-sector platform for decision making on nutrition **(SDG Target 16.7)** 2.2.3 Institute sustainable mechanisms for funding FNS interventions at national, regional and district levels 2.2.4 Promote tracking of nutrition budget allocations and expenditure **(SDG Target**

	advocacy and communication on nutrition • Inadequate nutrition education • Inadequate staff training on FNS at all levels • Weak nutrition-sensitive planning and programming • Weak food control systems	**16.6)** 2.2.5 Develop an FNS M&E framework and integrate it in the national M&E system **(SDG Target 16.6)** 2.2.6 Strengthen FNS research, data and information management systems **(SDG Target 17.18)** 2.2.7 Develop and disseminate a multi-stakeholder social mobilization, advocacy and communication strategy on food and nutrition security 2.2.8 Institute capacity-building programs for FNS at all levels **(SDG Targets 16.6, 17.9)** 2.2.9 Improve formulation and implementation of nutrition-sensitive interventions **(SDG Target 16.6)** 2.2.10 Ensure that trade and investment policies support nutrition objectives **(SDG Targets 2.b, 17.5)** 2.2.11 Finalize and implement National Food Safety Policy **(SDG Target 16.6)** 2.2.12 Update and implement national legislation and regulations to meet international food safety standards **(SDG Target 16.b)** 2.2.13 Establish an effective food safety monitoring system **(SDG Target 16.6)** 2.2.14 Promote nutrition-sensitive trade and investment. **(SDG Target 17.5)** 2.2.15 Establish early-warning system for laboratory-confirmed infections **(SDG Target 3.d)**

3.3 Projected Medium-Term Development Requirements

In order to achieve the Objectives and strategies outlined above, the Ministry intends to train additional human resources. See Table 9 for the projected annual intake for a number of important educational programs in the health sector.

Table 9 – Projected intake educational programs Nursing and Midwifery

PROGRAMS	2018	2019	2020	2021
2-Year Programs				
Community Health Nurse (NAP)	22,776	21,637	20,555	19,527
Enrolled Nurse (NAC)	28,413	26,992	25,643	24,361
Midwife (Post NAP/HAC)	1,779	1,690	1,605	1,525
3-Year Programs				
Registered Community Nurse	1,037	2,437	3,038	2,887
Registered General Nurse	20,439	26,630	31,629	30,048
Registered Midwifery	8,291	11,408	14,221	13,510
Registered Mental Nurse	437	2,531	4,569	4,340

CHAPTER 4: DEVELOPMENT PROGRAMS AND SUB-PROGRAMS OF THE MDA

Section 4.1 presents a framework that links the sector's strategies to the sector programs, sub-programs and broad activities that are planned for the period of 2018-2021. The sector will develop action plans based upon the broad activities that will help in achieving the stated outputs for the various programs and sub-programs. In section 4.2 the indicative financial strategy is presented.

4.1 Health sector programs

In line with government program structures, the public health sector comprises of four programs and 16 sub-programs.

The Ministry of Health programs include:

1. Management and Administration
2. Health Service Delivery
3. Human Resources for Health Development and Management
4. Health Sector Regulation

4.1.1 Management and Administration

The Management and Administration program aims to: provide efficient and effective governance and leadership to the health sector; formulate and update policies; and supervise, monitor and evaluate the delivery of health services. In order to achieve this, a number of sub-programs have been formulated. The sub-programs include:

1.1 General Management
1.2 Health Research, Statistics and Information Management
1.3 Health Policy Formulation, Planning, Budgeting Monitoring and Evaluation
1.4 Finance and Audit
1.5 Procurement, Supply and Logistics
1.6 Human Resources management

4.1.2 Health Service Delivery

The Health Service Delivery program aims to deliver cost-effective, efficient and affordable quality health services at the primary, secondary and tertiary levels of care. The primary and secondary levels offer curative, preventive, promotive, and rehabilitative care. The tertiary level concentrates on specialist services, referral, emergency response, medical training, health research and education. The four sub-programs are:

2.1 Primary and secondary health services
2.2 Tertiary health services
2.3 Research
2.4 Pre-hospital services

The delivery and management of all services under this programme are organized from the national through regional, district, sub-district and community levels.

4.1.3 Human Resource Development

The Human Resource Development programme, which remains a major function of the health sector, aims to ensure the production of adequate and skilled health professionals and the provision of adequate resources to support their training. The sub programs include:

3.1 Pre-Service Training
3.2 Post-Basic Training
3.3 Specialized Training

4.1.4 Health Sector Regulation

The Health Sector Regulation program aims to ensure that standards are maintained and adhered to in the sector. In order to achieve this, three sub-programs have been developed:

4.1 Regulation of Health Facilities
4.2 Regulation of Health Professionals
4.3 Regulation of Pharmaceutical and Medical Health Products

Table 10 – Linking the strategies to Programs and Sub-Programs

POLICY OBJECTIVES	STRATEGIES	Programs	Sub-Programs
1.1 Ensure affordable, equitable, easily accessible and Universal Health Coverage (UHC)	1.1.1 Accelerate implementation of Community-based Health Planning and Services (CHPS) policy to ensure equity in access to quality healthcare **(SDG Targets 1.2, 1.3, 3.1, 3.2, 3.3, 3.8, 16.6)**	1 2	1.1, 1.3
	1.1.2 Expand and equip health facilities **(SDG Target 3.8)**	1 2	1.3 2.1, 2.2
	1.1.3 Revamp emergency medical preparedness and response services **(SDG Target 3.d)**	1 2	1.3 2.1, 2.2
	1.1.4 Adopt and implement strategy for development of local pharmaceutical production **(SDG Targets 3.8, 3.b)**	1 4	1.3 4.3
	1.1.5 Strengthen the referral system **(SDG Targets 3.1, 3.6, 3.7, 16.6)**	1 2	1.3 2.1, 2.2, 2.3
	1.1.6 Strengthen the district and sub-district health systems as the bedrock of the national primary healthcare strategy **(SDG Targets 1.2, 1.3, 3.1, 3.2, 3.3, 3.4, 3.6, 3.7, 3.8, 16.6)**	1 2	1.3, 1.5, 1.6 2.1
	1.1.7 Scale up the integration of traditional medicine in the health service delivery system **(SDG Targets 1.4, 3.8, 3.b, 16.6)**	1 2	1.3 2.1
	1.1.8 Improve medical supply chain management system **(SDG Targets 3.8, 3.b, 16.6)**	1 2	1.5 2.1, 2.2
	1.1.9 Accelerate implementation of the mental health strategy **(SDG Targets 3.4, 3.5, 16.6)**	1 2	1.1, 1.3 2.1, 2.2
	1.1.10 Ensure enactment and implementation of legislative instrument for the Mental Health Act. **(SDG Targets 3.4, 16.6)**	1 4	1.1 4.1, 4.2, 4.3
	1.1.11 Ensure gender mainstreaming in the provision of healthcare services **(SDG Targets 1.4, 5.c)**	1	1.3
	1.1.12 Promote health tourism **(SDG Targets 10.7, 16.6)**	1 2	1.3 2.1, 2.2
	1.1.13 Promote use of ICT and e-health strategies in healthcare delivery **(SDG Targets 9.c, 16.6)**	1-4	All sub-programs
	1.1.14 Expand specialist and allied health services (e.g. diagnostics, ENT, physiotherapy, etc.) **(SDG Target 3.c)**	1 2	1.3 2.1, 2.3, 2.4

	1.1.15 Strengthen the National Health Insurance Scheme (NHIS) **(SDG Targets 1.3, 3.c)**	1	1.3
	1.1.16 Effectively implement the health financing strategy **(SDG Targets 1.3, 3.c, 16.6)**	1-4	All sub-programs
	1.1.17 Improve the use of ICT in health insurance and facility management **(SDG Targets 3.8, 9.c)**	1 2	1.3 2.1, 2.2
1.2 Strengthen healthcare management system	1.2.1 Enhance efficiency in governance and management of the health system **(SDG Target 16.6)**	1-4	All sub-programs
	1.2.2 Strengthen coverage and quality of healthcare data in both public and private sectors **(SDG Target 17.18)**	1-4	All sub-programs
	1.2.3 Formulate and implement health sector capital investment policy and plan **(SDG Target 17.14)**	1	1.3
	1.2.4 Improve production and distribution mix of critical staff **(SDG Target 3.c)**	1 4	
	1.2.5 Finalize and implement health sector decentralization policy and strategy **(SDG Target 16.6)**	1	1.3
	1.2.6 Strengthen collaboration and partnership with the private sector to provide health services **(SDG Target 17.17)**	1-4	All sub-programs
	1.2.7 Improve health information management systems, including research in the health sector **(SDG Target 16.6)**	1-4	All sub-programs
	1.2.8 Build capacity for monitoring and evaluation in the health sector **(SDG Target 16.6)**	1-4	All sub-programs
	1.2.9 Expand and equip medical training facilities **(SDG Target 3.8)**	1 3	3, 1,2,3
	1.2.10 Provide incentives for pre-service and specialist postgraduate trainees **(SDG Target 3.c)**	1 3	
1.3 Reduce disability morbidity, and mortality	1.3.1 Strengthen maternal, newborn care and adolescent services **(SDG Targets 3.1, 3.2)**	1 2 3	1.3 2.1, 2.2, 2.3
	1.3.2 Intensify implementation of Malaria Control Program **(SDG Target 3.3)**	2	2.1, 2.2, 2.4
	1.3.3 Strengthen prevention and management of malaria cases. **(SDGs Targets 3.3, 16.6)**	1 2	1.3 2.1, 2.2, 2.3

	1.3.4 Formulate national strategy to mitigate climate change-induced diseases **(SDG Target 3.3)**	1	1.3
	1.3.5 Implement the non-communicable diseases (NCD) control strategy **(SDG Targets 3.4, 3.b)**	2 4	2.1, 2.2 4.1, 4.3
	1.3.6 Strengthen rehabilitation services **(SDG Target 16.6)**	2	2.1, 2.2
	1.3.7 Intensify polio eradication efforts **(SDG Target 3.2)**	1 2	1.3 2.1, 2.2
	1.3.8 Accelerate implementation of the national strategy for elimination of yaws, leprosy, buruli ulcer, filariasis and neglected tropical diseases **(SDG Target 3.3)**	2	2.1, 2.2, 2.4
	1.3.9 Review and scale-up Regenerative Health and Nutrition Program (RHNP) **(SDG Target 2.2)**	1 2	1.3 2.1, 2.2
	1.3.10 Develop and implement a national health policy for the aged **(SDG Target 16.6)**	1 2	1.3 2.1, 2.2
	1.3.11 Strengthen Integrated Disease Surveillance and Response (IDRS) at all levels **(SDG Target 16.6)**	2	2.1, 2.4
	1.3.12 Fully implement International Health Regulations (IHR) **(SDG Targets 3.a, 16.6)**	1 2 4	1.3 2.1, 2.2 4.1, 4.2, 4.3
1.4 Ensure reduction of new HIV, AIDS/STIs and other infections, especially among vulnerable groups	1.4.1 Expand and intensify HIV Counselling and Testing (HTC) programs **(SDG Targets 3.3, 3.7)**	2	2.1, 2.2, 2.4
	1.4.2 Intensify education to reduce stigmatization **(SDG Target 3.7)**	2	2.1, 2.2
	1.4.3 Intensify behavioral change strategies, especially for high-risk groups for HIV and AIDS and TB **(SDG Targets 3.3, 3.7)**	2	2.1, 2.2
	1.4.4 Strengthen collaboration among HIV and AIDS, TB and sexual and reproductive health programs **(SDG Target 3.3)**	2	2.1, 2.2
	1.4.5 Intensify efforts to eliminate mother-to-child transmission of HIV (MTCTHIV) **(SDG Target 3.3)**	2	2.1, 2.2
	1.4.6 Ensure access to antiretroviral therapy **(SDG Target 3.8)**	1 2 4	1.3 2.1, 2.2 4.1
	1.4.7 Support local production of antiretroviral therapy (ART) commodities **(SDG Target 3.b)**	1 4	1.3 4.1

2.2 Strengthen food and nutrition security governance	2.1.2 Promote the production of diversified, nutrient-rich food and consumption of nutritious foods **(SDG Targets 2.1, 2.2)**	2	2.1
	2.1.3 Strengthen early-warning and emergency preparedness systems **(SDG Target 3.d)**	2	2.1, 2.2, 2.4
	2.1.4 Promote healthy diets and lifestyles **(SDG Target 2.1)**	1 2	1.3 2.1, 2.2
	2.1.5 Reduce infant and adult malnutrition **(SDG Target 2.2)**		
	2.1.6 Develop and implement a food and nutrition security strategy which adopts a life-cycle approach to addressing malnutrition at all levels **(SDG Target 2.2)**	1 2	1.3 2.1
	2.1.7 Scale up proven, cost-effective, nutrition-sensitive and nutrition-specific interventions **(SDG Targets 2.1, 2.2)**	2	2.1, 2.2
	2.2.1 Develop and implement legal framework for food and nutrition security governance **(SDG Target 16.6)**	1 2 4	1.3 2.1 4.1
	2.2.2 Strengthen a multi-sector platform for decision making on nutrition **(SDG Target 16.7)**	1 2	1.3 2.1
	2.2.3 Institute sustainable mechanisms for funding FNS interventions at national, regional and district levels	1 2	1.3 2.1
	2.2.4 Promote tracking of nutrition budget allocations and expenditure **(SDG Target 16.6)**	1 2	1.3, 2.1
	2.2.5 Develop an FNS M&E framework and integrate it in the national M&E system **(SDG Target 16.6)**	1 2	1.3 2.1
	2.2.6 Strengthen FNS research, data and information management systems **(SDG Target 17.18)**	2	2.1
	2.2.7 Develop and disseminate a multi-stakeholder social mobilization, advocacy and communication strategy on food and nutrition security **(SDG Target)**	1 2	1.3 2.1
	2.2.8 Institute capacity-building programs for FNS at all levels **(SDG Targets 16.6, 17.9)**	2	2.1, 2.2
	2.2.9 Improve formulation and implementation of nutrition-sensitive interventions **(SDG Target 16.6)**	2	2.1
	2.2.11 Finalize and implement National Food Safety Policy **(SDG Target 16.6)**	4	4.1

	2.2.12 Update and implement national legislation and regulations to meet international food safety standards **(SDG Target 16.b)**	4	4.1
	2.2.13 Establish an effective food safety monitoring system **(SDG Target 16.6)**	4	4.1
	2.2.15 Establish early-warning system for laboratory-confirmed infections **(SDG Target 3.d)**	2	2.1, 2.2

4.2 Indicative Financial Strategy

The economic development policy goal of government over the medium term is to stabilise the economy and place it on the path of strong and resilient growth. According to the 2018-2021 Budget Guidelines, real GDP is expected to grow by 6.3% in 2017, while non-oil GDP (GDP excluding oil and gas) is expected to grow by 4.6%. Over the medium term, real GDP is projected to grow by 9.1% and 7.1% in 2018 and 2019 respectively, before moderating to 5.7% in 2020. Non-oil GDP growth is expected to rise from 4.6% in 2017 and rise further over the medium-term, reaching 6.3% in 2020. The expected increase in oil and gas production with the coming on-stream of the Sankofa-Gye-Nyame oil fields, coupled with key interventions outlined in the Infrastructure for Poverty Eradication Program (IPEP), reassures the health sector of an increase in resources to fund its priority activities. However, the decline in donor support remains a major challenge to the health sector as donor monies have traditionally funded a lot of the service delivery, especially in the area of communicable diseases. The programmes (HIV,TB, Malaria, Family Planning, Immunisation) are estimated to have received USD 198 million in 2017 and this is projected to decline to USD 90 million by 2025 (including other health interventions, the total funding from these DPs is USD 248 million, falling to USD 124 million). External financing is projected to decline relatively rapidly in two health programmes: Family Planning, falling 15% per annum; and HIV/AIDS, decreasing by 10% per annum

The health sector has developed a Health Financing Strategy (HFS 2015). The goal of the health financing strategy is to move towards Universal Health Coverage (UHC). The strategy notes that achieving UHC is a long journey and incremental progress must be sustained. The health financing strategy seek to implement a mix of activities to increase revenue and manage expenditure.

Under this medium-term strategy (HSMTDP 2018-2021), the MoH will focus on:

- improving resource mobilization to ensure sufficient and predictable revenue
- promoting equity in the distribution of health resources and use of health services and reduce financial barriers to access to healthcare
- ensuring efficient allocation and use of health sector resources
- stimulating quality improvement in service delivery and increasing population satisfaction and involvement in their own health
- strengthening governance, transparency and accountability by establishing institutional structures and strengthening existing structures to enable proper enforcement of existing strategies as well as introduce new strategies
- incrementally managing the health financing reforms (implementation of the HFS 2015)

CHAPTER 5: ANNUAL ACTION PLAN 2018-2021 OF THE MDA

In section 5.1 follows an overview of the MoH Action Plan for the 2018-2021 period. The broad activities are linked to measurable output or outcome indicators. They are categorised according to Program, Sub-Program and Strategy. Section 5.2 shows the projected cost of implementing all the planned activities under the 2018-2021 HSMTDP. Section 5.3 details the indicative financial strategy.

5.1 Action plan 2018-2021

Sub-program	Strategy	Broad Activity	Indicator	Reporting year			
				2018	2019	2020	2021
PROGRAM 1: MANAGEMENT AND ADMINISTRATION							
1.1 General Management	1.2.1 Enhance efficiency in governance and management of the health system	Strengthen leadership and improve governance and accountability in the health sector	No. of inter-agency meetings conducted	X	X	X	X
			No. of management trainings held	X	X	X	X
		Develop/ review of policies and guidelines	No. of policies developed and printed	X	X	X	X
	1.2.6 Strengthen collaborations and partnership with private sector to provide health services	Strengthen mechanisms (CMA, HSWG) to engage with and coordinate actions of all stakeholders within the health sector and across sectors	No. of inter-sectorial meetings held	X	X	X	X
	1.1.10 Ensure enactment and implementation of legislative for the Mental Health strategy	Enact bill and LI's to support the sector	No. of Bill & LIs passed	X	X	X	X
		Develop LIs for Mental Health and other Health legislations	Mental Health LI passed	X	X		
1.2 Health Research	1.1.13 Promote use of ICT and e-health strategies in	Strengthen the application of ICT in the sector	E-health strategy revised and published	X	X		

Statistics and Information Management	healthcare delivery		No. of facilities using e-health to provide services	X	X	X	X
			% of data and M&E managers (staff) training in data analysis	X	X	X	X
			Design and put in place a training program to build skills in analysis of surveillance and survey data	X	X	X	X
			Create a health observatory and establish functional mechanisms to integrate with routine HIMS data	X	X		
	Improve information system including research in the health sector	Formulate national health research policy and strategy	Comprehensive research policy and strategy developed and published	X			
			No. of researches conducted	X	X	X	X
	Mitigate the effect of climate change-related diseases	Develop and implement policies on resilient health systems to reduce exposure of climate change-related diseases on the poor and vulnerable population	1 Pilot evaluation report (2018) 2 Climate change strategic plan (2019) 3 Climate change action plan (2020)	X	X	X	
1.3 Health Policy Formulation, Planning, Budgeting, Monitoring and Evaluation	1.3.12 Fully implement International Health Regulations (IHR)	Ensure integration of national health policies and strategies with regional and global health initiatives and conventions	IHR strategy developed and implemented	X	X		
		Implement IHRs	No. of IHR implemented	X	X	X	X
	Health policies	Develop annual PoW and MTEF budget	Approved Annual PoW and Budget	X	X	X	X
	1.2.3 Formulate and implement health sector capital investment policy and plan	Strengthen capital investment planning	Comprehensive investment plan developed	X	X		
			Comprehensive infrastructure standards for the sector		X	X	

	1.1.2 Expand and equip health facilities	Construct, rehabilitate and expend facilities	No. of health facilities constructed	X	X	X	X
			No. of health facilities rehabilitated or expanded	X	X	X	X
			No. of CHPS compounds constructed	X	X	X	X
	1.1.7 Scale up integration of traditional medicine in the health service delivery system	Develop and implement policies to support integration of traditional medicine practice into existing health service delivery system	Develop strategy for integration of traditional medicine into the health service	X			X
	1.1.11 Ensure gender mainstreaming in the provision of healthcare services	Review the health sector gender policy	Revised gender policy and plan for health sector		X		
	1.3.9 Review and Scale-up Regenerative Health and Nutrition Program (RHNP)	Develop a comprehensive strategy for RHNP	RHNP strategy developed		X		
	1.1.12 Promote health tourism	Ensure integration of health tourism in the health system	Health tourism strategy and action plan	X	X		
	1.2.5 Finalize and implement health sector decentralization policy and strategy	Develop and implement the health sector decentralization action plan	Final health decentralization plan	X	X		
	1.2.8 Build capacity for monitoring and evaluation in the health sector	Co-ordinate the preparation, review and evaluation of the health system	Approved annual Holistic Assessment	X	X	X	X
		Evaluate Sector's Medium-Term Development Plan (HSMTDP)					X
		Harmonize data in the sector	Health sector data repository developed	X	X		

		Establish and strengthen M&E units in all Agencies	Agencies with M&E units	X	X	X	X
	1.1.13 Promote use of ICT and e-health strategies in healthcare delivery	Strengthen the application of ICT in the sector	Implement the e-health strategy and action plan	X	X	X	X
	Implement key activities in the health financing strategy	Develop Annual Health Financing Action plan	Quarterly reports on health financing	X	X	X	X
	Restructure the National Health Insurance Scheme	Strengthen and sustain the NHIS	Implement NHIA review recommendations	X	X	X	X
		Conduct regular expenditure tracking surveys (including NHA and NASA) and institutionalize National Health Accounts	Annual NHA produced	X	X	X	X
		Mobilize local finance to support health programs	Domestic resources mobilization plan developed	X	X		
	1.1.4 Adopt and implement strategy for development of local pharmaceutical production	Develop policy to support local production of pharmaceuticals	Pharmaceutical production strategy developed	X	X		
	1.4.7 Support local production of antiretroviral therapy (ART) commodities	Develop policy to support local production of antiretroviral therapy (ART) commodities	Local production strategy for antiretroviral therapy (ART) commodities developed		X	X	
1.4 Finance and Audit		Review and implement the health sector PFM plan	Annual sector PFM plan developed	X	X	X	X
			Train all staff in the new PFM Act	X	X	X	X
1.5 Procurement,	1.1.8 Improve medical supply chain management system	Implement the supply chain management plan	Annual sector procurement plans prepared	X	X	X	X

Supply and Logistics			Training plan on supply chain developed	X	X		
1.6 Human Resource for Health Management	Improved production and distribution mix of critical staff	Improve human resources policy, planning and management	Revised Human Resources strategy and action plan	X	X		
		Decentralize Recruitment	Recruitment Decentralization policy and guidelines developed	X	X	X	X
PROGRAM 2: HEALTH SERVICE DELIVERY							
2.1 Primary & Secondary Health Services	Accelerate the implementation of the revised CHPS strategy	Strengthen community-based services	No. of functional CHPS zones established at sub-districts	X	X	X	X
	1.3.12 Fully implement International Health Regulations (IHR)	Ensure integration of national health policies and strategies with regional and global health initiatives and conventions	No. of IHRs implemented	X	X	X	X
	1.1.7 Scale up integration of traditional medicine in the health service delivery system	Develop and implement policies to support integration of traditional medicine practice into existing health service delivery system	No. of facilities with functional Traditional Medicine Units	X	X	X	X
	1.1.11 Ensure gender mainstreaming in the provision of healthcare services	Review and implement the health sector gender policy	Gender policy and plan implemented	X	X	X	X
	1.3.9 Review and scale up Regenerative Health and Nutrition Program (RHNP)	Develop a comprehensive strategy and action plan for RHNP	RHNP strategy and plan implemented	X	X	X	X

	1.2.6 Strengthen collaboration and partnership with private sector to provide health services	Strengthen mechanisms (CMA, HSWG) to engage with and coordinate actions of all stakeholders within the health sector and across sectors	No. of inter-sectorial meetings held	X	X	X	X
	1.1.12 Promote health tourism	Ensure integration of health tourism in the health system	Health tourism strategy and action plan	X	X	X	X
	Strengthen the district and sub-district as the bed rock of the national primary healthcare	Resource the district and sub-district health systems	% of recurrent resources allocated to the district level	X	X	X	X
	Strengthen public health emergency preparedness and response	Strengthen emergency preparedness at regional and district levels	No. of districts with operational emergency prepared plans	X	X	X	X
	Mitigate the effect of climate change-related diseases.	Develop and implement policies on resilient health systems to reduce exposure of climate-change related diseases on the poor and vulnerable population	1 Pilot evaluation report (2018) 2 Climate change strategic plan (2019) 3 Climate change action plan (2020)	X	X	X	
	1.2.4 Improved production and distribution mix of critical staff	Improve human resources policy, planning and management	Implement Human Resources strategy and action plan	X	X	X	X
	1.1.8 Improve medical supply chain management system	Implement the supply chain management plan	No. of regions implementing the full supply chain plan	X	X	X	X

	Implement international conventions and treaties in health	Integrated International Health Regulations (IHR) into national policies and action plans for implementation	No. of IHR implemented	X	X	X	X
	1.3.6 Strengthen rehabilitation services	Expand rehabilitation services to the regions and districts	% of health facilities with rehabilitation centers	X	X	X	X
		Refurbish all existing regional prosthetics and orthotics centers	% prosthetics and orthotics centers rehabilitated	X	X	X	X
		Develop treatment guidelines for stroke, spinal cord injury, low back pain, cervical spondylosis and cerebral palsy	Treatment guidelines for stroke, spinal cord injury, low back pain, cervical spondylosis and cerebral palsy adopted	X	X	X	X
		Develop policy for physiotherapy services in Ghana	Policy for physiotherapy services in Ghana developed and implemented	X	X	X	X
	Intensify implementation of the National Quality Strategy and complete the Patient Safety Policy	Implement key activities of the National Quality Strategy	% of health facilities reporting on WASH/IPC indicators	X	X	X	X
			% of health facilities with established quality assurance organogram	X	X	X	X
			% facilities using developed surveillance tool to monitor Healthcare Associated Infection (HAI)	X	X	X	X
	1.1.5 Strengthen the referral systems	Strengthen the referral systems at all levels	Reviewed referral policy/ guidelines		X		

		Develop referral registers for use in all health facilities and at various levels of the service delivery	Referral registers institutionalized in facilities	X	X	X	X
		Evaluate the referral system every 4 years (2018, 2024)	Referral system evaluated with report present for action				X
		Develop policy for physiotherapy services in Ghana	Develop and implement guidelines and protocols for physiotherapy services	X	X	X	X
		Conduct baseline assessment of physiotherapy facilities in Ghana	Baseline assessment report and implementation done		X		
	1.1.14 Expand specialist and allied health services (e.g. diagnostics, ENT, physiotherapy) at regional and district levels	Expand specialist and allied health services (e.g. diagnostics, ENT, physiotherapy) at regional and district levels	% of regional and district facilities with functional specialist and allied health services	X	X	X	X
	1.1.9 Accelerate implementation of Mental Health Strategy	Improved access to mental health services	No. of public facilities providing mental health services	X	X	X	X
	Develop and implement policies to support integration of traditional medicine practice into existing health service delivery system	Scale up traditional medicine services	% regional and district hospitals with traditional medicine wings	X	X	X	X
	1.3.1 Strengthen maternal, newborn and adolescent services	Implement key activities of the maternal, newborn and adolescent plans	% decrease in institutional maternal mortality	X	X	X	X
			% decrease in institutional neonatal mortality	X	X	X	X
			% increase in skilled delivery	X	X	X	X

			% increase in family planning uptake	X	X	X	X
	1.3.2 Intensify implementation of Malaria Control Program	Intensify implementation of Malaria Control Program	% reduction in malaria cases	X	X	X	X
	1.3.3 Strengthen prevention and management of malaria cases	Strengthen malaria case detection	% improvement in malaria case detection	X	X	X	X
			Medical Laboratory Scientists trained in malaria diagnosis	X	X	X	X
	1.3.7 Intensify polio eradication efforts	Increase immunization coverage, targeting districts will high numbers of un-immunized	% increase in OPV3	X	X	X	X
			% increase in Penta3	X	X	X	X
			% increase in Measles Rubella 1	X	X	X	X
			% increase in Measles Rubella 2	X	X	X	X
	1.3.8 Accelerate implementation of the national strategy for elimination of yaws, leprosy, buruli ulcer, filariasis and neglected tropical disease	Review and implement the Tropical Neglected Disease Plan	Tropical Neglected Disease Plan implemented	X	X	X	X
	1.3.9 Review and scale up Regenerative Health and Nutrition Program (RHNP)	Integrated Regenerative Health and Nutrition programs into district health systems	% of districts with integrated RHNP	X	X	X	X
	1.3.10 Develop and implement a National Health Policy for the Aged	Implement the National Health Policy for the Aged	National Health Policy for the Aged Implemented	X	X	X	X
	Implement non-communicable (NCD) strategy	Implement key activities of the NCD plan	NCD plan implemented	X	X	X	X
		Strengthen cancer treatment at all levels	% of facilities with Cancer Registry	X	X	X	X

	1.1.3 Revamp emergency medical preparedness and response services	Strengthen medical emergency preparedness and response services	Improved emergency services	X	X	X	X
	1.3.11 Strengthen Integrated Disease Surveillance and Response (IDRS) at all levels	Implement Integrated Disease Surveillance and Response (IDRS) Plan	IDRS Plan developed	X	X	X	X
		Establish Ghana Center for Disease (CDC)	Ghana CDC established	X	X	X	X
	1.4.1 Expand and intensify HIV Counseling and Testing (HTC) programs	Scale up Test, Treat and Trace (90-90-90) program	(90-90-90) program scaled up	X	X	X	X
	1.4.4 Strengthen collaboration among HIV and AIDS, TB and sexual and reproductive health programs	Ensure universal access to TB, HIV and AIDS prevention, treatment, care and support services	Access to TB/HIV and AIDS services improved	X	X	X	X
	1.4.3 Intensify behavioral change strategies, especially for high-risk groups for HIV and AIDS and TB	Intensify behavioral change strategies, especially for high -risk group for HIV AIDS	Number of key populations reached with HIV prevention and promotion services	X	X	X	X
	Intensify effort to eliminate mother-to child (EMTCT) transmission of HIV	Offer EMTCT services in all ANC facilities at all levels of service delivery	Proportion of pregnant women and HIV exposed babies receiving HIV testing and treatment	X	X	X	X
	1.4.6 Ensure access to antiretroviral therapy	Ensure access to antiretroviral therapy	Cumulative number of HIV-positive population (PLHIV) on ART	X	X	X	X
	2.1.4 Promote healthy diets and life styles	Promote healthy diet	Improve health	X	X	X	X
	2.1.5 Reduce infant and adult malnutrition	Implement the nutrition program	Improvement in child and adult nutrition	X	X	X	X

	2.1.7 Scale up proven, cost-effective, nutrition-sensitive and nutrition-specific interventions	Implement the nutrition program	Improvement in nutrition status	X	X	X	X
	1.2.2 Strengthen coverage and quality of healthcare data in both public and private sectors	Intensify public and private data integration	% of private facilities reporting to DHIMS2	X	X	X	X
	1.1.13 Promote use of ICT and e-health strategies in healthcare delivery	Scale up the e-health program	No. of GHS hospitals using the e-health hospital program	X	X	X	X
2.2 Tertiary & Specialized Health Services	1.1.14 Expand specialist and allied health services (e.g. diagnostics, ENT, physiotherapy)	Expand specialized and allied service	No. of outreach services carried out	X	X	X	X
			No. of mentoring facilities	X	X	X	X
	1.1.5 Strengthen the referral systems	Strengthen the referral systems	% of primary and secondary facilities following referral protocols	X	X	X	X
	1.3.1 Strengthen maternal newborn care and adolescent services	Implement key activities of the maternal, newborn and adolescent plans	Maternal and newborn services improved	X	X	X	X
	Intensify implementation of the National Quality Strategy and complete the Patient Safety Policy	Implement key activities of the National Quality Strategy	Quality of care services improved	X	X	X	X
			% of health facilities with established of QA organogram	X	X	X	X

			% facilities using developed surveillance tool to monitor Healthcare Association Infection (HAI)	X	X	X	X
	1.4.1 Expand and intensify HIV Counseling and Testing (HTC) programs	Scale up Test, Treat and Trace (90-90-90) program	Program scaled up	X	X	X	X
	1.4.4 Strengthen collaboration among HIV and AIDS, TB and sexual and reproductive health programs	Ensure universal access to TB, HIV and AIDS prevention, treatment, care and support services	Access to TB/HIV and AIDS services improved	X	X	X	X
	1.4.3 Intensify behavioral change strategies, especially for high-risk groups for HIV and AIDS and TB	Intensify behavioral change strategies, especially for high -risk group for HIV AIDS	Number of key populations reached with HIV prevention and promotion services	X	X	X	X
	Intensify effort to eliminate mother-to child transmission (EMTCT) of HIV	Offer EMTCT services in all ANC facilities at all levels of service delivery	Proportion of pregnant women and HIV exposed babies receiving HIV testing and treatment	X	X	X	X
	1.4.6 Ensure access to antiretroviral therapy	Ensure access to antiretroviral therapy	Cumulative number of HIV-positive population (PLHIV) on ART	X	X	X	X
	2.1.4 Promote healthy diets and lifestyles	Promote healthy diet	Improve NCD health outcomes	X	X	X	X
	2.1.5 Reduce infant and adult malnutrition	Implement the nutrition program	Improving in child and adult nutrition	X	X	X	X
	1.3.10 Develop and implement a National Health Policy for the Aged	Implement the National Health Policy for the Aged	National Health Aged Policy Implemented	X	X	X	X

	1.1.12 Promote health tourism	Ensure integration of health tourism in the health system	Health tourism strategy and action plan	X	X	X	X
	1.1.3 Revamp emergency medical preparedness and response services	Strengthen medical emergency preparedness and response services	Improved emergency services	X	X	X	X
	Strengthen the district and sub-district as the bed rock of the national primary healthcare	Support regional and district levels with specialized services	% of specialist visit carried out	X	X	X	X
	1.3.6 Strengthen rehabilitation services	Expand rehabilitation centers in tertiary facilities	No. of tertiary facilities with functional rehabilitation carters	X	X	X	X
	Implement non-communicable diseases (NCD) strategy	Implement NCD plan	Functional Cancer Registry at all tertiary facilities	X	X	X	X
			No. of facilities with cancer clinics	X	X	X	X
	1.1.9 Accelerate implementation of mental health strategy	Improved access to mental health services	No. of tertiary facilities providing mental health services	X	X	X	X
	1.1.13 Promote use of ICT and e-health strategies in healthcare delivery	Scale up the e-health program	No. of tertiary facilities using the e-health hospital program	X	X	X	X
2.3 Research	1.2.7 Improve health information management systems, including research in the health sector	Conduct operational research as per the National Research Agenda	Number of research studies initiated as per the National Research Agenda	X	X	X	X
		Conduct Research Dissemination Forum	National Research Dissemination fora	X	X	X	X
		Support the conduct of ethical and scientific review of research proposals/protocols and monitoring visits	No. of meetings and protocols reviewed	X	X	X	X

		Support capacity building for research at all levels	Number of research capacity strengthening carried out in identified areas of gaps in skills and knowledge	X	X	X	X
2.4 Pre-Hospital Healthcare Services	Increase access to quality emergency health services	Establish Regional Blood Sub-Centre at all regional hospitals	No. of Regional Sub-Centers established	X	X	X	X
		Ensure availability of safe blood	% increase in voluntary blood donations	X	X	X	X
			No. of hospitals with functional blood transfusion committees	X	X	S	X
		Accelerate the passage of laws and LI for National Blood and National Ambulance Services	Printed LI for National Blood Service	X	X	X	
		Establish ambulance stations for service delivery	No. of functional ambulance stations as a percentage of total no. of district ambulance stations	X	X	X	X
		Provide ambulances for service delivery	No. of ambulances in operation as a percentage of total no. of expected ambulances	X	X	X	X
		Train Emergency Medical Technicians (EMTs)	No. of EMTs operating as percentage of total no. of expected EMTs	X	X	X	X
		Expand and improve facilities at Pre-hospital Care Training School	Proportion of additional structures completed Teaching and Learning facilities and equipment provided at NAS Training School and other institutions	X	X	X	X
		Institute vehicle tracking system	No. of vehicles tracked by the system	X	X	X	X

		Establish Regional Ambulance Service Secretariat	No. of operational regional offices	X	X	X	X
	1.1.3 Revamp emergency medical preparedness and response services	Strengthen medical emergency preparedness and response services	Improved emergency services	X	X	X	X
PROGRAM 3: HUMAN RESOURCE DEVELOPMENT							
3.1 Pre-Service Training	1.2.9 Expand and equip medical training facilities	Strengthen teaching and learning	No. of schools with training skills labs	X	X	X	X
	1.2.4 Improve production and distribution mix of critical staff		No. of tutors deployed to schools	X	X	X	X
			No. of schools supplied with basic equipment (electronic, furniture, linen, hospital and medical)	X	X	X	X
3.2 Post Basic Training	1.2.9 Expand and equip medical training facilities	Improve the quality of health professionals produced	No. of schools with training skills labs	X	X	X	X
			No. of tutors deployed to schools	X	X	X	X
	1.2.4 Improve production and distribution mix of critical staff		No. of schools supplied with basic equipment (electronic, furniture, linen, hospital and medical)	X	X	X	X
3.3 Specialized Training		Development of GCP Library	Functional GCP library			X	X
	1.2.4 Improve production and distribution mix of critical staff	Train specialist for the health sector	No. of specialists trained, certified and inducted (report separately for pharmacists, nurses & midwives and doctors)	X	X	X	X
		Run Continuous Professional Training for all professionals	No. of CPD organized	X	X	X	X

		Run CPDs in specialist areas for nurses and midwives	No. of nurses and midwives trained through CPDs	X	X	X	X
	1.2.10 Provide incentives for pre-service and specialist postgraduate trainees	Organize Annual General Meeting and Scientific Conference (AGM&SC)	No. of associate residents and residents who participate in the AGM&SC	X	X	X	X
PROGRAM 4: HEALTH SECTOR REGULATION							
4.1 Regulation of Health Facilities		Strengthen the accreditation and regulation of health facilities including infrastructure, medical devices, health technologies and medical equipment	Facilities standards enforced to improve quality of service	X	X	X	X
			No. of Monitors trained in accreditation	X	X	X	X
4.2 Regulation of Health Professions		Enforce professional standards	% of all health professionals accredited	X	X	X	X
			Conduct CPD for all practitioners	X	X	X	X
4.3 Regulation of Pharmaceutical and Medicinal Health Products	1.1.4 Adopt and implement strategy for development of local pharmaceutical production	Promote Good Manufacturing Practices (GMP) in line with national and international standards	Pharmaceutical companies attain WHO prequalification	X	X	X	X
	1.4.7 Support local production of antiretroviral therapy (ART) commodities	Promote Good Manufacturing Practices (GMP) in line with national and international standards	% of ARVs produced locally		X	X	X

	Enforcement of regulations to ensure safety of pharmaceutical & medicinal health products, household chemicals, cosmetics and medical devices	Promote good manufacturing, storage, distribution and retail practices for pharmaceutical & medicinal health products, household chemicals, cosmetics and medical devices	No. of facilities licensed to manufacture, store, and distribute pharmaceutical & medicinal health products, household chemicals, cosmetics and medical devices	X	X	X	X
		Registration of pharmaceutical & medicinal health products, household chemicals, cosmetics and medical devices.	No. of pharmaceutical & medicinal health products, household chemicals, cosmetics and medical devices registered	X	X	X	X
			No. of clinical trials approved for pharmaceutical & medicinal health products, household chemicals, cosmetics and medical devices	X	X	X	X
		Safety monitoring of pharmaceutical & medicinal health products.	No. of adverse pharmaceutical & medicinal health products, reports received	X	X	X	X
		Reduce the incidence of substandard and falsified medicines on the market	Number of substandard and falsified medicines detected on the market	X	X	X	X

			Proportion of pharmaceutical & medicinal health products, household chemicals, cosmetics and medical devices that pass laboratory tests	X	X	X	X
	Enforcement of regulations to ensure safety of food and non-medicinal health products	Promote good manufacturing, storage, distribution and retail practices for food and non-medicinal health products	Number of facilities licensed to manufacture, store, and distribute	X	X	X	X
		Registration of food and non-medicinal health products	Number of food and non-medicinal health products registered	X	X	X	X
			Proportion of food and non-medicinal health products that pass laboratory tests	X	X	X	X

5.2 Resource Implications (Costing of HSMTDP 2018-2021)

This section of the HSMTDP presents the estimated cost of implementing outlined priority activities and planned investments for 2018-2021 period.

5.2.1 Methods

The Health Sector Medium-Term Development Plan 2018-2021 was costed using the OneHealth Tool, which is software that enables joint planning, costing, budgeting, impact analysis, and financial space analysis across disease programme areas and health systems.

Impact and cost estimates were modelled based on assumptions regarding the attainment of 2030 global mortality targets. Three scenarios, across which coverage targets varied, were costed.

The total cost of the strategy presented in this section is the aggregate of costs of health system inputs and program management activities of the sector. Data inputs and intermediate results were validated with MoH and its Agencies and other stakeholders through two validation workshops. Program Managers were consulted on coverage baselines for high impact interventions. Two presentations were made to all stakeholders at the Health Sector Working Group meetings, one at the beginning and one at the end of the exercise.

5.2.2 Scenarios

The three scenarios were as follows:

1. **low (base):** no increase in coverage
2. **medium:** scale up of high impact services and health system investments (e.g. Infrastructure and Human Resources)
3. **high:** scale up of essential services optimally towards attaining universal coverage

Scenario 1 is the ‘low (base)’ scenario, which reflects the status quo, assuming implementation of existing strategies at the current pace of progress with no changes in health service coverage between base and target year across all health service areas. To ensure continuous service delivery, program estimates are planned as costed. All health services are provided within existing health facilities. No investments are made for additional human resources. Program management costs were scaled down to 30% of the planned estimate. Under this scenario, few of the HSMTDP targets would be met.

Scenario 2 is the ‘medium’ scenario, which assumed an incremental increase in the availability of resources to fund priority health services such that 65% of the HSMTDP’s stated targets might be achieved. Investments for medicines, supplies and logistics management are increased. There is also limited investment in tertiary

and secondary health facilities. The programme management cost was set at 4% of the total cost of the plan.

Scenario 3 is the 'high' scenario, which assumed the availability of a more generous funding package sufficient to implement the entire plan and achieve 90% of the targets. Allocations were provided for ensuring adequate skilled human resources. Investment for drugs and logistics management was increased. Allocations were also made for investment in tertiary and secondary health facility improvement. All investments for programme management were incorporated as planned.

The high scenario case was selected as the preferred option for the period under planning. It was selected based on its expected impact particularly on the health-related SDGs and beyond. Furthermore, a scenario of increased cost to the government is supported by the findings of a recent report mapping the donor support landscape over the medium term (Murray-Zmijewski & Witter). The estimated costs under each scenario, as well as the expected impact on neonatal, infant and maternal mortality rates, are shown below.

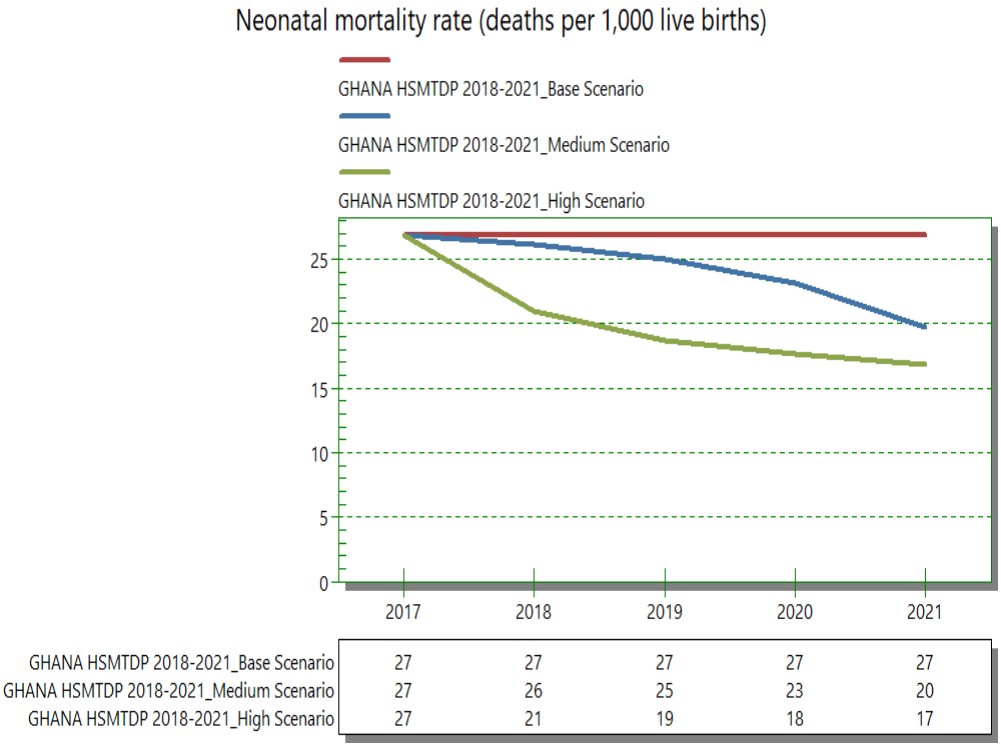
Table 11 – Total cost of the HSMTDP 2018-2021 by scenario (in GH₵ millions)

Policy Scenario	Mean coverage increase	2018	2019	2020	2021	TOTAL	Mean cost per capita
HIGH	39% (0%, 50%)	GH₵ 6,811	GH₵ 7,154	GH₵ 7,895	GH₵ 8,348	GH₵ 30,208	GH₵ 248
MEDIUM	17.5% (0%, 22%)	GH₵ 5,732	GH₵ 5,789	GH₵ 6,415	GH₵ 6,903	GH₵ 24,839	GH₵ 203
BASE	0%	GH₵ 4,563	GH₵ 5,119	GH₵ 5,143	GH₵ 5,320	GH₵ 20,145	GH₵ 164

Table 12 – Total cost of HSMTDP 2018-2021 by Objective (in GH₵ millions), high scenario

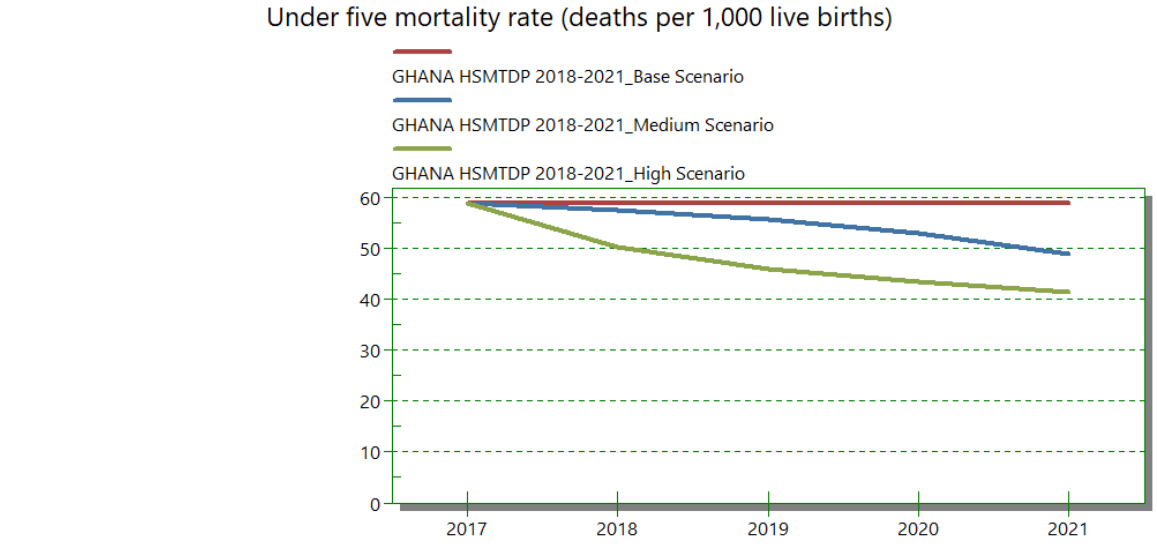
Year	2018	2019	2020	2021	TOTAL
Objective One	2,053	1,677	1,689	1,680	7,100
Objective Two	381	375	369	367	1,492
Objective Three	4,171	4,883	5,609	6,066	20,730
Objective Four	206	219	228	235	887
Total Cost	**6,811**	**7,154**	**7,895**	**8,348**	**30,208**

Figure 1 – Forecasted neonatal mortality rate by scenario



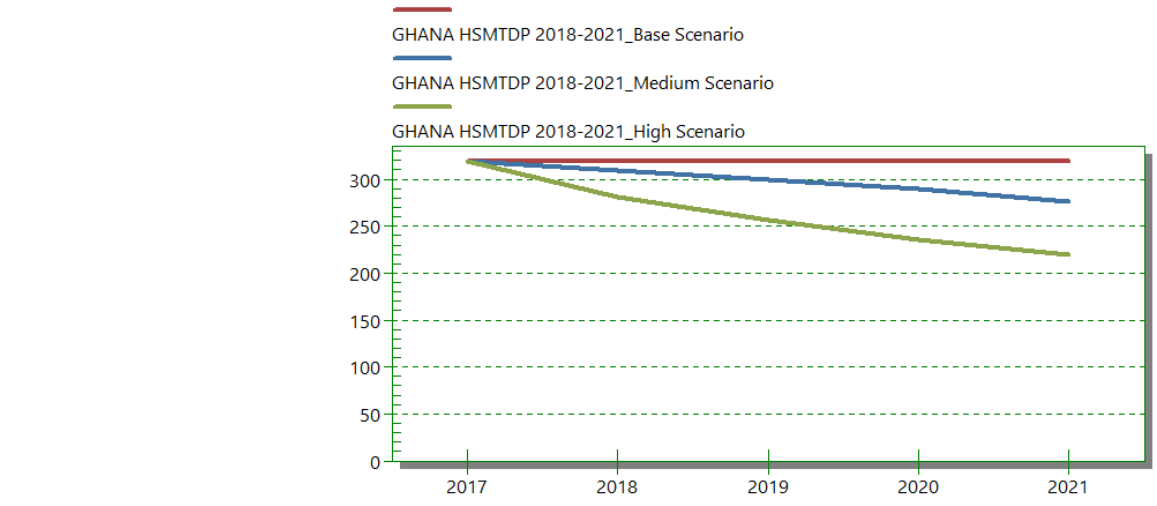
	2017	2018	2019	2020	2021
GHANA HSMTDP 2018-2021_Base Scenario	27	27	27	27	27
GHANA HSMTDP 2018-2021_Medium Scenario	27	26	25	23	20
GHANA HSMTDP 2018-2021_High Scenario	27	21	19	18	17

Figure 2 – Forecasted under five mortality rate by scenario



	2017	2018	2019	2020	2021
GHANA HSMTDP 2018-2021_Base Scenario	59	59	59	59	59
GHANA HSMTDP 2018-2021_Medium Scenario	59	57	56	53	49
GHANA HSMTDP 2018-2021_High Scenario	59	50	46	43	41

Figure 3 – Forecasted maternal mortality rate by scenario



	2017	2018	2019	2020	2021
GHANA HSMTDP 2018-2021_Base Scenario	319.48	319.55	319.64	319.73	319.83
GHANA HSMTDP 2018-2021_Medium Scenario	319.48	309.67	299.84	289.11	276.75
GHANA HSMTDP 2018-2021_High Scenario	319.48	280.70	255.88	236.11	219.55

CHAPTER 6: IMPLEMENTATION, MONITORING AND EVALUATION

Among the primary responsibilities of the Ministry of Health are the monitoring and evaluation (M&E) of activities in the health sector. The system for monitoring and evaluation in the health sector is dynamic and has evolved over the years. The Ministry of Health at the apex of the health sector provides the architectural framework for M&E in the sector. All Agencies of the MoH develop individual M&E systems, in line with the MoH M&E framework. An overview of the Ministry's M&E activities follows below. The Common Management Arrangement, which outlines the roles and responsibilities of the major stakeholders in the health sector, provides more detail on the M&E responsibilities of the MoH and its Agencies.

6.1 Routine Monitoring

Routine monitoring is carried out by all Agencies and at all levels. Districts conduct monthly visits to their sub-districts. The regional level conducts monthly visits to the district level and below. At the national level, Agencies conduct quarterly visits to the regions and selected levels below the regional level. The monitoring involves a systematic process of collecting and analysing data. It aims at determining whether activities are being implemented as planned, milestones are being achieved and outputs are being delivered. The monitoring also involves tracking progress towards goals and objectives.

Under the HSMTDP 2018-2021, collected data will be disseminated to show improvements in program management and to guide resource allocation. The measured annual progress will form the basis for refining the annual programs and investments identified in the Programme of Work.

6.2 Data Reporting Systems

The M&E framework prescribes agreed reporting formats for quarterly and half-yearly reporting to the MoH by all Agencies. The governing Councils and Boards of the various Agencies bear primary responsibility for monitoring the performance of the Agencies, accounting for the use of resources and achieving the stated performance. In addition to the quarterly reporting system, the MoH, DPs and Agencies undertake half-yearly Joint Monitoring Visits to provide technical support to Agencies and Budget Management Centres (BMCs).

Districts report monthly to the regional level on all relevant data items as defined by the Agency-specific Monitoring and Reporting Framework. Regional reports to national level agencies are sent quarterly. All Agencies report to the MoH on agreed indicators on a quarterly basis.

The deadline for district reports to reach the regional level is 15 days after the end of the reporting month. Regional level reports are to reach their national offices 30 days

after the end of the reporting period. All Agencies have 45 days after the end of the reporting period to send their reports to MoH. Reports are submitted in both hard and electronic forms.

6.3 Annual reviews

Performance reviews take place at all levels. All districts and regions organize quarterly reviews. At the national level, the MoH organizes two major reviews each year, which representatives from its Agencies attend. The first review meeting coincides with the Health Summit and takes place in April/May. During the Health Summit, the health sector performance during the preceding year is discussed. The second major review is done during the Business Meeting held in November each year. At this meeting the Programme of Work and financing of the health sector for the ensuing year are discussed. Other relevant review meetings are the monthly Health Sector Working Group Meetings (HSWGs), the Mid-Year Review Meeting and the August Business Meeting.

Over the 2018-2021 period, the annual review of the Programme of Work will continue to take place at all levels of the health sector. Independent performance reviews will continue to be an integral part of the M&E system. In addition, in-depth reviews of key areas will be conducted on an ad hoc basis. The in-depth reviews will be in response to individual Terms of Reference related to specific issues and themes related to one or more components of the Programme of Work. They will involve analysis of the context and variables affecting performance.

Health sector performance is measured through the annually conducted Holistic Assessment. Using a traffic light approach, the Holistic Assessment records whether progress against the sector-wide indicators and milestones (see below) has been positive, stagnant or negative. Due to the multiplicity of factors which might affect such performance, the overall result is subject to agreement as part of the sector dialogue.

6.3.1 Indicators

Progress towards reaching the Objectives of the HSMTDP 2018-2021 is measured using indicators and milestones. The indicators are outlined in Table 13. The indicators were selected based on the vision, goal, objectives, functions and activities of the MoH and its Agencies. Performance is measured against annual targets that are set at the start of the 2018-2021 period. The targets are based on analysis of past performance, the expected inflow of resources and opportunities for change. They also represent the need to attain both global and domestic targets for health development. The routine reporting system (the District Health Information Management System II, DHIMSII), the Demographic and Health Survey (DHS) and Multiple Indicator Cluster Survey (MICS) will be the main means of tracking performance.

6.3.2 Milestones

In addition to the sector-wide indicators, a number of milestones have been agreed as a means of monitoring sector progress in key areas. See Table 14 for the milestones for the 2018-2021 period.

The different tools and systems are described in the MoH Monitoring and Evaluation Framework and agency specific monitoring and evaluation plans. Generally, the district level is the first level for data analysis and reporting of sector wide indicators.

Table 13 – Sector-wide indicators and targets, 2018-2021

No.	Indicator	Definition	Data Source	Base line	Targets			
				2017	2018	2019	2020	2021
1.1	Unmet need for contraception	The proportion of women of reproductive age (15-49) years either married or in a consensual union, who are fecund and sexually active, who are not using any method of contraception and report not wanting any more children or wanting to delay the birth of their next child for at least 2 years.	DHS	30%	N/A	26%	N/A	N/A
1.2	Couple Year Protection (CYP), all sources incl. private sector	The estimated protection provided by family planning (FP) services during a one-year period, based upon the volume of all contraceptives sold or distributed free of charge to clients during that period.	DHIMS	3,039,413	3,500,000	3,670,000	3,800,000	4,000,000
1.3	Deliveries attended by a trained health worker	Proportion of births attended by skilled health personnel	DHS/DHIMS	57%	58%	60%	62%	65%
1.4	Postnatal care coverage for new-born babies	Proportion of new-borns receiving postnatal care within 48 hours from birth	DHIMS	50%	53%	55%	58%	63%
1.5	Mothers making fourth ANC visit during period of pregnancy	Proportion of mothers who have made at least four ANC visits	DHIMS	61%	63%	65%	67%	70%

No.	Indicator	Definition	Data Source	Base line	Targets			
				2017	2018	2019	2020	2021
1.6	Regional variation in proportion of supervised deliveries	Ratio of proportion of supervised deliveries in the region with the highest coverage over the region with the lowest coverage	DHIMS	1:1.38	1:1:30	1:1.28	1:1.25	1:1.2
1.7	Children under 5 years sleeping under an insecticide treated net (ITN)	The proportion of children under 5 sleeping under ITN	DHS	47%	N/A	60%	N/A	N/A
1.8	Exclusive breast feeding for six months	Proportion of infants being exclusively breasted for the first six months of life to achieve optimal growth, development and health.	DHS/MICS	52%	N/A	60%	N/A	N/A
1.9	Doctor : Population ratio	Catchment population per doctor	IPPD/Regulatory bodies	1:8,090	1:7,500	1:6,800	1:5,900	1:5,000
1.1	Nurse : Population Ratio	Catchment population per nurse	IPPD/Regulatory body	1:799	1:750	1:700	1:700	1:700
1.11	Midwife : WIFA population ratio	Number of Women in Fertility Age (defined as 15-49) per midwife	IPPD/Regulatory bodies	1:720	1:715	1:710	1:700	1:700
1.12	Regional variation in nurse/doctor to population ratio	Ratio of nurse/doctor to population in the region with the highest coverage over the region with the lowest coverage	IPPD	1:1.88	1:1.80	1:1.70	1:1.65	1:1.60

No.	Indicator	Definition	Data Source	Base line	Targets			
				2017	2018	2019	2020	2021
1.13	Population with active NHIS membership	Proportion of population with active NHIS membership	NHIS annual report	35.3%	38.5%	40.0%	42.0%	45.0%
1.16	Proportion of CHPS zones that are functional	Proportion of CHPS zones that are functional. Functionality is defined as: presence of trained CHO in community, community involvement (including active CHMC), services are being offered and reported on	DHIMS	74%	78%	82%	85%	87%
1.17	Active NHIS members in lowest wealth quintile	Proportion of NHIS active members in lowest wealth quintile	DHS					
1.18	Ratio of females to males among NHIS active members	Ratio of females to males among NHIS active members	NHIS	1:1.44	1:1.40	1:1.37	1:1.35	1:1.33
1.19	Per capita OPD attendance	The average number of OPD encounters per person. Health facilities include all public, private, quasi-government and faith-based facilities.	DHIMS/THs returns	0.98	1.00	1.08	1.12	1.18
2.3	Population prevalence of hypertension	Proportion of the population categorised as hypertensive	DHS	13%	N/A	4%	N/A	N/A

No.	Indicator	Definition	Data Source	Base line	Targets			
				2017	2018	2019	2020	2021
2.4	Proportion of children U5 who are stunted	Proportion of under-fives falling below minus 2 standard deviations from the median height-for-age of the reference population	DHS/MICS	19%	N/A	17%	N/A	N/A
2.5	Overweight prevalence among children U5	Proportion of under-fives below minus 2 standard deviations of weight for height according to WHO standard	DHS/MICS	3%		3%		
2.6	Wasting prevalence among children U5	Proportion of under-fives above minus 2 standard deviations of weight for height according to WHO standard	DHS/MICS	5%		4%		
2.7	Underweight prevalence among children U5	Proportion of children under age 5 who (a) fall below minus two standard deviations (moderate and severe) (b) fall below minus three standards deviations (severe) from the median weight for age of the WHO standard	DHS/MICS	11%		9%		
2.8	Institutional all-cause mortality rate per 1,000	Total deaths per thousand patients in facilities	DHIMS/THs returns	23.6	22.8	22.0	21.5	21.3
2.9	Institutional maternal mortality rate	Maternal deaths per 1,000 institutional live births. Maternal deaths are defined as deaths from any cause related to or aggravated by pregnancy or its management during pregnancy and child birth or within 42 days of termination of pregnancy, irrespective	DHIMS	147	150	142	140	138

No.	Indicator	Definition	Data Source	Base line	Targets			
				2017	2018	2019	2020	2021
		of the duration and side of pregnancy.						
2.10	Institutional neonatal mortality rate	Neonatal deaths per 1,000 institutional live births	DHIMS	8.4	6.5	5.3	4.8	4.3
2.11	Still birth rate	Number of babies born with no signs of life at or after 28 weeks gestation per 1,000 live births	DHIMS	15.0	14.8	14.5	14.3	14.0
2.13	Maternal mortality rate	Maternal deaths per 1,000 live births. Maternal deaths are defined as deaths from any cause related to or aggravated by pregnancy or its management during pregnancy and child birth or within 42 days of termination of pregnancy, irrespective of the duration and side of pregnancy.	Maternal Mortality Survey	310	N/A	N/A	N/A	290
2.14	Neonatal mortality rate	Neonatal deaths per 1,000 live births	DHS/MICS	25		23		
2.15	Under-5 mortality rate	Deaths among children under 5 per 1,000 live births	DHS/MICS	52		50		

No.	Indicator	Definition	Data Source	Base line	Targets			
				2017	2018	2019	2020	2021
2.16	Infant mortality rate	Deaths among children under 1 per 1,000 live births	DHS/MICS	41		35		
3.8	Hospital beds availability	Hospital beds per 1,000 population		N/A				
3.17	Percentage change in annual revenue mobilized from all sources (real and nominal)	Percentage change in annual revenue mobilized from all sources (real and nominal)	Budget Directorates of Agencies of the MoH	N/A				
3.18	GoG budget execution rate for goods and services	Proportion of budget for goods and services that was actually disbursed	PBU/Finance Directorate	55%	60%	65%	70%	72%
3.19	GoG budget execution rate (total)	Proportion of total budget that was actually disbursed	PBU/Finance Directorate	100%	100%	100%	100%	100%
3.20	Proportion of NHIF budget released to NHIA	Proportion of NHIF budget released to NHIS	NHIS	69%	75%	80%	90%	100%
3.21	Proportion of NHIS expenditure on claims reimbursement	Proportion of NHIS expenditure on claims reimbursement	NHIS	81%	82%	83%	84%	85%

No.	Indicator	Definition	Data Source	Base line	Targets			
				2017	2018	2019	2020	2021
3.22	Households experiencing out-of-pocket payments on health greater than catastrophic threshold (15% of household income)	Proportion of households experiencing out-of-pocket payments on health greater than catastrophic threshold (15% of household income)	Surveys (GLSS and National Health Accounts)					
3.23	Health budget expenditure financed through IGF	Proportion of total expenditure financed through IGF	PBU/Finance Directorate					
3.24	Health budget allocated to health research activities	Proportion of total health budget allocated to health research activities	PBU	0%	0.10%	0.25%	0.35%	0.50%
3.25	Proportion of Agencies with functional audit committee	Proportion of Agencies with functional audit committee. The audit committee is regarded as functional when it has frequent meetings and minutes of the meetings are available	Reports from Internal Audit, MoH	N/A				
3.32	Availability of tracer mental health drugs	Proportion of psychotropic medicine outlets where a basket of essential psychotropic medicines is found on the day of survey	Mental Health Authority					
4.1	Proportion of children fully immunised by age 1	Proportion of children fully immunized (using Penta3 as a proxy) by age 1	DHIMS	98%	95%	95%	95%	95%

No.	Indicator	Definition	Data Source	Base line	Targets			
				2017	2018	2019	2020	2021
4.2	Proportion of HIV-positive adults and children currently receiving antiretroviral therapy	Proportion of HIV-positive adults and children currently receiving antiretroviral therapy	NACP					

Table 14 – Milestones

	2018	2019	2020	2021
Obj. 1: Ensure sustainable, affordable, equitable, easily	- CHPS - Finalize CHPS	- Implement framework contracting arrangement	- Scale up e-Tracker to cover the country	- All regional hospital to provide traditional

accessible healthcare services (Universal Health Coverage (UHC)	Verification exercise	- Evaluate last mile distribution system	- Evaluate referral services	medicine services
Obj. 2: Strengthen healthcare management system	- Health sector ICT policies developed - Revision of HA tool	- Development of indicators for all (groups of) Agencies - Implement Electronic Medical Records (EMR) in all teaching hospitals - Implementation of NHIS review	- Develop database for medical equipment - Medical tourism policy	- Finalize PH legislative instruments - Develop Corporate Social Responsibility policy
Obj. 3: Reduce morbidity, disability and mortality	- Non-communicable diseases	- Develop treatment guideline for non-communicable diseases	- Develop physiotherapy guidelines - Reduce institutional neonatal mortality to XXX /1000 LB	- Reduce still birth to XXX
Obj. 4: Ensure reduction of new HIV, AIDS/STIs and other infections, especially among vulnerable groups	- Co-financing - Transition arrangement - Revise HIV/AIDS strategic plan	- Offer PMTCT services to 80% of health facilities - Commence implementation of transition plan to incorporate Global Fund activities into the health system	- Offer PMTCT services to 80% of health facilities - Ensure availability of anti-retroviral therapy for all PLHIV	- Offer PMTCT services to 80% of health facilities - Complete implementation of the transition plan

6.4 Communication Strategy

6.4.1 Objective

The successful implementation of the HSMTDP 2018-2021 requires that its contents are well known to all stakeholders. A coherent dissemination plan will be put together, with the objective to “disseminate and create awareness on the HSMTDP among key stakeholders and generate feedback to promote ownership and attainment of the goals, objectives and targets of the strategy”.

The strategy will aim to:
1. Clearly articulate the goals, objectives and targets to be achieved by the various constituencies and partners
2. Promote understanding of the possible operational constraints and imperatives and what is required to innovatively address or mitigate any adverse effects
3. Establish effective feedback systems among stakeholders in order to shape public perceptions in favour of the sector
4. Advocate for more domestic resources to support health activities

The information and feedback generated from the communication activities will be used to inform policy.

6.4.2 Audience

The audience to be targeted for this activity will include (but not be limited to):

- All the management and staff of the Ministry of Health and its Agencies
- Other ministries, departments and agencies whose activities directly contribute to the attainment of the sector goals and objectives
- Development Partners in the health sector
- Service providers in the private and otherwise non-government sectors
- Organized labour unions
- Civil society, including community leaders

Through an interactive dialogue, the various roles and responsibilities of stakeholders will be articulated and agreed. Cross-cutting themes as well as areas of collaboration and joint action will be identified. The communication process will also be used to refine joint monitoring and evaluation processes.

6.4.3 Channels and tools of communication

For efficient delivery of the communication strategy, different activities will be carried out. These will include seminars, workshops, durbars, media engagement and broadcast activities. The HSMTDP will be translated into a two-page brief and a simple flyer to support the communication process. Frequent press releases and press pull-outs will be used to inform the public on progress being made on specific areas of interest. The HSMTDP as well as its review and progress reports will be

published on the internet so it is easily accessible to both the national and international community.

Table 15 maps outlines the various planned activities.

Table 15 – Overview of planned communication activities

S**takeholder**	**Communication activity**	**Content**	**2018**	**2019**	**2020**	**2021**	**Lead Agency/ Person**
Health sector senior management at all levels	Seminars/ workshops at the national, regional and district level	Goals, objectives, targets and progress in implementation and their responsibilities for achieving them					Chief Director, MoH
Community	- Opinion Leaders - Durbars - Festivals	Health sector activities and their impact, and the community's role in achieving health sector goals, objectives and targets					District directors, Community health workers And volunteers
Media	- Press conference - Press release - Feature articles - Pull-out centre spread - Website of MoH and its agencies	Key priorities and the expected output of the health sector as well as achievements obtained	Jan	Jan		Jan	Public Relations Unit of the MoH
Health Partners	- Partners meeting	Goals, objectives, targets and progress in implementation and their responsibilities for achieving them	Jan, April, Nov	April, Nov		April, Nov	PPME Directorate, MoH
NGOs and private sector including service providers, pharmaceutical and chemical product sellers, spa, health and wellness shops	- Seminars at the national, regional and district levels - Brochures	Goals, objectives, targets and progress in implementation and their responsibilities for achieving them	Jan, April, Nov	Jan, April, Nov		Jan, April, Nov	PPME Directorate and PR Unit MoH with support agencies
MDAs (Women and children affairs; finance; information; education; local government; NADMO; food and agriculture; department of social welfare; works, water and housing; EPA)	- Seminars - Brochures - Policy brief	Goals, objectives, targets and progress in implementation and their responsibilities for achieving them	May	May		May	PPME Directorate and PR unit MoH with support agencies

ANNEX – Abstract Holistic Assessment 2017: Chapter 3

3.0 ASSESSMENT OF SECTOR TRENDS

3.1.0 Objective 1: Bridge Equity gap in geographic access to health Services

The expansion of essential health services to all populations in the country has been an important objective of the Ministry of Health. This objective therefore seeks to bridge access to basic health services irrespective of where one resides. This objective has, eight (8) indicators carefully selected to measure how well the Ministry of Health is doing to remove barriers and bridging gaps in geographical access to health services. It uses proxy indicators such as OPD attendance, supervise delivery and functionality of CHPS zone for instance to measure the extent to which services are being extended to all corners of the country. It also uses availability of critical health staff such as doctors and nurses to determine if such basic health services are deliverable at such locations where services are needed. The objective basically measures how equitable services and resources are distributed. One of the indicators, equity for under 5 mortality rate is assessed periodically whenever a survey data such as Ghana Demographic Health Survey (GDHS) and Multiple Indicator Cluster Survey MICS results are available.

3.1.1 Ambulance Services

Rising medical emergencies and disasters over the past years necessitated the need for Ghana to initiate an Emergency Medical Service. The Ministry of Health in 2004 in collaboration with the Ministry of Interior established seven pilot ambulance stations. The National Ambulance Service has since then established 133 stations as at December 2017. The core mandate of the ambulance service is to provide efficient and timely pre-hospital emergency medical care to the sick and the injured and transport them safely to nearby health facilities.

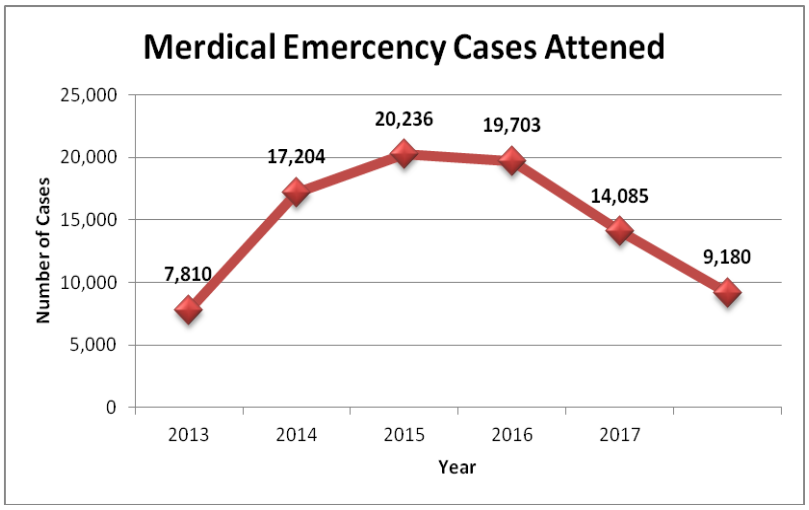
No new ambulance stations were opened during the year under review whilst the current fleet of ambulances were procured in 2011. Out of the 133 ambulance stations across the country, only 45 (34%) are functional. Vehicle availability stands at 50% for the functional ambulance stations. The service has challenges running and maintaining their old fleet of vehicles contributing to vehicle down time and frequent breakdown leading to higher transactional cost.

Currently there are three garages located in the Greater Accra, Central and Ashanti regions which are responsible for major repairs of the fleet. The service has also identified and entered into agreement with some private garages to provide maintenance services. The main challenges confronting the service include fund inadequacy, unavailability of spare parts for the ambulance on the local market and the difficulties in monitoring of fleet movement.

If the gains of the service are to be sustained, the funding issue should be assessed and appropriate solution proffered. The issue of dedicated funding has been raised in the past without any critical appraisal of the options available. Possible sources of dedicated funding identified in the past included proportion of Health Insurance Fund, proportion of Vehicle Insurance fund , Road fund and ambulance service levy on cost of Road Worthy certificate.

There are also opportunities in allowing the private sector to invest and operate ambulance services under regular monitoring and supervision. The service has a training centre which has been recognised in the sub-region which could be a potential source of revenue. The legal status of the National Ambulance Service renders it impotent in finding solutions to some of the challenges identified. The law that should establish the service as a legal entity has not been passed yet.

Figure 1 Medical Emergency cases



Vehicle response time has been deteriorating over the past two years. The response time increased from 17.4 minutes in 2015 to 30.44 minutes in 2017. A total of 9180 cases were seen during the year, down by 53% from14,085 cases in 2016. About 49% of the cases were medical, 28% trauma and 19% gynaecological cases. Clearly service coverage is on the decline.

Recommendations

- ***The Ministry of Health should consider establishing a fund with clear modalities for payment of services and operational cost of the National Ambulance Service***

- ***The source of funding could come from surcharges on vehicle licensing, Insurance and road worthy certificates.***

- ***Ministry of Health should explore the prospect of opening up the ambulance service provision to the private sector within a regulated regime***

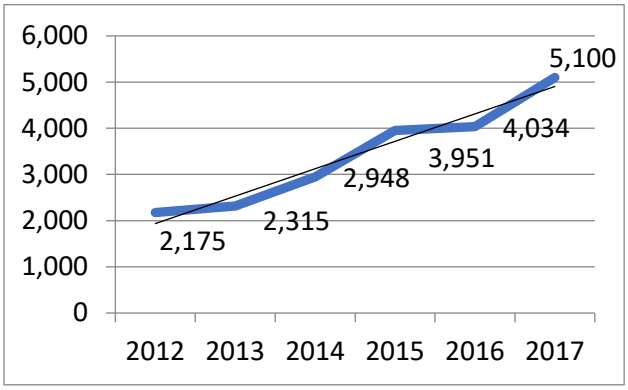
- ***The national system for vehicle maintenance should be revisited to reduce maintenance cost. It may not be economical if all agencies own garages for the purpose of maintaining vehicles. The Ministry of Health used to have base workshops for repairing vehicles across the country. This could further be explore for all agencies.***

3.1.2 Community-based Health Planning and Services (CHPS)

The CHPS programme was launched against the realisation that a large proportion of Ghanaians lived over 8 kilometers from the nearest health care provider compounded by

inaccessible road and transport networks. The CHPS concept is a community-based programme where trained health staff are expected to live in and among communities and work with their leaders to provide a defined minimum package of health services. Implementation of the CHPS programme in the past was faced with a lot of challenges which called for various reviews and reforms to ensure CHPS contribution to service delivery improves. Key reforms carried out include policy review, increased training of CHO's, development of prototype Compounds and provision of financial support through the World Bank and DFID assisted Maternal and Child Health & Nutrition Improvement Project (MCHNP).

Figure 2 Number of Functional CHPS Zones



Key indicator for measuring the extent to which the CHPS concept has improved access to healthcare in the country is the proportion of CHPS zones that are functional. CHPS functionality has been simply defined as presence of CHOs in communities providing defined health services through appropriate community entry techniques. The proportion of CHPS zones that are functional increased by 28% from 4,034 in 2016 to 5,100 in 2017. CHPS zones functionality has made tremendous progress since 2013 increasing by 124%. CHPS implementation continue to face challenges prompting the Ghana Health Service to initiate a validation exercise to ascertain if guidelines to implementation are being adhered to and whether data received are true reflection of happenings on the ground. The Ghana Health Service is concerned about CHPS functionality in its real sense. One of the main bottlenecks is the deployment of health staff to the zones and CHOs staying and working in the communities.

Recommendations:

- ***The District Health Management Teams (DHMTs) should work closely with the Assemblies and other stakeholders to solve challenges of infrastructure, logistics and other bottlenecks that hinder the work of the CHOs.***

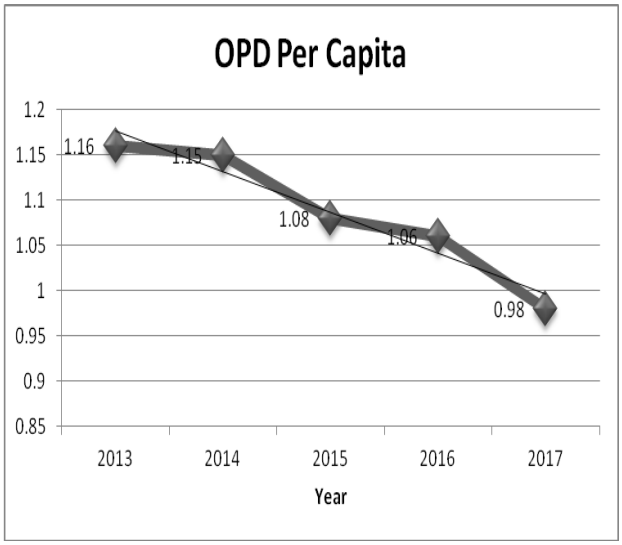
- ***The possibility of recruiting trainees from CHPS zones for training should also be explored whilst heads of Districts should make efforts to ensure effective deployment of CHOs.***

- ***The Ministry of Health should identify sustainable funding for CHPS beyond current financing arrangements.***

3.1.3 Out-Patient Service Utilization

The number of outpatient visits to health facilities in a year relative to the total population are indicators of higher availability and utilization of health services. When barriers to services are removed, this indicator tends to increase. It could be used to examine trends and variation of use of services by geographical locations and type of facilities leading to appropriate policy formulation to increase access.

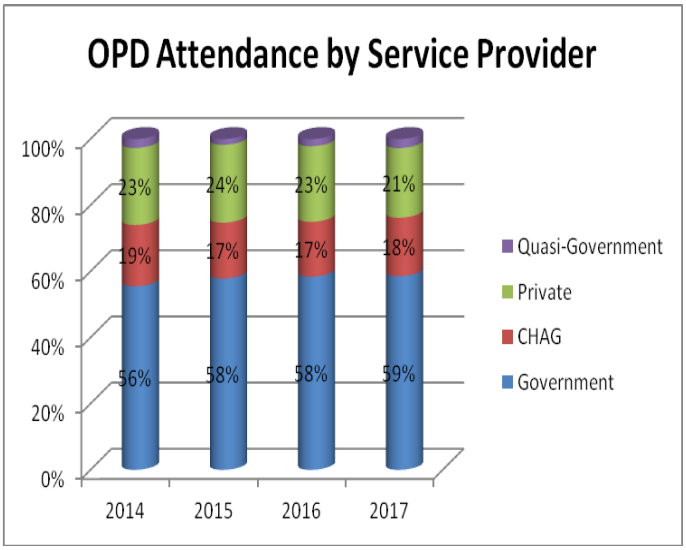
Figure 3 OPD per Capita



OPD attendance per capita continue to decline. It declined by about 8% over the 2016 performance and by 18.4% since 2013. Various factors have been attributed to this decline.

This could be due to cash flow challenges of service providers as a result of the NHIS indebtedness necessitating the providers to impose additional charges to be paid at point service, clients perception of quality of services provided, staff attitude, increased use of traditional and alternate medicine, and increased use of Pharmacy outlets without prescriptions.

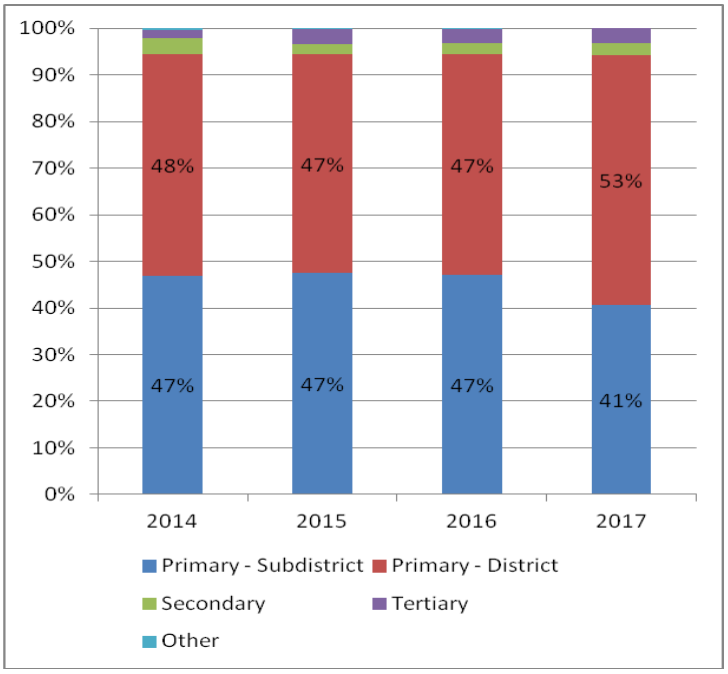
Figure 4: OPD attendance by Service Provider



Government of Ghana remains the dominant provider of health care services, providing about 59% of total OPD services. The private sector were the next most significant provider of OPD services. The could be more if the Ministry is able to get all provider health service providers to report service delivery data on the common platform. It is estimated that about 80% of all private sector are reporting onto the DHIMS platform. It is also expected that when fully operational, the Health Facilities Regulatory Agency (HeFRA) would use private sector reporting as a requirement for licensing and remaining in good standing. This would encourage private sector operators to submit data regularly.

Persistently, the issue of non availability of data capture tools remain a challenge to ensuring data quality and a sustainable solution would have to be found to ensure data is not lost due to staff inability to capture data appropriately.

Figure 5 OPD Attendance by Levels



About 95% of all OPD services are provided at the primary level, that is, District hospital level and below. This has implication for policy in terms of financing arrangements, personnel and equipment. Considering that the NHIS benefit package is too large and larger proportion of the population use services at the lower levels, it makes sense to review the benefit package to put emphasis on package of Primary Care Services at such levels. Again one of the major complaints of specialised facilities in the country is the poor referral practices from the lower levels. It therefore makes sense to improve the capacity of personnel at such levels to deliver quality services, improve referral practices and importantly reduce number of referrals to the higher levels as a result of enhanced competencies. These can effectively be done by ensuring quality, appropriate and cost effective equipment are made available at such levels to complement service delivery efforts.

Recommendations

- ***The Ministry of Health should consider decentralizing the printing of data collection tools to service delivery agencies. With the guidance of the Ministry, agencies should be able to manage the printing and use of such tools possibly through their IGF.***

- ***The Ministry should look at the possibility of going fully electronic and institutionalise paperless transactions at the facility level.***

- ***The Ministry should make efforts aimed at solving the delayed reimbursement by the NHIA to stem the challenge of agencies and individuals surcharging for services they are not suppose to be charging clients.***

3.1.4 Equity Geography: Skilled Delivery

Ghana has accepted and adopted the concept of Universal Health Coverage, the Ministry therefore must ensure there is equitable access to quality health services by all those that need such services. To measure how well the sector is doing regarding equitable access to health services, the Ministry chose supervised delivery, doctor to population ratio and nurse to population ratio across the regions as a proxy indicator.

The equity geography - skilled delivery indicator is a ratio that measures the relationship between the best performing region and the worst performing region. The objective is to identify and address gaps in access to skilled delivery services. This indicator, however, has not made any significant gains since 2013 stagnating from a base ratio of 1.6 in 2013 to a ratio of 1.63 in 2017, although this performance represents an improvement over the previous year. Upper East region consistently remains the best performing region throughout the four-year period whilst Volta region constantly remains the least performing region.

Table 1 Geography Equity in Skilled Delivery, 2013 – 2017

Year	Best region	Worst region	Ratio
2013	67.5%	43.4%	1.6
2014	73.5%	45.3%	1.6
2015	73.6%	43.6%	1.7
2016	74.2%	43.3%	1.7
2017	75.5%	46.3	1.63

Human resource is a key component in achieving Universal Health Coverage. Accordingly, production of adequate and appropriate health workforce is desirable. Of equal importance is the equitable distribution of such workforce in the right numbers and mix. Apart from being an indicator measuring geographical access to service delivery, it has implication for equitable distribution for midwives and other auxiliaries.

Recommendations

- ***The Ministry of Health, relevant agencies, and the local governing authorities should collaborate to provide the necessary incentives that will draw health workers to a locality to work. Health workers need good quality schools for their kids for instance apart from accommodation.***
- ***The Ministry should support to improve efficiency in data management through improved supervision at all levels particularly at the facility level where data are collected. The need to close the gap between survey data and administrative data has become important.***
- ***The agencies should provide incentives to highly performing facilities and districts to encourage others to strive to improve outputs/outcomes***

3.1.5 Equity Geography: Doctor Population Ratio

Doctors are needed in the right numbers and distribution to help improve health outcomes. Key health indicators such as maternal, neonatal and under five mortalities are relatively high and the absence of doctors in their right numbers and spread were the main reasons why the Ministry of Health introduced this indicator. The objective was to monitor the rate of production and geographical availability of this cadre of staff throughout the country.

The equity ratio for doctors has improved by more than 100% from a high ratio of 16.7 in 2013 to 8.1. The sector has therefore made tremendous progress addressing the imbalance in doctor distribution although more needs to done. Performance in 2017 declined by 14.1% over 2016 although overall population of doctors improved by 6.2% from 3,456 to 3,669. Upper East remain the region with the least number of doctors per population whilst Greater Accra is the most staffed region with about 40% of all doctors in Ghana.

Table 2 Equity: Doctor to Population Ratio by Geography

Year	Best	Worst	Ratio
2013	1:3,178	1:53,064	16.7
2014	1:2,744	1:36,048	13.1
2015	1:3,186	1:30,601	9.6
2016	1:3,518	1:24,985	7.1
2017	1:3404	1:27652	8.1

Despite the achievement, inequities exist within regions, where most doctors could be found at the regional hospitals and Teaching Hospitals. The continuous improvement in the equity gap could be attributed to a number of factors including increase in the number of medical doctors, advertisement of vacancies in the regions for recruitment and the new approach to training of house officers which exposes them to regions and districts where they would normally not go.

3.1.6 Equity Geography: Nurse Population Ratio

Equitable distribution of nurses and nursing services has been a major challenge over the years. In an attempt to solve the problem and improve service delivery across the country, the Ministry of Health initiated a system to accelerate training of various categories of nurses with the expectation that nurse population ratio together with their relative distribution will improve.

Table 3 Equity: Nurse to Population Ratio by geography

Year	Best	Worst	Ratio
2013	1:715	1:1,423	2.0
2014	1:669	1:1,255	1.9
2015	1:514	1:1,096	2.1
2016	1:500	1:1,033	2.1
2017	1:500	1:1030	2.1

Although the Nurse population ratio has improved tremendously over the past four years, equity in terms of their distribution has remained a serious challenge to the sector. Geographical equity in terms of distribution of nurses per population did not change year on year. It however deteriorated from 2.0 in 2013 to 2.1 in 2017. Efforts aimed at ensuring fair distribution of Nurses is not yielding the desired result. The policy where regions trained and retained all nurses though they do not need all of them should to be re-examined. Whilst it is

pertinent to maintain overall production of nurses at sustainable level, it is important to streamline administrative procedures for recruiting nurses into the sector. Upper East which is the best performing region with around 1 nurse to 320 population.

Recommendations:

- ***Ghana Health Service should look at equitable distribution of nurses within districts and regions since facilities within may be deprived.***

3.2.0 Ensure Sustainable Financing and Financial Protection for the Poor

This section discusses funding for healthcare for service delivery and various mechanisms for financing health. It discusses health's share of the national budget, per capita expenditure on health, funds availability for service delivery and insurance as a health financing mechanism in the sector. The objective is to ascertain the extent to which financing arrangements for the sector are sustainable over the medium term. A total of eight indicators are selected for this objective. Financial data from the National Health Insurance Authority, the Medium Term Expenditure Framework of Government and the annual audited financial report were the ain sources of evidence for the assessment of this objective.

3.2.1 Highlights on the Financial Statement

Revenue and Expenditure Analyses

This section highlights the Ministry of Health's Financial Report for the year ended 31st December 2017. Total Gross Revenue, recorded by the Ministry was GH¢5,581.1 million, the sources of which have been broken down in Table 6 below.

Table 4 Revenue distribution by source (Table A)

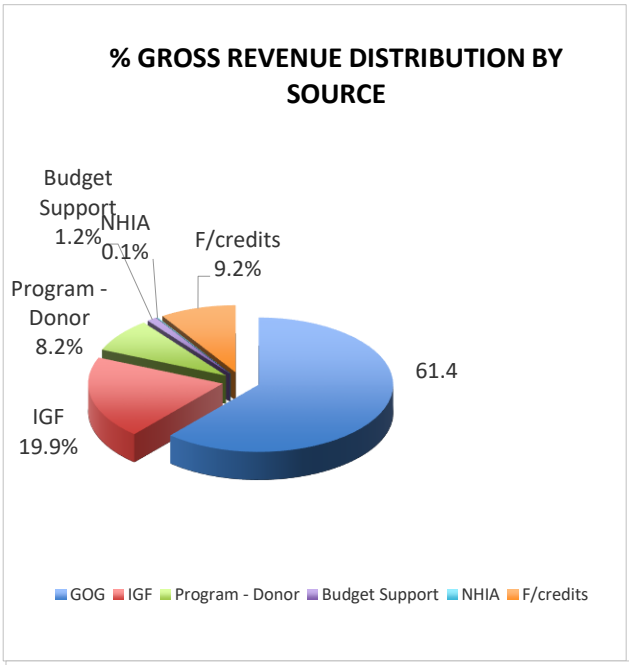
Table A: Gross Revenue Distribution by Source					
Source of Funds	December (2017)			2016 (December)	
	Amount (GHC Million)	US Dollar (Million)	Percent	Amount (GHC Million)	Percent
GOG	3,426.9	795.1	61.4	2,156.2	49.78
IGF	1,111.90	258.0	19.9	1,226.2	28.31
Program - Donor	456.7	106.0	8.2	460.7	10.64
Budget Support	66.1	15.3	1.2	130.7	3.02
NHIA	7.5	1.7	0.1	22.7	0.53
F/Credits	512.0	118.8	9.2	334.9	7.73
TOTAL	**5,581.1**	**1,294.9**	**100**	**4,331.50**	**100.00**

Source: Ministry of Health, 2017 Financial Statement

Government of Ghana contribution increased by 58.9% from GH¢2,156.22 million in 2016 to GH¢3,426.92 million in 2017. Internally Generated Fund (IGF) also decreased by 9.3% from GH¢1,226.23 million in 2016 to GH¢1,111.9 million in 2017. The contribution from donors (both Program and Budget Support) was GH¢522.8 million in the reporting year whilst there

was GH¢591.42 million contribution in the same period for 2016, a decrease of 11.6%. In terms of percentage contributions by the various sources to the sector GOG and IGF contributed 81.3% in the year as compared to 78.1% in the year 2016. Donor contribution was 9.4% of Gross Revenue as against 13.7% for 2016.

In terms of donor reporting of Direct Payments, which are payments made directly from donors to implementers without passing through the headquarters, the Ministry will continue to liaise with its Donor Partners to enable us increasingly capture expenditures from donor direct payments in the financial report. The Expenditure patterns are also presented below, graphically and analytically according to Items and Sources.



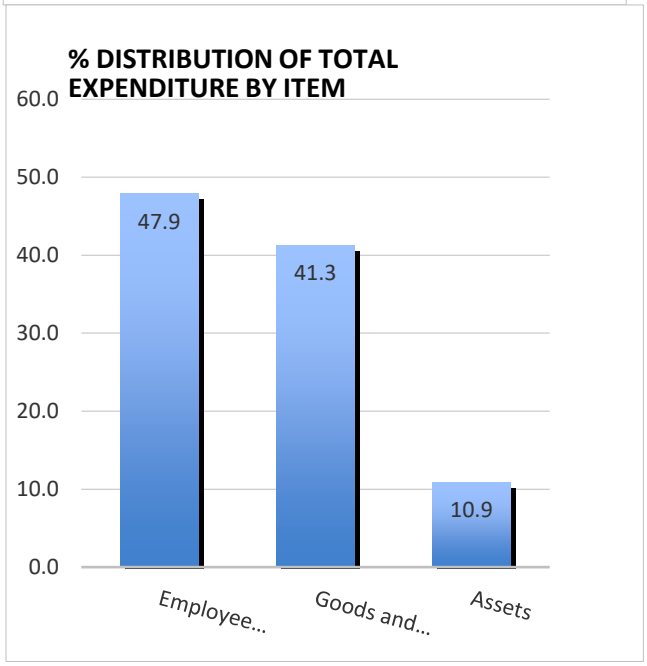


Figure 6: Gross Revenue Distribution by source

Figure 7: Figure 8 Distribution of total expenditure by item

The Ministry recorded a total expenditure of GH¢5,512.0 million for the year under review (Table B). Out of this amount, 47.9% was for Employee Compensation as against 51.8% for 2016. Expenditure incurred on Goods and Services was 41.3% as compared to 37.2% in 2016 whilst that on Assets was 10.9% as compared to 11.1% in 2016.

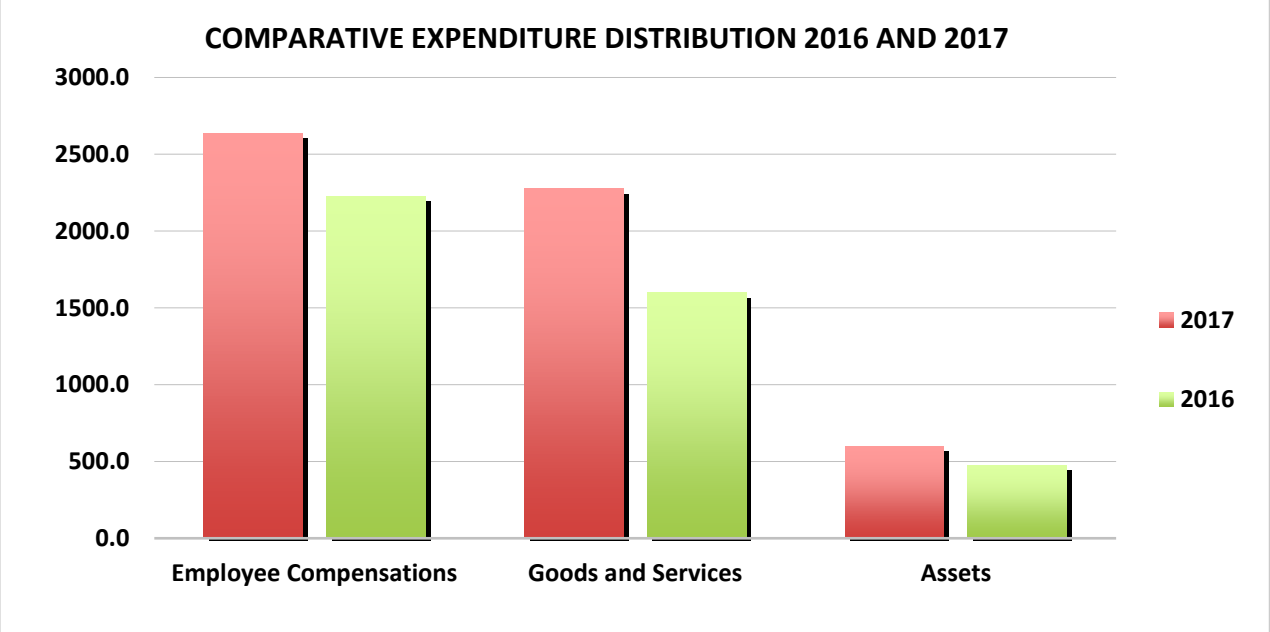
Table 3 below shows comparative pattern of expenditure between 2016 and 2017 in absolute terms. Employee Compensation increased from GH¢ 2,226.9m in 2016 to GH¢ 2,638.3m in 2017. Goods and Services increased from GH¢ 1,597.8m in 2016 to GH¢ 2,274.4m in 2017. Asset also increased from GH¢ 475.9m in 2016 to GH¢ 599.2m in 2017

Table 5 Expenditure by items (Table B)

Expenditure Distribution by Items for the Year Ended 31st December, 2017 (GH¢ 'million)								
Category	**Amount in millions of GHC**							
	GOG	**IGF**	**B/SPT**	**MOH PROG**	**NHIA**	**F/CRED**	**TOTAL**	**Percent**
Employee Compensations	2,520.8	117.5	0.0		0.0	0.0	2,638.3	47.8
Goods and Services	863.1	876.2	65.7	457.1	12.2	0.0	2,274.4	41.3
Assets	41.4	45.3	0.6	0.0	0.0	512.0	599.2	10.9
TOTAL	**3,425.3**	**1,039.04**	**74.41**	**453.1**	**12.2**	**512.0**	**5,516.0**	**100**

Source: Ministry of Health, 2017 Financial Statement

Figure 8 Comparative Expenditure Distribution 2016 and 2017



Source: Ministry of Health, 2017 Financial Statement

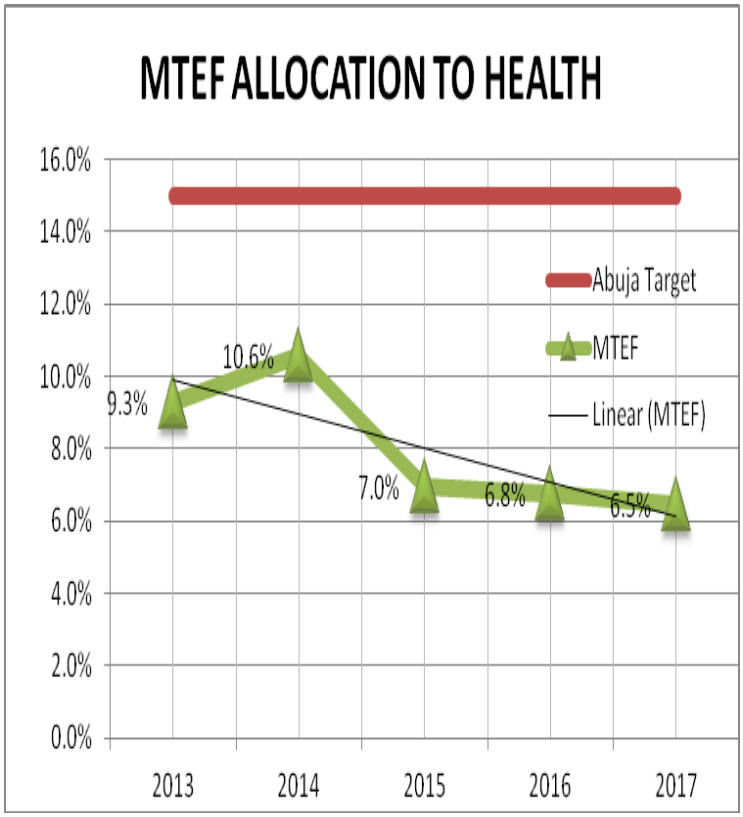
Analyses of Assets and Liabilities

As at the end of 31st December 2017, total cash balances were GH¢301.0million as against GH¢273.0million for the same period in 2016. These amounts represent balances standing in the books of the various health facilities nationwide including MOH/GHS Headquarters. Debtors have increased from GH¢666.6m in December 2016 to GH¢732.3m in December 2017, an increase of 9.9%. A large proportion of the debtors are IGF related, emanating from non-payment of service bills by the NHIA. Most of the debtors are owed to the Hospitals and institutions which are no more benefiting from GOG and Sector Budget Support/Health Fund, but are now depending solely on IGF for the operation of the Goods and Services budgets.
Creditors have increased from GH¢508.16m in December 2016 to GH¢527.88 in December 2017, an increase of 3.9%. A large proportion of the creditors are emanating from non-payment of bills to suppliers, also as a result of delay in reimbursement of service bills to the hospitals by the NHIA and delay in the receipt of other sources of funding as well.

3.2.2 MTEF Allocation to Health

The total MTEF budget for Health is the total discretionary (excludes statutory) budget of government allocated to the Ministry of Health. The Ministry of Health's share of the national budget for 2017 was 6.5%, a decline from the 6.8% in 2016, representing a drop of 4.6%. The Ministry's share rose to a high of 10.6% in 2014 and has since dropped by 38.7%%. Total GoG budget allocation to health increased in nominal terms by 24% from GH¢ 3,387 million to 4,226 million, however total MTEF increased at a higher rate of 30.6% accounting for the decline in the Ministry's share. We can conclude that government budgetary allocation to the health sector increased at a reduced rate compared to the national budget.

Figure 9: MTEF Allocation to Health



The closest the Ministry came to the Abuja target of 15% of national budget was in 2014. This performance is against the background of rising compensation cost as a result of rapidly expanding health services, the need to expand infrastructure including provision for Planned Preventive Maintenance (PPM) and service delivery cost especially public health programmes which normally does not generate any revenue.

Against the dwindling budget support/donor pool, and the financial challenges of the NHIS in promptly reimbursing providers, the need to look for additional sources of finance for the health sector from non-traditional sources cannot be overemphasized.

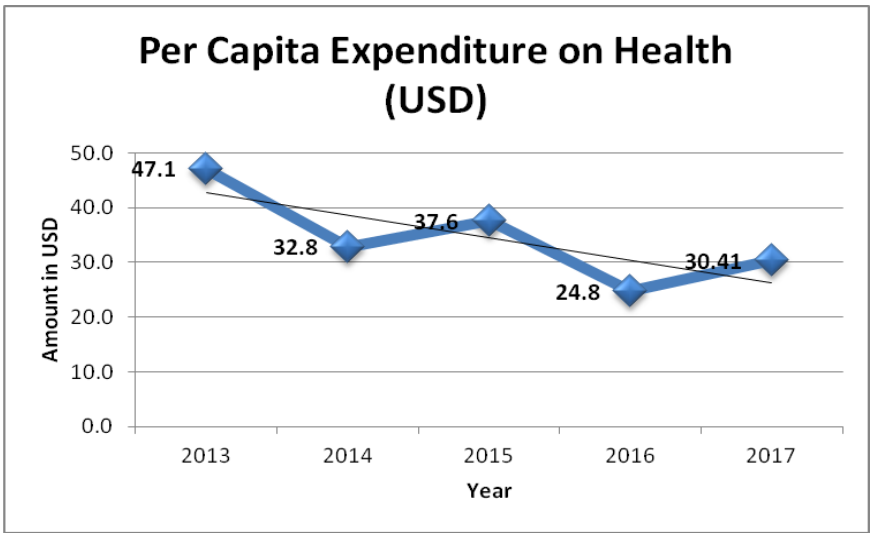
Table 6 Trends Health Sector Financial Indicators, 2014 to 2016 add 2017

No.	Indicators	2014	2015	2016	2017
2.1	% MTEF Budget on MoH	10.6%	7.0%	6.8%	6.5%
2.2	Per capita expenditure on Health (USD)	32.8	37.6	24.8	43.0
2.3	Budget Execution Rate (Goods & Services as Proxy)	61%	503%	46.1%	55.1 %
3.7	Proportion of GOG spent on goods and services	11.50 %	8.0%	8.0%	34.8 %
3.8	Proportion of GOG spent on assets	18.40 %	0.5%	0.1%	0.06 %
3.9	Proportion of MoH budget (goods and services) allocated to research activities	-	-	-	-

3.2.2. Per Capita Expenditure on Health

Per capita expenditure on health in US dollars for 2017 increased by almost 28% compared to 2016. During the medium term however, per capita spending saw a downward trend as the linear trend indicates. The year 2015 experienced an increase as a result of larger than usual expenditure on compensation. In 2015 a large proportion of outstanding salary arrears was paid by the Controller and Accountant General's Department and this increased the total expenditure on health. This amount was not part of the MTEF budget in 2015.

Figure 10 Per Capita Expenditure on Health



Using 2013 as a base year, we can observe that per capita expenditure on health declined by about 55%. Perhaps this together with the lower than usual health budget share could be the reason why the health sector is struggling with the procurement of

public health goods and provision of basic needs required to support service provision.

3.2.3 Budget Execution Rate

Budget execution rate is the proportion of approved budgets released by the Ministry of Finance to Ministry of Health. Budget execution rate for Goods and Services and Assets exceeded approved budget in 2017 unlike the relative low execution rates recorded in the previous years. The some of the reasons accounting for the low execution rate were the difficulties in processing GoG funds through the GIFMIS system and, late release of payment warrants from MoF especially for assets.

Table 7: Budget Execution Rates

Economic Classification		Compensation of Employees	Goods and Services	Assets	Total
Approved Budget		**2,137,522,169.00**	**1,566,715,711.00**	**521,914,474.00**	**4,226,152,354.00**
Actual Expenditure	**GoG**	2,520,775,609.89	863,141,712.35	32,698,822.92	3,416,616,145.16
	IGF	117,508,403.65	876,182,180.12	45,346,502.57	1,039,037,086.34
	Donor	-	522,904,864.89	512,538,867.86	1,035,443,732.75
	ABFA	-	-	8,660,363.00	8,660,363.00
	Total	**2,638,284,013.54**	**2,262,228,757.36**	**599,244,556.35**	**5,499,757,327.25**
Execution Rate (%)		***123.42%***	***144.40%***	***114.82%***	***130.14***

3.2.4 NHIS Membership

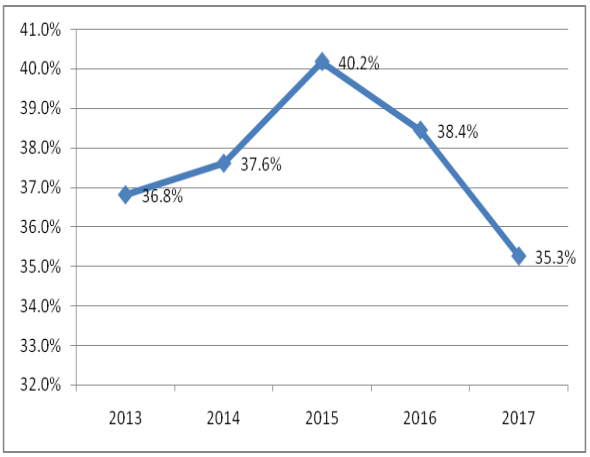
Table 8: NHIS Active Membership Coverage

Year	Active members	Population	% coverage
2013	10,144,527	26,427,760	38.38
2014	10,545,428	27,043,093	38.99
2015	11,058,783	27,670,174	40.00
2016	11,029,068	28,308,301	38.44
2017	10,576,542	29,710,642	35.3

This indicator measures the proportion of the population who can access health care services through the National Health Insurance Scheme. The figure has virtually stagnated over the medium term, deteriorating slightly to 35.3% compared with the 2013 baseline figure of 36.8%. An increase was observed between 2014 and 2015 after which it started declining. It is not immediately clear why the downward trend, however some financing challenges experienced by the NHIS during the last 2 years could have contributed to the decline.

Other factors include:

- The difficulty in renewing membership. Administrative measures put in place for registration and or renewing membership by the NHIA do not encourage the population to readily maintain their membership.



- Implicit in the law that governs the scheme is that formal sector workers do not have to contribute towards the scheme because of the 2.5% SSNIT contributions. Most formal sector workers may be unaware that they need to register to enjoy the benefits of the Scheme. The NHIS law mandates all citizens to register.

- Similarly, it is possible that the healthier section of the population do not seek health care until it is really necessary. Those members of the population considered to be riskier health-wise could be the group maintaining their membership. This phenomenon of adverse selection could have a negative impact on the financial fortunes of the scheme.

Recommendations:

- ***Enforce the provisions of the law mandatory registration for NHIS***
- ***NHIS should conduct a rapid assessment to ascertain the public's view on membership and other contemporary issues to enable them develop strategies and policies to address them***
- ***Administrative procedures for registration should be streamlined***

Table 9 Proportion of NHIS Active Members Paying Premium

Year	No. Paying premium	Total Active members	Percent
2013	3,433,312	10,918,536	31.4
2014	3,249,541	10,545,428	30.1
2015	3,227,136	11,058,783	29.2
2016	3,130,872	11,029,068	28.4
2017	3,160,769	10,576,542	29.9

Recent funding challenges encountered by the NHIS might have contributed to the apathy on the part of the public. Delays in reimbursement to providers has led to the introduction of Copayment by some service providers. The public will not pay for insurance if they will have to pay for healthcare services at the point of

service. Again healthy people will not take up insurance if they do not see the need to insure for the future. There is an adverse selection situation which the NHIS must find away to address.

Recommendation

- ***A group registration as against individual registration should be considered to take advantage of group dynamics. This will also allow for risk classification or rating.***

3.2.5 NHIS Exempt Category

Table 10 : Proportion of Exempt Categories

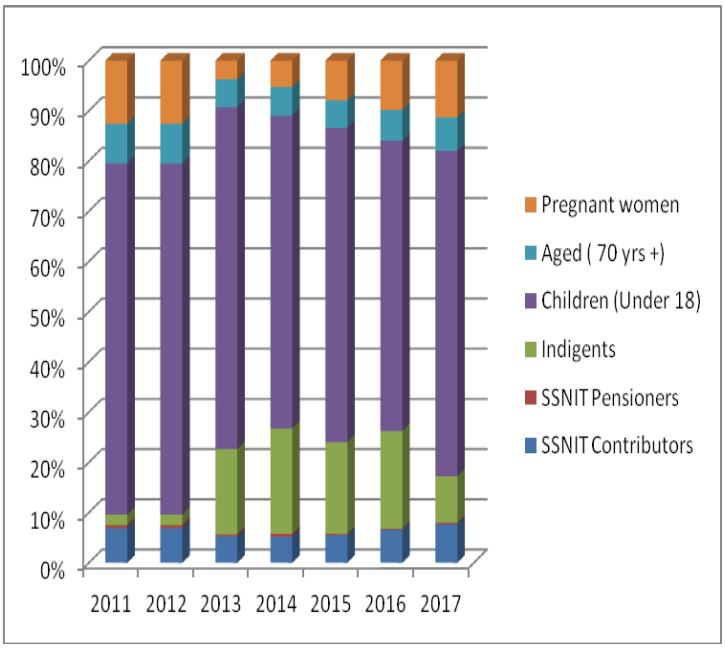
Year	Total Active members	No. Exempt	(%)
2013	10,144,527	7124364	65.3
2014	10,545,428	6924700	65.7
2015	11,058,783	7401158	66.9
2016	11,029,068	7,898,196	71.6
2017	10,476,542	7,415,773	64.7%

The NHIS was introduced to provide access to quality healthcare irrespective of one's ability to pay for certain services. The law that established the NHIS therefore provided for a liberal exemption regime that ensured that various categories of the society considered to be poor and or vulnerable are provided free access to healthcare through the scheme under certain circumstances. The exempt category as prescribed by law include SSNIT Contributors, SSNIT pensioners, children below 18 years, pregnant women and indigents. About 2/3 of all beneficiaries of the insurance scheme have been in the exempt category since its inception. The situation is not different in 2017 with almost 65% of net beneficiaries being in the exempt category.

SSNIT contributors as a proportion of the exempt category stood at 5.4% up from the 4.7% in 2016 and 3.9% in 2013. SSNIT contributors by law are not expected to contribute to the NHIS although they are potential beneficiaries provided they can remain in good standing through registration and renewal of membership cards. This group could be a potential source of funding to finance the scheme if an arrangement that is acceptable to all stakeholders is made so that they can contribute towards the scheme as a form of cross subsidization design.

Figure 11 Exemptions by Category

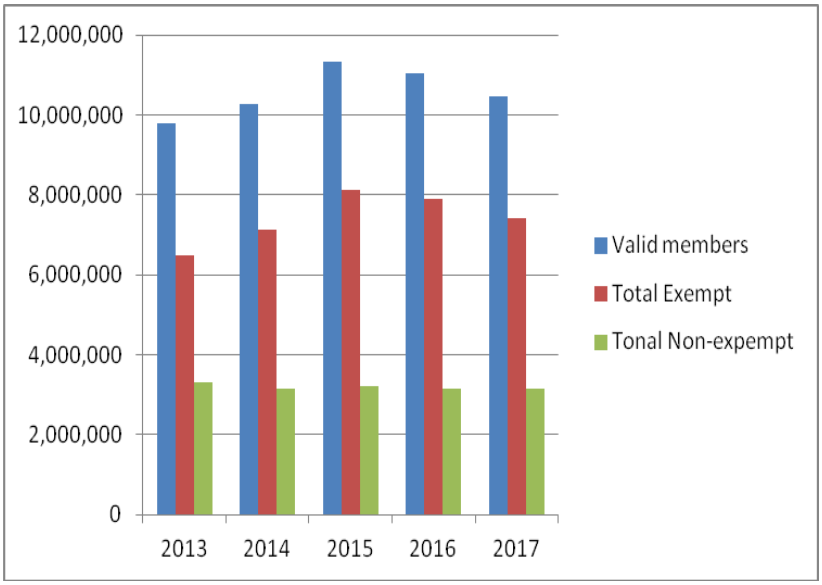
About 45% of the exempt categories are children under 18 years of age.



This raises a number of issues;

- The sheer size of this category provide room for fraud especially when proof of age is difficult and persons outside the specified age range could, with connivance of officials access free healthcare.
- The tendency for this category to indulge in risky behaviour just because they are covered by the scheme is real.
- Pregnant women also constitute almost 8% of total exempt and similar equity arguments made earlier could also apply. The blanket cover for pregnant women makes the middle class, most of which live in towns and cities the net beneficiaries.
- Geographical access challenges puts the deprived, particularly those at the rural areas at a disadvantage.

Figure 12 NHIS Active Membership



The indigent category constitutes 6.5% of the total active membership of the scheme in 2017, down from almost 14% in 2016. How high or low the coverage of this category is, depends on the ability to identify the indigent under the Livelihood Empowerment Against Poverty (LEAP) programme implemented by the Ministry of Gender, Children and Social Protection. Being indigent is a state which can change over time. The LEAP programme therefore has to authenticate every potential LEAP beneficiary regularly. The process of identifying the core poor itself is difficult in the absence appropriate data. These factors

together with higher transactional cost may influence the identification of the indigent to benefit from the Health Insurance Scheme.

Table 11: Pregnant women exempted under NHIS

Year	Registered	Expected	Proportion
2011	712,718	1,011,488	70.6%
2012	742,279	1,037,286	71.6%
2013	239,481	1,063,767	23.0%
2014	373,760	1,090,949	34.3%
2015	658,943	1,129,286	58.4%
2016	778,232	1,147,525	67.8%
2017	839,531	1,188,426	70.6%

The free maternal healthcare programme was initiated in July 2008. The objective was to increase access to delivery services especially among the poor and vulnerable groups in the deprived areas. Initially, the programme chalked successes registering over 70% of expected pregnancies. The proportion fell sharply in 2013 to 23%. It has since been rising steadily and has recovered to 70.6% in 2017. Data from the NHIS on registered pregnant women does not compare favorably with service delivery data such as ANC and supervised delivery data. There is the need for the NHIS to disaggregate data into the component parts such as ANC, supervised delivery, and post natal care (PNC) services to allow for comparison. On the other hand, the scheme should work with the service providers to agree on what and how data should be collected.

Recommendations

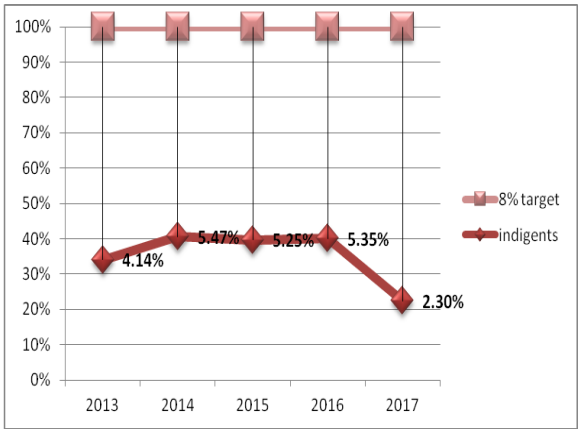
- ***The MoH should work with the NHIA and relevant stakeholders to review the exempt category***

- ***A minimal amount of premium should be paid by every beneficiary irrespective of their status***

3.2.6 NHIS Coverage for Indigents

The proportion of national population enrolled as indigents has declined from 5.4% in 2016 to 2.3% in 2017. The indigents constituted 6.5% NHIS as active members down from about 14% in 2016.

Figure 13 Coverage of Indigents



The policy regarding indigents would need to be refined to provide better guidance to service providers and the scheme alike. It is clears from figure 13 that coverage of the indigents fallen sharply in 2017. As indicated earlier, it is the responsibility of the depart of social welfare to register the core poor to enable them benefit from the scheme. The requirement and the logistics for registration of the indigents makes the task complicated. It is estimated that about 15% of the population can be classified as

poor. The Ministry at the beginning of 2014 opted to target 8%. Available data indicates we are far away from achieving the target. The best performance was in 2015 and 2016 when the NHIA went out of its way to register prisoners and psychiatric inmates.

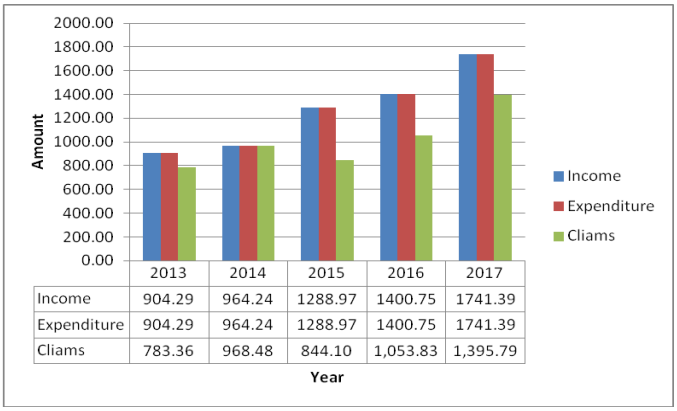
Recommendations

- ***Premium of indigents should be paid through the LEAP programme***

3.2.7 Claims Expenditure

About 80% of total income of the NHIA was used in paying claims in 2017 compared with 75% in 2016. This implied NHIA spent about 20% of all income on administrative expenses in 2017. This is above administrative expenditure target of 15% and considerably high in view of the fact that the NHIS is heavily indebted to the service providers.

Figure 14: Claims Expenditure, 2013 to 2017



	2013	2014	2015	2016	2017
Income	904.29	964.24	1288.97	1400.75	1741.39
Expenditure	904.29	964.24	1288.97	1400.75	1741.39
Cliams	783.36	968.48	844.10	1,053.83	1,395.79

In 2014, a little over 100% of total income from statutory sources was used to pay claims. This was possible because the scheme was able to plough back some of its reserves from earlier investments. Currently the scheme is more six months in arrears to service providers as a result of delayed release of receivable funds and the inadequacy of the earmarked funds for the scheme.

3.3.0 Improve Efficiency in Governance and Management of the Health System

Monitoring Governance and Management of the health system offers officers the opportunity to create awareness among stakeholders and policy makers on the changing context under which agencies and institutions work. It enables policy makers decide if earlier decisions are having the desired impact on service delivery and if not, what kind of remedial measures to be adopted.

Under this objective, nine (9) indicators are assessed using data from the NHIS, MTEF, annual audited and financial reports as well as payroll data to determine the performance of this objective. Two indicators, *Proportion of NHIS claims settled within 12 weeks and Proportion of health budget (goods and services) allocated to research activities* have never

been reported on since they were included in the indicator sets. Although the NHIS has never met the requirement of settling claims within 12 weeks, introduction of electronic claims management which the NHIS has implemented on limited basis could help generate such data and its efficiency duly measured.

Tight fiscal space has prevented the Ministry from allocating resources for research activities. Introduction of this indicator however indicates the commitment of the Ministry to research in the health sector.

3.3.1 Doctor to Population Ratio

Total number of doctors has increased by about 40% from 2,615 in 2013 to 3,669 in 2017. Doctor population ratio consequently improved from 1:10170 in 2013 to 1:8098 in 2017. This compares favourably with the 2016 ratio of 1:8,301 although the improvement is not as significant as expected. Wide regional disparities exist with distribution skewed in favour of Greater Accra in particular. Disparities also exist within regions. In regions where Teaching Hospitals operate, the bulk of the doctors reside in the regional capital and work with the Teaching Hospitals.

Table 12 Doctor Population Ratio by Regions

Region	2013	2014	2015	2016	2017
AR	1:10,503	1:9,830	1:7,196	1:7,769	1:8,030
BAR	1:17,547	1:17,455	1:15,956	1:11,468	1:9,795
CR	1:23,892	1:21,823	1:19,439	1:9,905	1:9158
ER	1:19,065	1:16,733	1:15,975	1:13,082	1:12,808
GAR	1:3,178	1:2,744	1:3,186	1:3,518	1:3,404
NR	1:22,894	1:23,759	1:18,412	1:13,627	1:12,949
UER	1:33,896	1:32,285	1:24,253	1:24,985	1:27,652
UWR	1:53,064	1:36,048	1:30,601	1:17,860	1:16,222
VR	1:23,277	1:20,510	1:18,578	1:12,160	1:10,832
WR	1:28,653	1:23,814	1:28,861	1:20,275	1:22729
Ghana	**1:10,170**	**1:9,043**	**1:8,934**	**1:8,301**	**1:8,098**

The doctor/ population ratio in Ashanti, Upper East and Western regions worsened during the year. Already, the Upper East and Western regions have the least number of doctors per population and any attrition of doctors will affect overall service delivery. With the exception of Greater Accra and Ashanti regions all regions are below the national average.

3.3.2 Nurse to Population Ratio

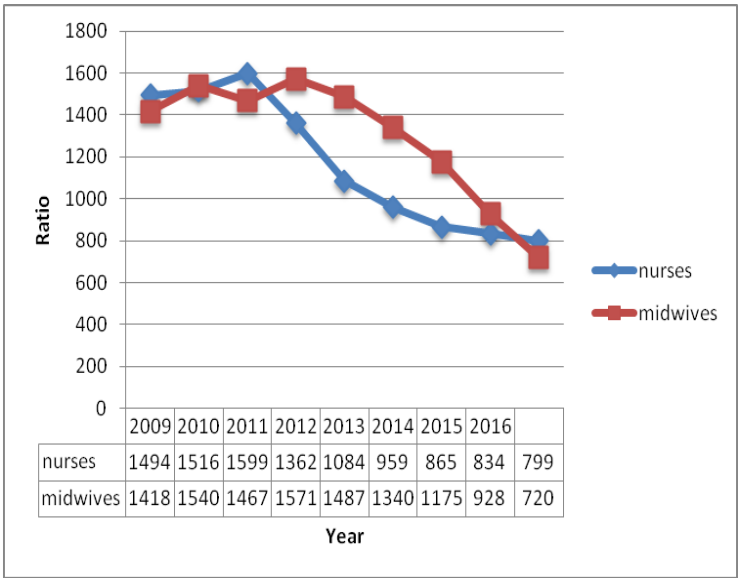
The total number of nurses increased from 34,380 in 2016 to 37,190 in 2017 an increase of about 8%. For the period 2013 to 2017 the number of nurses increased from 24,533 to 37,190 representing an increase of almost 52%. The nurse to population ratio improved from 1:834 in 2016 to 1:799 in 2017. Unlike the doctors, the three regions in the northern zone (Northern, Upper East and Upper West regions) have better nurse staffing situation compared to all the rest of the regions. Western region is the least staffed nurse per capita. It is clear, the Western

region situation has not improved markedly since 2013 compared with the rest. This estimates exclude the Nurse Assistants (clinical). This is because policy on this category of cadres was fluid at the inception of the assessment in 2013. If Nurse Assistants (clinical) were included, the nurse to population ratio would drop farther to 1: 478.

Table 13: Nurse Population Ratio by Region

Year	AR	BAR	CR	ER	GAR	NR	UER	UWR	VR	WR	Ghana
2013	1:1,296	1:1,245	1:1,185	1:1,041	1:826	1:1,423	1:715	1:855	1:1,135	1:1,142	1:1,084
2014	1:1,088	1:1,132	1:996	1:900	1:764	1:1,255	1:669	1:813	1:925	1:1,077	1:959
2015	1:980	1:973	1:876	1:834	1:741	1:1,096	1:514	1:634	1:818	1:1,047	1:865
2016	1:946	1:880	1:755	1:838	1:745	1:1,033	1:500	1:644	1:833	1:1,009	1:834
2017	1:878	1:807	1:713	1:816	1:743	1:945	1:500	1:597	1:785	1:1,030	1:799

Table 14 Trend of Nurse population Ratio and Midwife WIFA Ratio



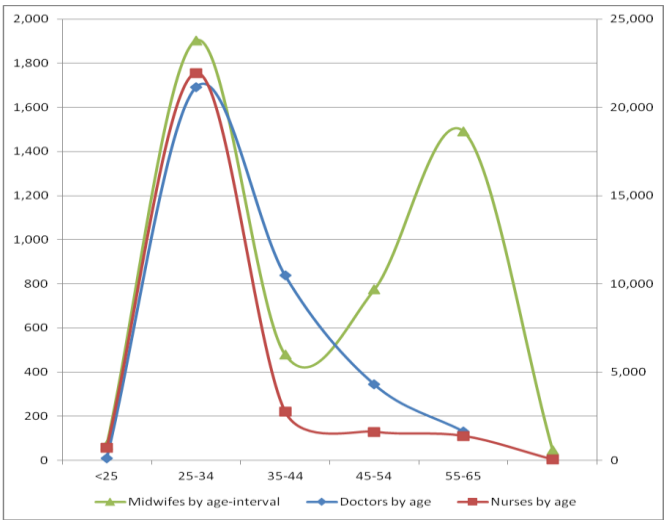
	2009	2010	2011	2012	2013	2014	2015	2016	
nurses	1494	1516	1599	1362	1084	959	865	834	799
midwives	1418	1540	1467	1571	1487	1340	1175	928	720

Estimating how many nurses and midwives are required by a country in a health system can be complex. Issues such as age, health status and equipment which influence productivity are not factored into such projections. Currently nurses are being produced from the Ministry of Health and private sector training schools, however there seem to be no clear policy regarding production numbers or per capita requirement for the country. The Ministry of health together with its stakeholders would need to agree on thresholds to guide production.

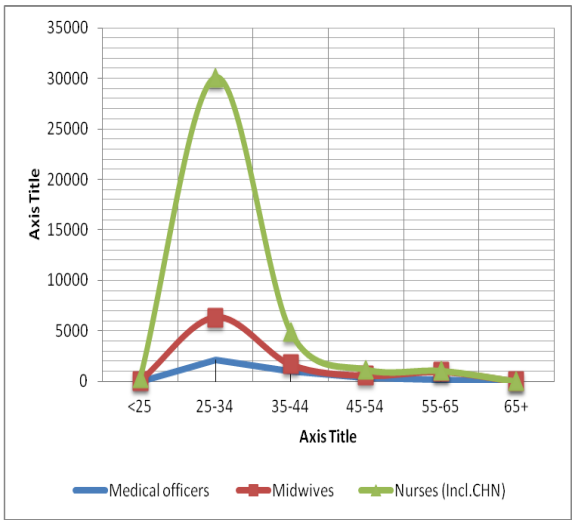
At the inception of the implementation of the sector Programme of Work a substantial proportion of the critical staff, particularly midwives were in the higher age group as depicted in figure 15 below. A decision was taken to accelerate the production of midwives to replace the aging midwives. Much progress has been made in addressing the age problem. The result is depicted in figure 18 below.

Figure 15: Distribution of Critical Health Staff By Age

2014



2017



The Midwife to WIFA population ratio has shown improvement since 2013. The training of straight midwives and the setting up of midwifery schools in all the regions has led to an improvement in the midwife population ratio in all the regions. Although there is a general improvement in the midwife population ratio, there are issues of mal-distribution of midwives in all the regions with some districts and sub-districts having low number of midwives to WIFA population.

3.4.0 Improve Quality of Services Delivery including Mental Health

Objective 4 has six indicators. These indicators deals with general mortality, traditional medicine, mental health services, malaria case fatality, surgical site infections and functionality of emergency teams.

3.4.1 Institutional All Cause Mortality

Institutional all cause mortality worsened from 22.8/ 1000 hospital admissions in 2016 to 23.6/ 1000 hospital admissions in 2017. Compared to 2013, the rate dropped marginally by 8% from 25.5/ 1000 hospital admissions to 23.6/ 1000 hospital admissions. Institutional all cause mortality rate has therefore not made any significant improvement since 2013 and worsened in 2017 relative 2016 performance. Greater Accra, Upper East, Volta and Central regions were the worst performers in 2017. All four regions experienced deterioration compared to the 2016 rate. Ashanti, Eastern and Upper West Regions experienced marginal improvements in their rates.

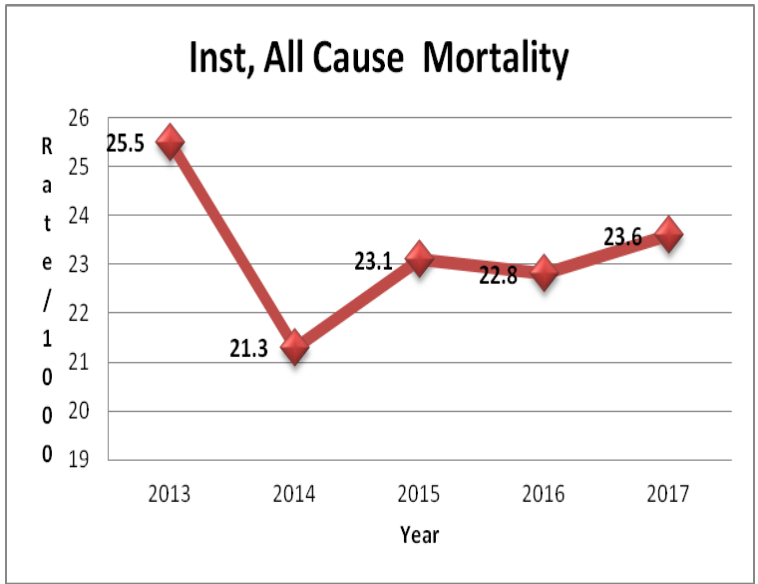


Figure 15: Institutional All-cause Mortality

Although Korle-Bu and Komfo Anokye Teaching Hospitals together contribute about 15% of total mortalities, their rates are relatively high when compared with the Ghana Health Service.

Explanations provided by the Teaching Hospitals are that bad cases are referred to them. They express the need to streamline and improve referrals from the periphery. However, arguments about referrals cannot be isolated from equitable distribution of appropriate health staff in terms of numbers and mix. As long as the quality and number of staff at the periphery are not adequate, quality of service will suffer. There is the need to clearly define the direction of our referral policy. Our current experience will make the referral hospitals always choked because the most skilled staff and equipments are concentrated at the Secondary and Tertiary levels and every little case would have to be referred. Referrals seem not to be working very well since it goes with additional cost and travelling inconvenience to clients and their relations. Most clients invariably would turn to the next available alternative which may not be the best option.

3.4.2 Traditional Medicine

The proportion of regional and district health facilities offering traditional medicine has remained the same for the past three years. Currently, there are 19 hospitals (District and Regional) offering the herbal medicine services. Earlier in 2013 a decision was made to pilot the provision of traditional (herbal) medicine alongside allopathic medicine in some of our public health facilities. Since then, no independent evaluation of the initiative was undertaken.

Recommendation

- ***There is a need to evaluate the pilot implementation of the policy to inform the way forward***

3.4.3 Facilities Offering Mental Health Services

A policy was initiated to establish mental health units in all public hospitals and wings in regional hospitals in the country. The objective is to increase access to mental health services and also minimize residential management of mental health conditions. The Mental Health Authority signed a memorandum of understanding with the Ghana Health Service which defined their roles regarding delivery of mental health services in the regions and districts.

Currently all regional and existing district hospitals have mental health units. Three (3) regional hospitals (BAR, ER, VR) have Mental Health wings. The main challenges include perennial shortage of psychotropic medicines, inadequate funds for community activities and inadequate human resource. Most of the regional hospitals have no additional space to establish the mental health wings and have to expand existing infrastructure to be able to meet this requirement.

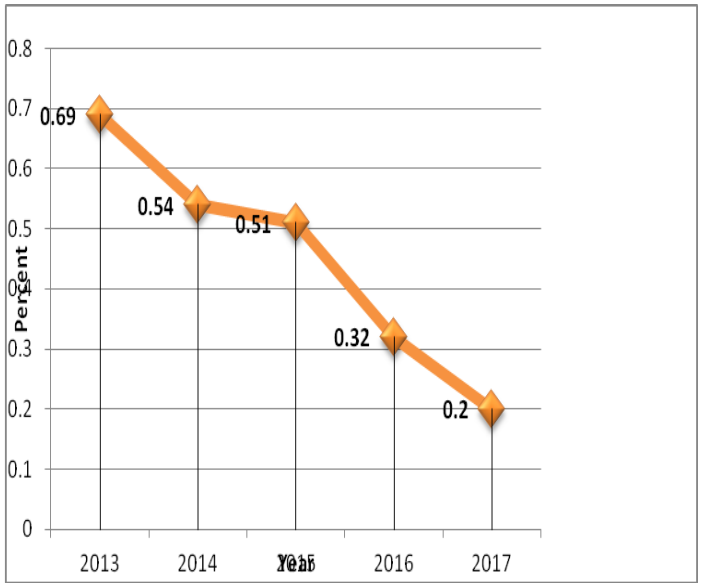
Recommendations

- ***Considering the difficulty of remunerating additional staff, the MOU to be signed between the Ghana Health Service and the Mental Health Authority should include***

task shifting arrangements with the Mental Health Authority providing financial and technical support

3.4.4 Malaria Under 5 Case Fatality

Figure 17: Malaria Under 5 Case Fatality



Management of malaria in the country has seen a stupendous improvement over the past years as reflected in the reduction of Malaria under 5 case fatality. Malaria under five case fatality decline by 71% from 0.69% in 2013 to 0.20% in 2017. Compared with 2016, case fatality reduced by 60%. The improvement is due to availability of rapid diagnostic test kits. The Test Treat and Track approach is contributing to improving the testing rate. There may be the need to intensify education to the public on the need for testing before treatment

Recommendations

- ***Efforts should be made towards fully integrating malaria control activities into the general health system before the programme support ends so as to sustain gains made.***
- ***Properly document all lessons learnt and undertake an extensive evaluation of the success of the malaria control programme***

3.4.5 Surgical sight infection rate

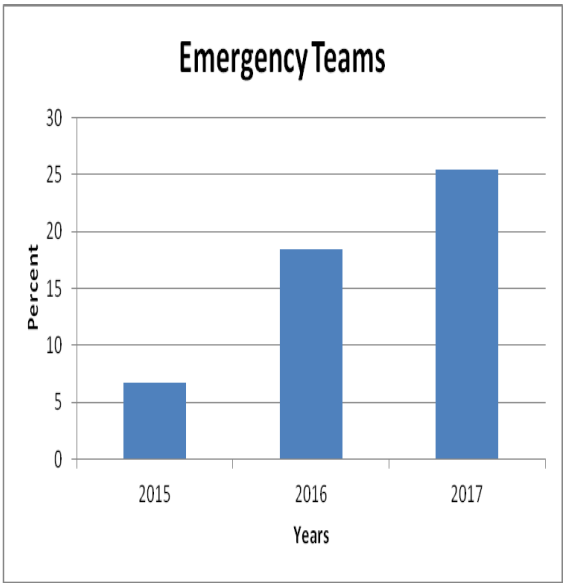
Although this indicator was introduced as a measure of quality of clinical services, reporting has not been forthcoming. This is because structures for capturing the indicator was not in place and there was no urgency on the part of the facilities to collect data on the indicator. With the assessment of regional performances, efforts are underway to gather data and report on the indicator in 2018. The teaching hospitals have also undertaken to collect and report on the indicator.

3.4.7 Hospital Emergency Teams

The proportion of public hospitals with functional emergency teams has been rising steadily over the past three years. The proportion increased by about 38% over the 2016 figure from 18.5% percent to 25.5%. Figure 18 below show the trend over the period.

An emergency core team is expected to comprise of the emergency physician/ doctor, physician assistants, ER Nurses, critical care nurse, triage personnel, porters and cleaners as captured in the 'Policy and Guidelines for Hospital Accident and Emergency Services in Ghana

Figure 16 Emergency Teams 2015-2017



However, due to the lack of requisite personnel, functional emergency teams are presently a 24-hour available trained medical staff in Basic Life Support and Advance Life Support or both in an emergency department with necessary logistics to receive, stabilize, treat and appropriately refer in a timely manner if the need be.

Although the total number of public hospitals with functional emergency teams were 110, the Upper East region has additional 13 functional emergency teams at the sub-district level developed as a pilot program under the Systems Improvement at District Hospitals and Regional Training of Emergency Care (*sidHARTe*). This brings the total to 123. The indicator limits the measurement to Public hospitals and this should subsequently be expanded to include all hospitals. Although the non availability of requisite staff compromised the formation of appropriate emergency teams, guidelines regarding the minimum required personnel in terms of skills, numbers and mix should be specified.

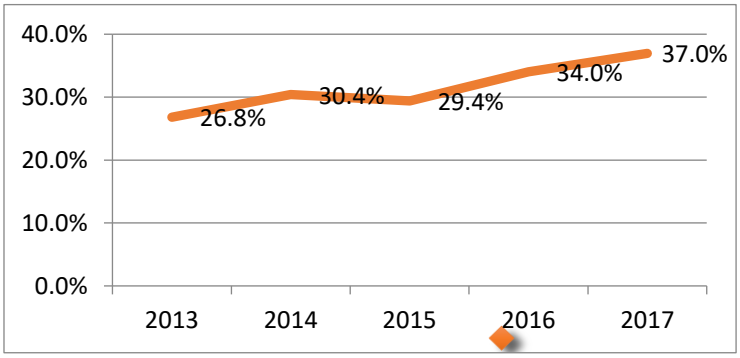
3.5.0 Enhance Capacity to Attain the Health Related MDGs

3.5.1 Couple Year Protection

The interventions aimed at improving quality of life through family planning services made significant progress within the medium term of 2014 to 2017. Family planning acceptor rate

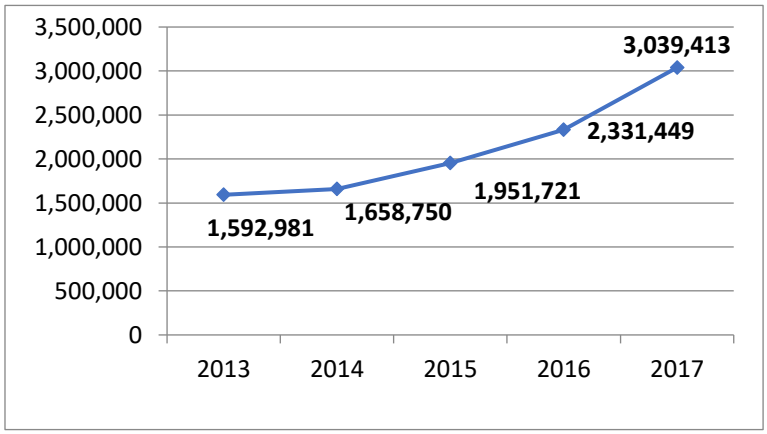
has increased by 24.2% from a baseline of 26.8% in 2013 to 37% in 2017. In 2017, the family planning acceptor rate increased by 9% from 34% in 2016 to 37%.

Figure 17 Trend of Family Planning Acceptor Rates, 2013 to 2017



Some of the key interventions aimed at improving family planning services included the retraining of key frontline health workers like Community Health Nurses and training of Midwives to perform implant insertions, promotion of long term contraceptive methods and scaling up of adolescent friendly health services. While the annual incremental rate of family planning acceptors was relatively slow, the gradual shift from short term to long term contraceptive methods has resulted in rapid increase in estimated couple years of protections. The Figure 19 and 20 showed the trend of family planning acceptor rate and Couple Years of Protection, 2013 to 2017.

Figure 18 Trend of Couple Years of Protection, 2013 to 2017



The estimated protection provided by family planning services year on year increased by more than 90% from 1.6 million in 2013 to 3.04 million in 2017. This significant increase may have been influenced by recent investments in family planning particularly MAF.

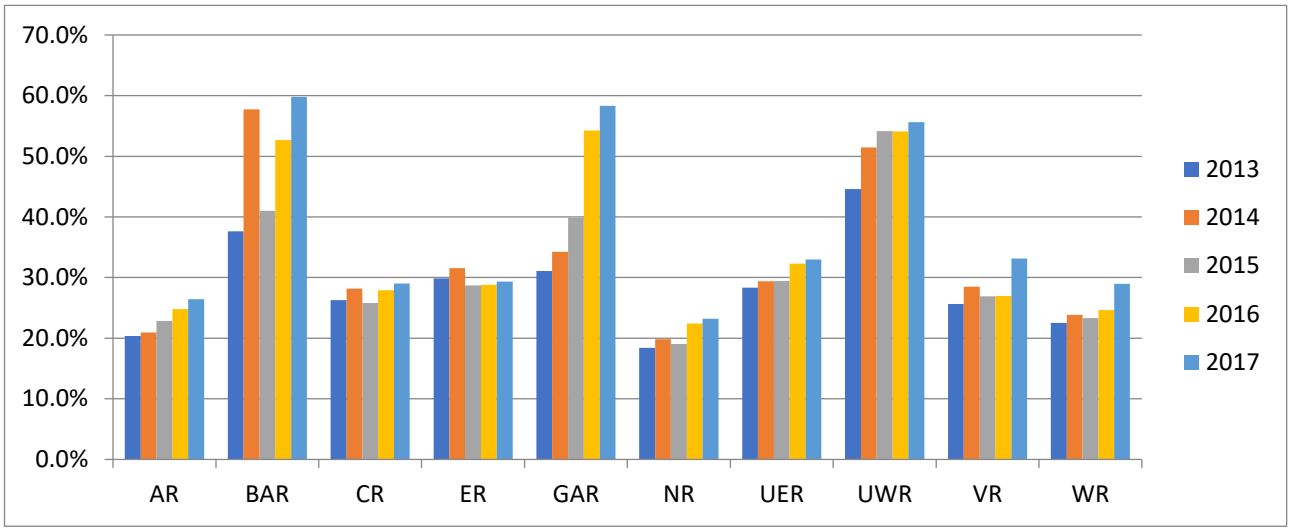
There are significant variations in performance across the regions. Brong Ahafo region has consistently remained a top performer closely followed by Greater Accra and Upper West regions. These three regions attained over 50% of the target population while the remaining seven regions mostly performed below 30% of their target populations. There is a need to explore further to understand the consistently large regional variations in family planning acceptor rates. Table 19 and Figure 21 below shows the regional performance for family planning acceptor rate from 2013 to 2017.

Table 16 Family Planning Acceptor Rates by Region, 2013 to 2017

Year	AR	BAR	CR	ER	GAR	NR	UER	UWR	VR	WR	Ghana
2013	20.3%	37.6%	26.3%	29.9%	31.1%	18.4%	28.3%	44.6%	25.7%	22.5%	**26.8%**
2014	20.9%	57.8%	28.2%	31.6%	34.3%	19.8%	29.4%	51.5%	28.5%	23.9%	**30.4%**

2015	22.8%	41.0%	25.8%	28.7%	39.9%	19.1%	29.5%	54.1%	26.9%	23.3%	**29.4%**
2016	24.8%	52.7%	27.9%	28.8%	54.2%	22.4%	32.3%	54.1%	27.0%	24.6%	**34.0%**
2017	26.5%	59.8%	29.0%	29.4%	58.3%	23.2%	33.0%	55.6%	33.2%	29.0%	**37.0%**

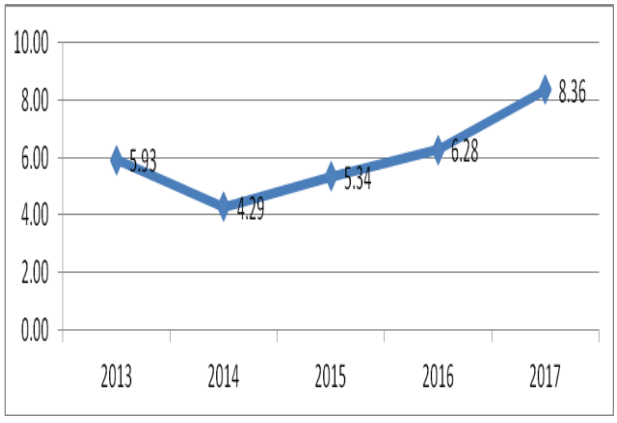
Figure 19 Family Planning Acceptor Rates by Region, 2013 to 2017



3.5.2 Institutional Neonatal Mortality

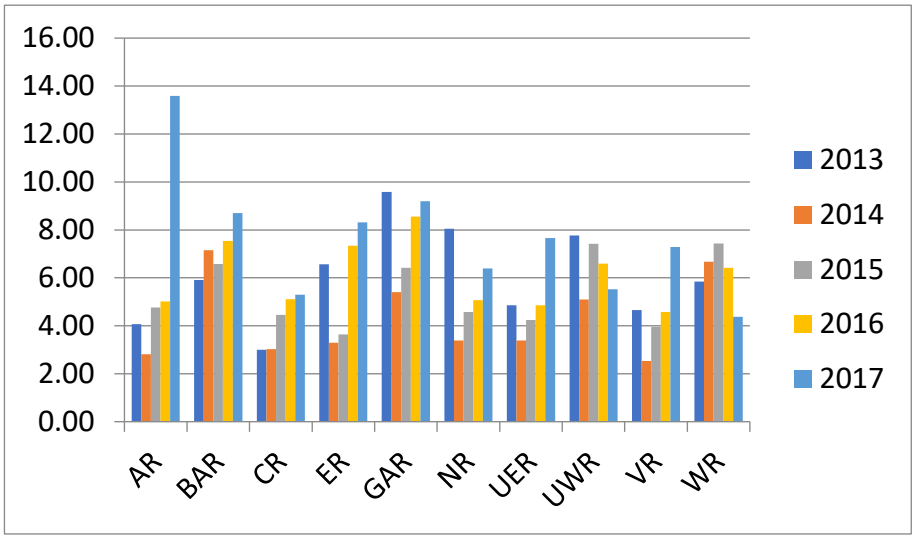
Neonatal Mortality Rate continue to deteriorate further during the period under review from 6.28/1,000LB in 2016 to 8.26/1,000LB in 2017 thereby negating the intended impact of all the interventions aimed at addressing newborn mortality. The initial progress (4.29/1,000LB) made in 2014 where iNMR declined by 28% from the 2013 baseline of 5.93/1,000LB has been eroded over the years.

Figure 20 Trend of Institutional Neonatal Mortality Rate



Apart from the Western and Upper West regions which improved their iNMR to 4.37/1,000 LB and 5.52/1,000 LB respectively, all other regions deteriorated further with Ashanti region recording the worst performance at 14/1,000 LB in 2017 up from 5/1,000 LB in 2016. Again, while Upper West and Western regions have consistently improved their iNMR, the other regions recorded contrary performances as depicted in Figure 23 below.

Figure 21 Institutional Neonatal Mortality Rate per 100,000 Live Birth by Region, 2013 to 2017



It appears all the interventions employed to improve newborn health has not yielded the desired outcomes from 2014 to 2017. The interventions included the implementation of the Millennium Accelerated Framework for Maternal Mortality (MAF) Strategy, implementation of the newborn strategy, capacity building for staff across all levels, procurement and distribution of equipment and other logistics. In view of the non attainment of the desired outcomes despite the implementation of these interventions, there is a need to focus on quality issues, staff attitude, monitoring and supervision.

3.5.3 Institutional Maternal Mortality

The institutional Maternal Mortality Ratio (iMMR) for 2017 improved slightly (2.6%) from 151/100,000 LB in 2016 to 147/100,000 LB. This performance was far below the annual target of less than 135/100,000 LB. The 2017 performance of 147/100,000 LB represent only 4.7% improvement relative to the last medium term (2014 to 2017) baseline iMMR of 154.6/100,000 LB.

Figure 22 Trend of institutional Maternal Mortality Rate and Targets, 2013 to 2017

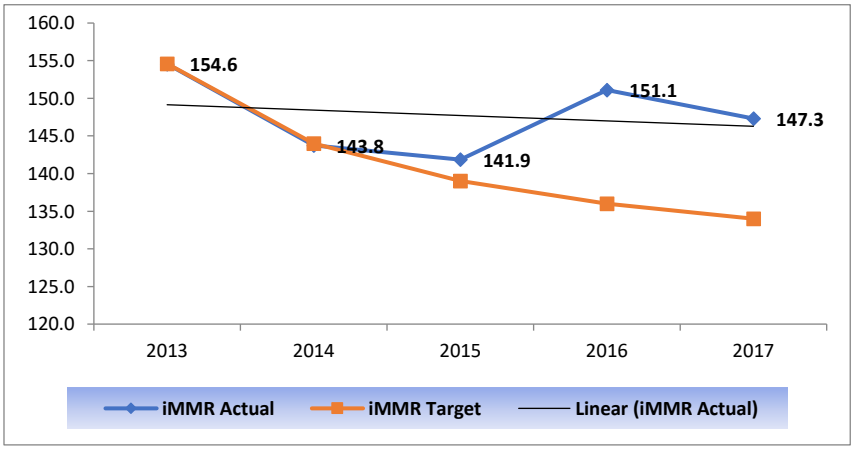
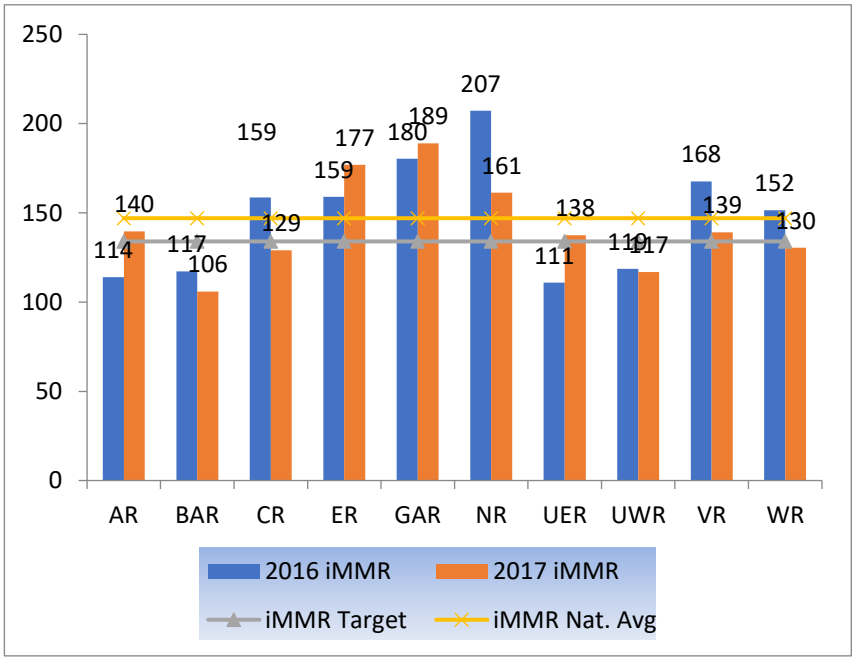


Figure 24 shows the trend of iMMR relative to the iMMR targets from 2013 to 2017. The 2017 institutional Maternal Mortality Ratio relative to 2016 performance improved in six regions while Ashanti, Eastern, Greater Accra and Upper East regions recorded deterioration. Notably among them is Eastern region which recorded a significantly high rate in 2017. Four regions - Brong Ahafo, Upper West, Central and Western regions - performed well by attaining the medium term target of less than 135/100,000 LB. Table 20 and Figure 25 below show the regional variations in iMMR performance for the periods under reviews.

Table 17 Institutional Maternal Mortality per 100,000 Live Births by Region, 2013 to 2017

Year	AR	BAR	CR	ER	GAR	NR	UER	UWR	VR	WR	Ghana
2013	125	138	122	200	198	174	108	193	161	153	**154.6**
2014	115	134	105	175	185	108	139	161	179	149	**143.8**
2015	136	131	108	176	177	144	90	156	134	125	**141.9**
2016	114	117	159	159	180	207	111	119	168	152	**151.1**
2017	140	106	129	177	189	161	138	117	139	130	**147.3**

Figure 23 Institutional Maternal Mortality per 100,000 Live Births by Region, 2016 to 2017

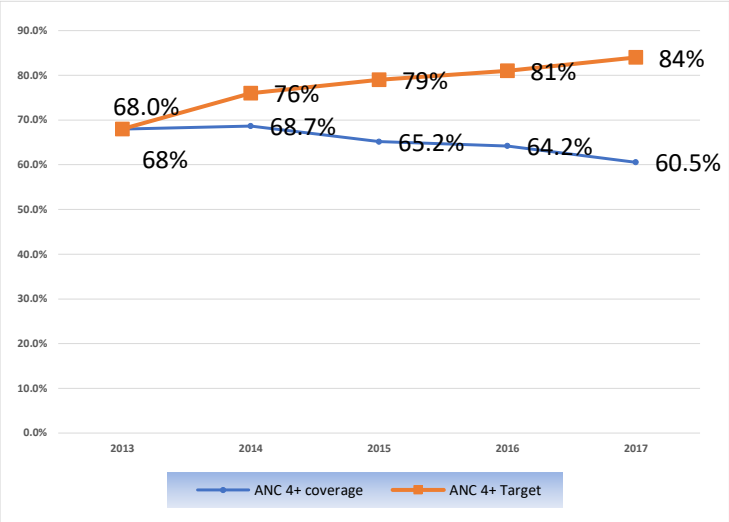


The national performance fell short of desired outcomes despite a lot of investment in this area. There were major implementation challenges which may have affected implementation outcomes. Key challenges identified include delayed reimbursement from the NHIA which resulted in unapproved charges. This may have influenced access to services particularly by pregnant women under the free maternal health initiative.

3.5.4 Ante Natal Care Coverage

Figure 24 ANC Coverage

Increased demands for various packages of items from expectant women purported to be required before delivery in some health facilities may have influenced clients' decision to attend facilities on time. Other challenges identified include demand for advance payment for blood and blood products and fees for diagnostics and routine medications for ANC clients. Although these are bundled in the NHIS tariff they may also have influenced client behaviour.



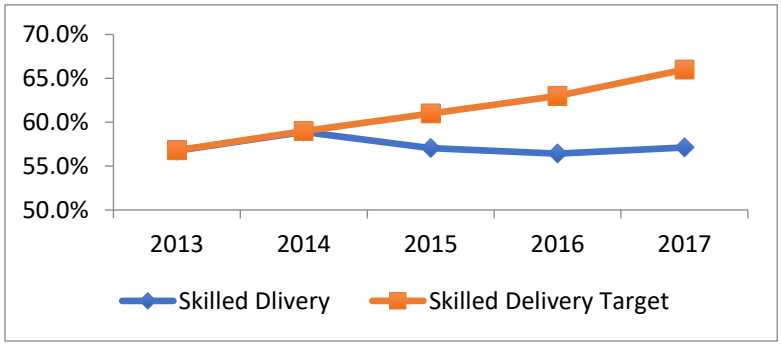
The coverage for pre-natal services for expectant women is increasing with more than 50% of the women making more than four visits however, the quality needs to be improved.

There are many maternal deaths with issues that ought to be detected earlier for better health outcomes. The policy of having all pregnant women to visit antenatal clinics at least four times during the course of their pregnancy is meant to keep track of the development of the foetus and any other health conditions that the mother may have. The objective is to identify and manage such conditions effectively and timely to prevent and or minimize catastrophe and ensure better health outcomes for both mother and baby.

This policy pre-supposes a good spread of antenatal services to allow easier access to pregnant women. This laudable policy is becoming difficult to achieve with coverage data declining consistently over the past five years. With the increased production and posting of midwives to the operational levels, one would expect antenatal coverage to improve. Appropriate distribution to areas where they are needed most has not been pursued with the urgency that it deserves. Low contact with pregnant women could impact directly on skilled delivery coverage and maternal mortality. The Figure 23 illustrates the declining performance for ANC 4+ visits.

3.5.5 Skilled Delivery coverage 2018

Figure 25 Trend of Skilled Delivery coverage, 2013 to 2017



Skilled Delivery rate has stagnated between a coverage of 56% and 58% within the period with a marginal gain of 1.2% from 56.4% in 2016 to 57.1% in 2017. But for Eastern and Greater Accra, all regions recorded marginal gains.

Upper East and Upper West regions were the highest performing for skilled delivery at 75.5% and 70.9% respectively,

while Volta region still recorded the least (46.3%) and remained the only region with a coverage below 50%. The details of sector performance on skilled delivery are shown in Figure 27 and Table 28 below.

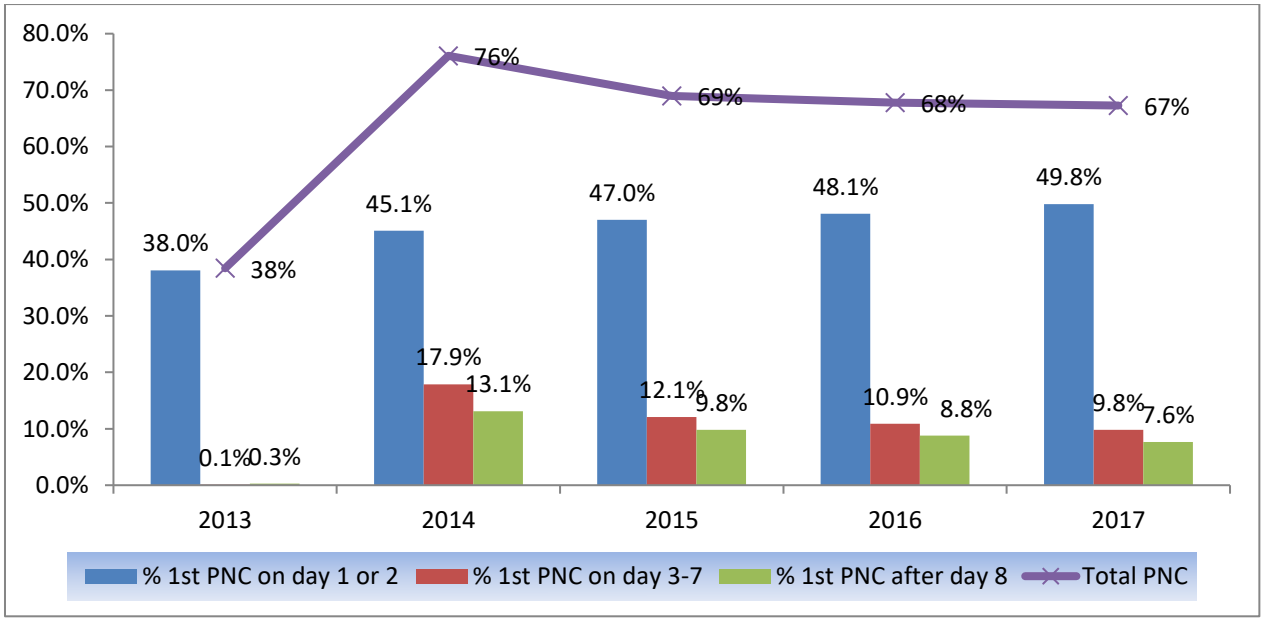
Table 18 Skilled Delivery Coverage by Region, 2013 to 2014

YEAR	AR	BAR	CR	ER	GAR	NR	UER	UWR	VR	WR	Ghana
2013	56.9%	66.5%	59.0%	53.9%	58.1%	51.8%	68.4%	59.3%	44.5%	56.3%	56.8%
2014	55.6%	67.1%	61.8%	55.4%	61.5%	55.0%	74.4%	64.6%	46.4%	61.2%	58.9%
2015	54.1%	63.6%	59.4%	52.1%	60.9%	53.8%	74.8%	63.1%	44.7%	58.3%	57.0%
2016	52.8%	62.0%	57.2%	52.2%	58.6%	58.0%	74.8%	68.7%	44.3%	56.1%	56.4%
2017	53.2%	63.2%	58.7%	51.0%	55.1%	64.1%	75.5%	70.9%	46.3%	58.7%	57.1%

3.5.6 Post-Natal Care Coverage

First post-natal care coverage has consistently increased over the period by 31.1% from 38.0% in 2013 to 49.8% in 2017. Total PNC coverage however declined by 12% from a total coverage of 76% in 2014 to 67% in 2017 as depicted in Figure 28.

Figure 26 Post-Natal Care Coverage, 2013 to 2017



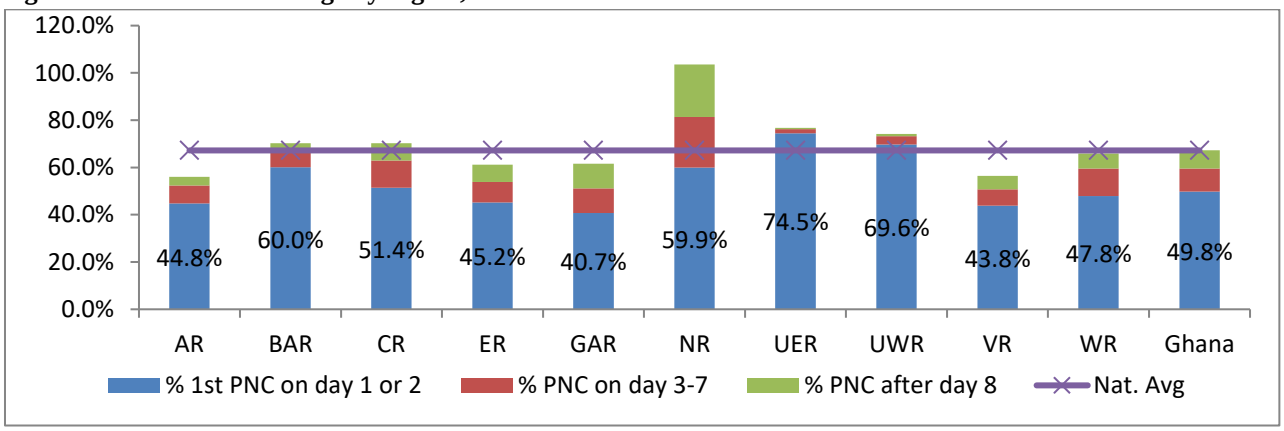
There are huge variations in 1st PNC coverage of the regional performances with the highest performance in Upper East region (74.5%) and the least in Volta region (43.8%). Northern region has attained a total PNC coverage of 103.6% in 2017. Ashanti, Greater Accra, Western and Volta regions have consistently recorded PNC coverage lower than 50% even though they showed a minimal upward trend. The poor performance of the Ashanti and Greater Accra

region could be attributed to the large number of private facilities that do not report. Table 22 and Figure 29 show regional variations for PNC coverage.

Table 19 Coverage for 1st Post-natal Care on day 1 and 2 by region, 2013 to 2017

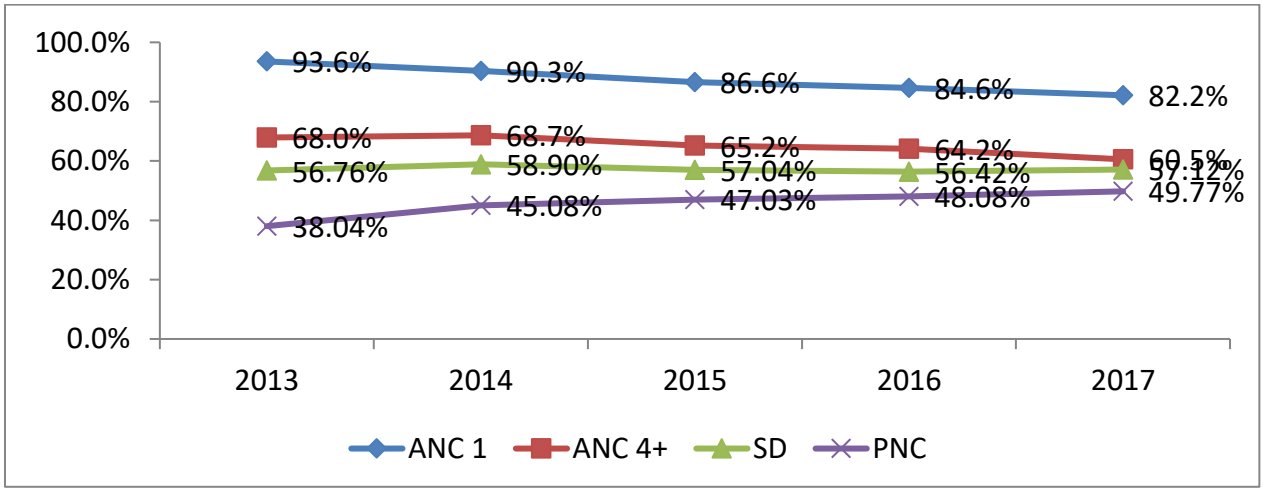
Year	AR	BAR	CR	ER	GAR	NR	UER	UWR	VR	WR	Ghana
2013	23.8%	35.8%	30.9%	50.0%	32.5%	54.6%	69.0%	64.4%	36.0%	35.3%	38.0%
2014	36.2%	47.6%	36.2%	52.6%	40.0%	58.9%	75.2%	68.5%	41.7%	38.2%	45.1%
2015	39.0%	54.3%	47.9%	48.0%	43.6%	52.8%	75.1%	65.2%	41.7%	41.9%	47.0%
2016	41.0%	58.7%	48.8%	47.0%	42.3%	55.1%	75.2%	69.7%	41.3%	43.8%	48.1%
2017	44.8%	60.0%	51.4%	45.2%	40.7%	59.9%	74.5%	69.6%	43.8%	47.8%	49.8%

Figure 27 Total PNC coverage by region, 2017



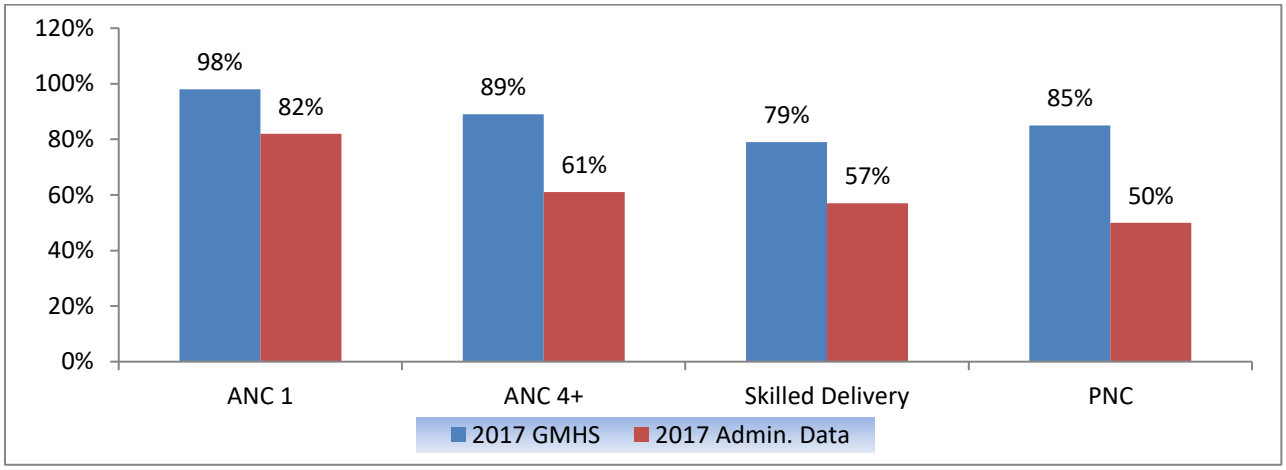
There is growing concern about the inability of the health facilities to retain pregnant women for maternal health services from pre-natal to post-natal period. There are higher encounters with health services at 1st ante-natal (82%) which declined to 60.5% (ANC 4+) and further to 49.8% for PNC. While there are clear data capturing and reporting issues that required urgent attention, there is also indication that some of the policy initiatives to address this challenge are poorly implemented. For instance, the policy that all women delivering in health facilities should receive their 1st PNC between 6 - 48 hours if implemented properly would have closed the gap between facility delivery and 1st PNC. Figure 30 demonstrates the variations in these four maternal health service indicators.

Figure 28 Variations in Some Maternal Health service indicators



Contrary to the performance using administrative data for the maternal health indicators, survey data (Ghana Demographic and Health Survey- GDHS, Multiple Indicator Cluster Survey - MICS and Ghana Maternal Health Services - GMHS) consistently showed high coverage for most of the indicators. The preliminary report of the 2017 GMHS shows 97.6% of all expectant mothers received antenatal care from skilled providers, 89.3% of expectant women received four or more antenatal care, 79.4% of deliveries by skilled providers and 85.3% [1]of new mothers received postnatal care within first two days after birth. It is important to note that the postnatal care included those provided by Traditional Birth Attendants (TBA). Figure 31, below show the relationship between the performance of some maternal health indicators using the survey and administrative data.

Figure 29 Performance Some Maternal Health Indicators from Survey and Admin. Data



Source: MoH and 2017 GMHS

Caution must however be exercised in comparing the two data sources since the input varied with regard to the reference period. While the administrative data accounted for services or events occurring in the year 2017, the survey data accounted for the most recent birth to

[1] Includes women who received PNC from a Doctor, midwife, nurse, CHO or TBA

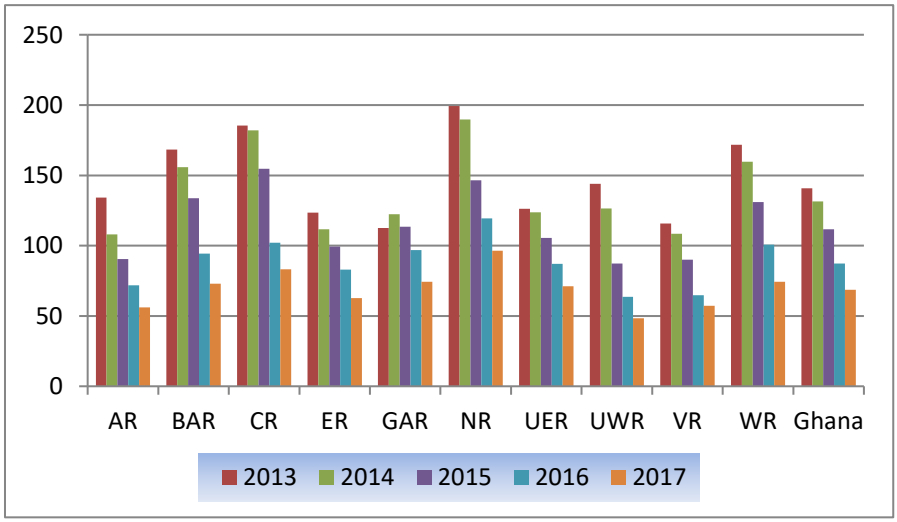
women aged 15-49 in the 5 years preceding the survey. This implied that if the most recent birth to any woman within the sample was in 2015, the survey would account for the ANC, ANC4+, SD and PNC with respect to this 2015 birth to the woman.

Training, recruitment and retention of midwives were some the critical interventions envisaged to positively influence the health sector performance in maternal and child health. During the medium term ending in 2017, huge investments were made to increase the number of midwives in the sector with a target of a midwife to Women in Fertility Age (WIFA) population ratio of 1: 1,250 by end of 2017 from a 2013 baseline ratio of 1: 1,487.

3.5.7 Midwife Productivity Index

The number of midwives increased by 5,372 (128.4%) from 4,185 in 2013 to 9,557 in 2017. The highest recruitment was done in 2017 when 2,255 midwives came on stream representing an increase of 30.9% relative to 2016 total number of midwives. This huge increment in the number of midwives within the past four years has not translated into improved institutional maternal health indicators. Antenatal care and skilled delivery deteriorated within the period under consideration. Figure 32 demonstrates the consistent decline in number of deliveries per midwife.

Figure 30 Number of Deliveries per Midwife per Year by Region, 2013 to 2017



Using the delivery per midwife per annum as productivity index, then the productivity of midwives has significantly deteriorated by 51.3% from 141 deliveries per midwife per annum in 2013 to 68 deliveries per midwife per annum in 2017. Currently, midwives in Northern regions are relatively more productive while those in Upper West regions are the least productive at 96 and 48 deliveries per midwife per annum respectively. There are about 6 deliveries per midwife per month on average nationally. This translates to one (1) delivery per midwife every five days as depicted in Table 23.

Table 20 Midwife Productivity by region, 2017

Region	Total	Total	Deliveries/	Deliveries	No. of	No. of Days to

	skilled Deliveries	Midwives	midwife/year	/midwife/per month	Deliveries/ Midwife/ Per yr	Delivery one pregnant woman
AR	119,313	2,130	56	5	0.16	6
BAR	66,956	917	73	6	0.20	5
CR	62,056	745	83	7	0.23	4
ER	60,789	970	63	5	0.17	6
GAR	106,150	1,430	74	6	0.21	5
NR	75,510	784	96	8	0.27	4
UER	33,964	478	71	6	0.20	5
UWR	22,288	462	48	4	0.13	7
VR	45,507	796	57	5	0.16	6
WR	62,888	845	74	6	0.21	5
Ghana	**655,421**	**9,557**	**69**	**2**	**0.19**	**5**

World Health Organization (WHO) recommends one skilled birth attendant for every 175 pregnant women per annum. Ghana is currently around skill delivery coverage of 60%. Accordingly, if you take 60% of expected deliveries (713,055) in 2017 and assume that a midwife would optimally attend to 105 deliveries per annum (60% of WHO standard), then Ghana required 6,791 midwives to adequately attained to the deliveries seen in 2017. With a total 9,557 midwives in 2017, it implies a surplus of about 2,766 midwives during the period under review. The following tables 24, 25and 26 show the total number of midwives, number of midwives required to cover 60% of deliveries and the midwife gap (deficit or surplus).

Table 21 Total Number of Midwives by Region, 2013 to 2017

Year	AR	BAR	CR	ER	GAR	NR	UER	UWR	VR	WR	Ghana
2013	855	382	298	479	880	273	232	120	342	324	4,185
2014	1,066	426	328	556	884	313	261	152	390	387	4,763
2015	1,274	482	382	600	972	408	311	219	465	458	5,571
2016	1,606	696	593	736	1,132	551	383	331	657	617	7,302
2017	2,130	917	745	970	1,430	784	478	462	796	845	9,557

Table 22 Number of Midwives Required Cover 60% of Expected Deliveries by Regions, 2013 to 2017

Year	AR	BAR	CR	ER	GAR	NR	UER	UWR	VR	WR	Ghana
2013	1,184	566	552	641	1,004	617	248	170	521	576	6,079
2014	1,216	579	569	654	1,036	635	251	173	534	588	6,234
2015	1,248	605	604	668	1,068	648	255	175	548	633	6,453
2016	1,282	606	604	682	1,101	673	257	180	561	612	6,557
2017	1,314	622	620	708	1,128	690	278	185	569	675	6,791

Table 23 Midwifes gap (Difference between Table 24and Table 25) by Region, 2013 to 2017

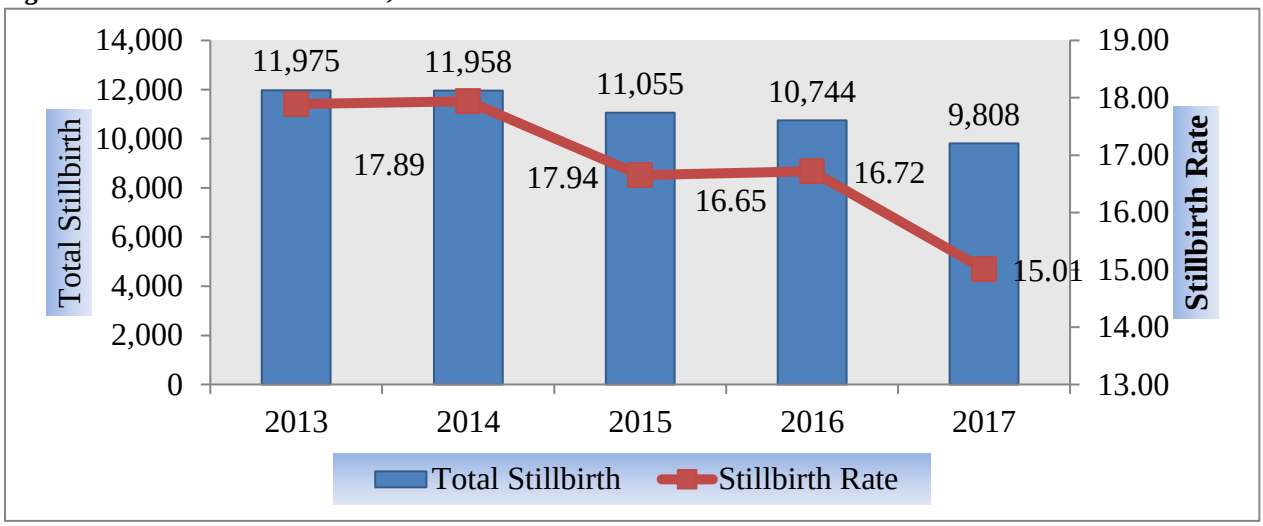
Year	AR	BAR	CR	ER	GAR	NR	UER	UWR	VR	WR	Ghana
2013	329	184	254	162	124	344	16	50	179	252	1,894
2014	150	153	241	98	152	322	-10	21	144	201	1,471
2015	-26	123	222	68	96	240	-56	-44	83	175	882

2016	-324	-90	11	-54	-31	122	-126	-151	-96	-5	-745
2017	-816	-295	-125	-262	-302	-94	-200	-277	-227	-170	-2,766

3.5.8 Still Birth Rate

Still birth has declined by 8.7% from 10,744 in 2016 to 9,808 in 2017. This represents a reduction of 10.2% in stillbirth rate from about 17 per 1,000 live births in 2016 to 15 per 1,000 live births in 2017. The decline in stillbirths has been gradual and consistent during the medium term period under review. The total stillbirths decreased by 18% (2,167 stillborns) from 11,975 in 2013 to 9,808 in 2017 as depicted in Figure 33.

Figure 31 Trend of Stillbirth Rate, 2013 to 2017



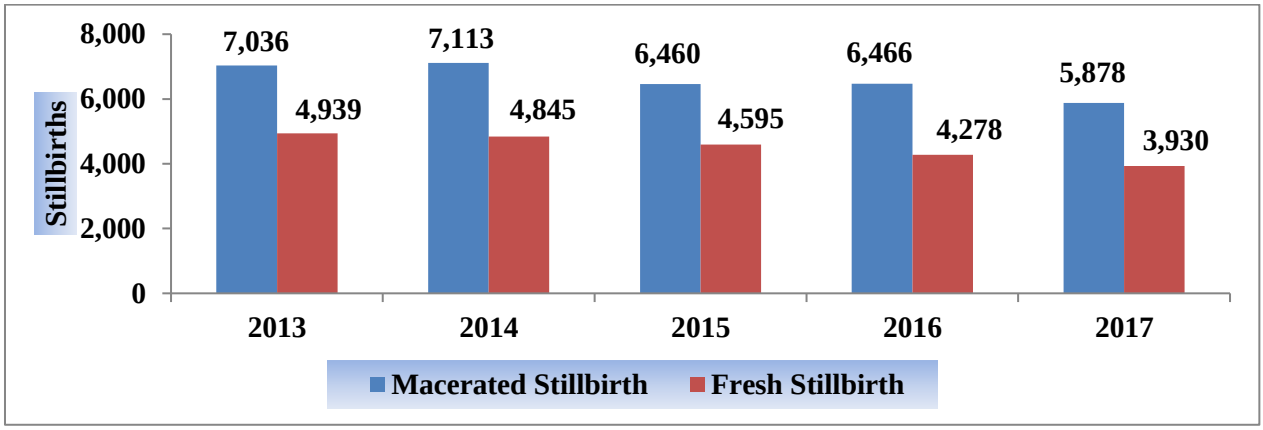
Stillbirth rates across the regions and at the national level showed similar trends. While 8 regions recorded a decline in 2017 performance relative to 2016 stillbirths, Ashanti region deteriorated from about 14 per 1,000 live births to 15 per 1,000 live births. Upper West region also stagnated in 2017 stillbirth rate performance compared to 2016 at about 14 per 1,000 live births. Table 34 show the regional performance from 2013 to 2017.

Table 24 Stillbirth Rate by region, 2013 to 2017

Year	AR	BAR	CR	ER	GAR	NR	UER	UWR	VR	WR	GH
2013	12.48	18.39	21.08	18.80	18.19	21.93	16.60	20.02	19.45	22.92	17.89
2014	14.83	17.18	19.36	16.26	19.14	21.33	15.80	18.66	18.43	20.25	17.94
2015	15.10	17.20	16.70	17.15	15.32	18.53	15.28	15.74	17.47	19.70	16.65
2016	14.40	15.45	18.60	15.88	16.96	18.95	15.67	13.85	19.20	18.36	16.72
2017	15.36	13.90	14.20	14.35	15.30	16.44	13.39	13.95	14.95	16.04	15.01

Macerated stillbirth still constitutes a higher (60%) proportion of stillbirths and this calls for the need to review the quality and coverage of antenatal care services. Although contact is made with larger (82%, 2017) number of pregnant women, during the course of their pregnancy, large drop-out rate means their conditions cannot be tracked and managed appropriately resulting in the relatively high macerated stillbirths. Figure 34 compares macerated and fresh stillbirth for the period 2013 to 2017.

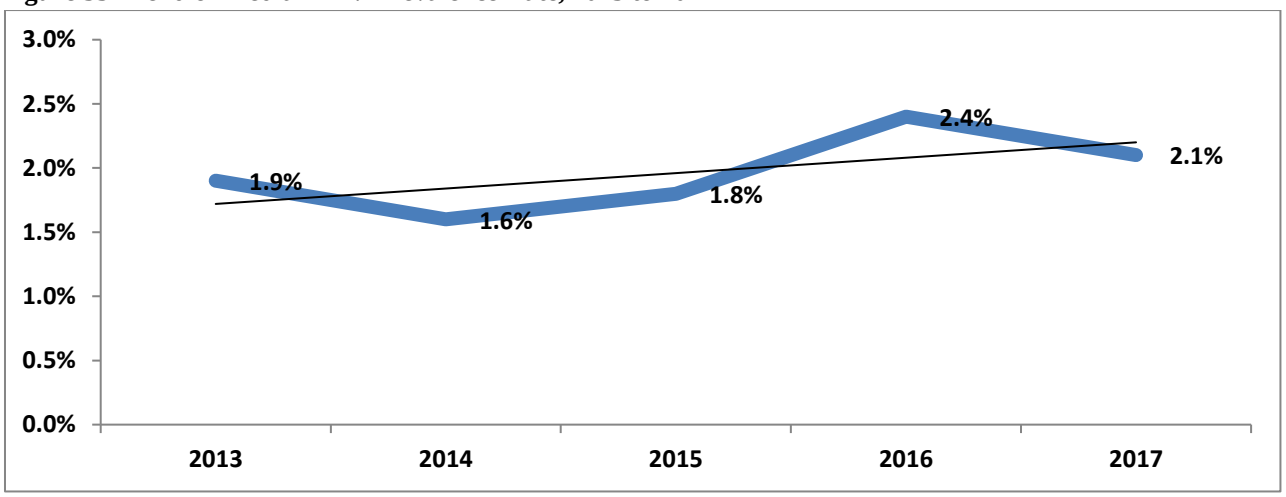
Figure 32 Macerated and Fresh Stillbirths, 2017 to 2017



3.5.8 HIV and AIDS

The National AIDS/STI Control Program (NACP) continue to lead the Health Sector response to fight the HIV and AIDS epidemic with the main objective to reduce the incidence of HIV infection among the population and reverse the recent rising trends. In 2017, the median HIV prevalence rate dropped by 12.5% from 2.4% in 2016 to 2.1%. During the period 2013 to 2017, the prevalence rate showed a rising trend. It declined in 2014 to 1.6% and then started rising until it peaked at 2.4% in 2016 and finally dropped to 2.1% in 2017 as depicted in Figure 35.

Figure 33 Trend of Median HIV Prevalence Rate, 2013 to 2017



One of the key strategies to the national HIV and AIDS response is early detection and management. People are encouraged to go through HIV counseling and testing to know their status. The total number of persons who completed the counseling and testing process increased from 798,763 in 2014 to 1,271,347 in 2017. Table 28 shows the categories of persons who were counseled and tested in 2017.

Table 25 Category of Persons Who went through Counseling and Testing, 2017

Region	Men tested	Men Positive	Non-Pregnant Women tested	Non-Pregnant Positive	Pregnant Women Tested	Pregnant Women Positive	Total Tested	Total Positive
AR	22,907	2,695	31,182	5,588	141,237	2,719	195,326	11,002
BAR	21,836	1,647	37,086	3,657	84,693	1,800	143,615	7,104
CR	13,765	1,084	22,895	2,113	73,706	1,464	110,366	4,661
ER	24,328	2,129	34,095	4,108	79,452	2,090	137,875	8,327
GAR	34,186	3,279	49,463	5,845	136,901	2,956	220,550	12,080
NR	5,182	354	10,547	941	102,211	1,600	117,940	2,895
ER	5,558	289	7,914	543	36,505	253	49,977	1,085
UWR	8,735	250	13,645	422	24,708	386	47,088	1,058
VR	30,328	1,455	50,638	3,349	65,486	888	146,452	5,692
WR	12,852	1,240	14,014	2,443	75,292	1,673	102,158	5,356
Total	**179,677**	**14,422**	**271,479**	**29,009**	**820,191**	**15,829**	**1,271,347**	**59,260**
% +ve		**8.0%**		**10.7%**		**1.9%**		**4.7%**

3.5.10 Elimination of Mother to Child Transmission of HIV (eMTCT)

Out of 15,829 pregnant women who were tested HIV positive, 67% (10,568) received Anti-Retroviral (ARV) treatment for the elimination of Mother to Child Transmission (eMTCT) of HIV. This represents a significant (32%) improvement in the proportion of HIV positive pregnant women who received ARVs for eMTCT. Pregnant women in Upper West, Northern and Western regions are less likely to receive ARVs for eMTCT. Volta and Upper East regions attained the higest coverage for the eMTCT at 90% and 87% respectively. Figure 36 and Table 29 showed the proportion of pregnant women who received ARVs for eMTCT and eMTCT implementation by regions

Figure 34 Proportion of Pregnant Women Who Received ARVs for eMTCT, 2013 to 2017

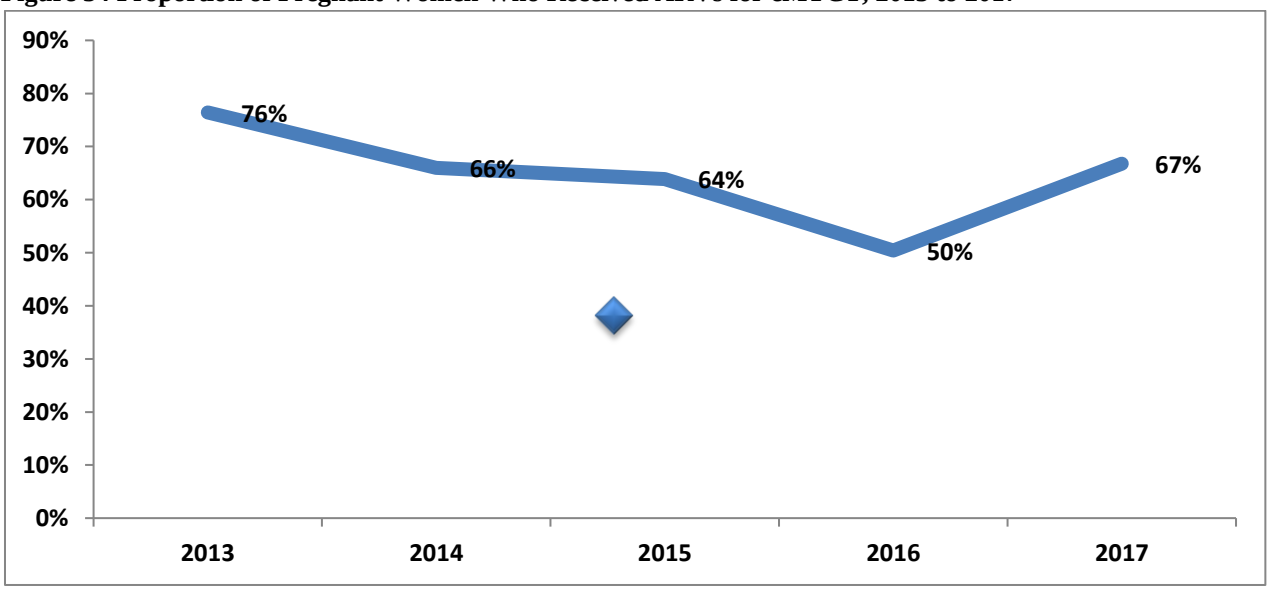


Table 26 Proportion of Pregnant Women Who Received ARVs for PMTCT by Regions, 2017

Region	Regional Targets for Testing	No. Tested	Regional Coverage	Number Positive	No. Given ARVs	Proportion Given ARVs
AR	226,479	141,237	62%	2,719	2,069	76%
BAR	106,955	84,693	79%	1,800	1,395	78%
CR	106,774	73,706	69%	1,464	729	50%
ER	120,428	79,452	66%	2,090	1,533	73%
GAR	194,443	136,901	70%	2,956	2,331	79%
NR	118,841	102,211	86%	1,600	569	36%
UER	45,393	36,505	80%	253	219	87%
UWR	31,728	24,708	78%	386	121	31%
VR	99,170	65,486	66%	888	800	90%
WR	108,053	75,292	70%	1,673	802	48%
Total	**1,158,263**	**820,191**	**71%**	**15,829**	**10,568**	**67%**

3.5.11 HIV Treatment for Newborns

A total of 8,082 infants who were HIV exposed due to their mothers' HIV positive status were screened using DNA PCR as part of the national strategy for the eMTCT through Early Infant Diagnosis (EID). Six hundred and forty-three (643) representing 8% of infants screened were positive at 18 months. This translates to 92% of infant who were exposed to HIV positive mothers but were successfully protected for HIV infection at 18 months. The proportion of babies born to HIV positive mothers who tested negative at age 18 months was 92% in 2017 compared with 88% in 2016. Western region recorded the highest of 94% of infants who remain HIV negative at age 18 months while Central and Eastern regions recorded the least at 89% HIV negative infants as depicted in the Table 30

Table 27 Early Infant Diagnosis Implementation by Region, 2017

Region	Target	Actual Exposed Babies	Total Screened	Coverage of target	Coverage of exposed babies	No. +ve	% +ve
AR	3,017	1173	957	32%	82%	79	8%
BAR	2,801	1065	719	26%	68%	38	5%
CR	1,508	402	301	20%	75%	32	11%
ER	3,987	868	2,005	50%	231%	221	11%
GAR	3,340	1521	1,515	45%	100%	153	10%
NR	646	191	121	19%	63%	10	8%
UER	1,508	106	315	21%	297%	19	6%
UWR	1,401	85	222	16%	261%	14	6%
VR	2,370	489	312	13%	64%	16	5%
WR	2,586	509	1,615	62%	317%	61	4%
TOTAL	**23,165**	**6409**	**8,082**	**35%**	126%	**643**	**8%**

3.5.12 Childhood Immunization

The national immunization coverage continues to improve over the years using penta 3 as proxy, however, there are still significant regional and district variations. The penta 3

coverage for 2017 was 97.8% compared with 94.9% in 2016. Central region had the least performance at 85.9%. With denominator population issues in Northern, Brong Ahafo and Eastern regions, it is important to now start targeting specific districts while sustaining the national coverage. Table 31, shows immunization coverage by regions.

Table 28 Trend of Immunization Coverage by Regions, 2013 to 2017

Year	2013	2014	2015	2016	2017
AR	89.7%	96.2%	96.1%	104.9%	95.8%
BAR	93.4%	98.5%	97.7%	101.4%	108.3%
CR	84.4%	88.6%	89.0%	86.7%	85.9%
ER	86.1%	88.3%	94.1%	102.1%	102.5%
GAR	76.3%	76.4%	85.4%	83.0%	93.4%
NR	113.8%	117.0%	112.6%	121.9%	124.7%
UER	86.8%	90.3%	88.2%	84.5%	85.2%
UWR	81.0%	82.6%	81.0%	82.5%	84.1%
VR	76.8%	84.6%	86.4%	84.1%	88.3%
WR	92.6%	97.4%	90.2%	91.4%	94.9%
Ghana	88.2%	92.2%	93.2%	96.2%	97.8%

3.5.13 Tuberculosis Treatment

Tuberculosis treatment success rate has improved marginally from 86% in 2016 to 87.2% in 2017. The falling Tb case notification rate has been of concern over the years. The case notification rate for TB fell from 64.4% in 2009 to 47.9% in 2017. There is the need to look at new strategies of identifying the TB cases. The introduction of Gene Xpert to improve diagnosis of TB is one of the new strategies. Commitment from health workers is key since the technology alone is not enough.

3.6.0 Intensifying Prevention and Control of NCDs and Other CDs

3.6.1 Non Polio AFP Rate

As part of the strategy of ensuring that Ghana maintains its polio free status and prepare adequately for certification as being polio free, surveillance for polio was maintained. The target is to detect at least 2% non-AFP polio cases per 100,000 children aged less than 15 years annually from stool samples collected with a stool adequacy of 80% in more than 80% of all districts in the country. No new polio cases were detected during the year. The AFP surveillance annualized non- Polio AFP rate was 4.28 in 2017 compared to 3.5 in 2016.