Republic of Liberia

Ministry of Health

Joint Annual Health Sector Review Report 2016

National Health Sector Investment Plan for

Building a Resilient Health System

November 2016

Foreword

It is my pleasure to present the health sector FY 2015/16 Joint Annual Performance Review Report, documenting the first year of implementing the National Investment Plan for building a resilient health system (2015-2021). This report represents our commitment to continue the path we embarked on a year ago. In 2015, the Ministry of Health launched the post Ebola recovery and investment plan that was formulated through a consultative and participatory planning process. Over the past one-year, many individuals and organizations, from across the country and outside Liberia, have generously contributed to the implementation of our plan and we gratefully acknowledge all their contributions.

With our combined efforts and resources, we have succeeded in improving facility-based deliveries and the number of skilled birth attendants, diagnosis of six priority diseases of public health concerns and Infection prevention and control at health facility level. However, the task that lies ahead is enormous and requires concerted efforts, sustained investment for the health systems, strong collaboration and partnership to continue on this trajectory. We cannot be contented with the progress we have made when too many people continue to struggle to improve their health, suffer from treatable conditions, die from preventable diseases and remain severely vulnerable.

Quality health care is a key determinant of human development and much more remains to be done to achieve resiliency in the health sector following the Ebola outbreak that exposed our vulnerabilities and devastated the sector. The Ministry of Health commits to redouble her efforts to achieve this vision. We invite our donors, partners and other government sectors to join us as we continue to strive towards the ultimate goal of achieving “Universal Health Coverage for all our citizens”.

This performance report outlines the major achievements, challenges and best practices in the health sector during the fiscal year 2015/16.

Bernice T. Dahn, MD
Minister
Ministry of Health

Acknowledgement

The Ministry of Health expresses its appreciation to the many organizations and individuals that provided assistance and support in planning, developing and finalizing the health sector joint annual performance report. Special thanks is extended to Assistant Minister Chea Sanford Wesseh, who spearheaded the process of the performance report development. His leadership, technical expertise and guidance was remarkable throughout the process.

The Ministry will forever be grateful for the technical inputs and comments received from our health partners. Special thanks and appreciation goes to the following individuals and partners: Dr. Mesfin G. Zbleo, Dr. Alex Gasasira and Mr. Eric Johnson of WHO Liberia respectively; Dr. Garfee Williams of Collaborative Support for Health (CSH); Dr. Yulia Widiali of UNICEF, Dr. Moses Galakpai, and Professor Ulrich Laaser of EPOS for their relentless efforts to make this exercise happen.

The Ministry of Health is grateful to many individuals and partner organizations at the central, county and health facility levels that have provided their views on the performance of the sector for the fiscal year 2015/16. They have share with us their valuable time and knowledge to assist the team understands the performance and challenges in the health sector.

Finally, I wish to express our gratitude and appreciation for the technical inputs of the following MOH staff: Mrs. Sophie Parwon, Coordinator of Global Fund Programs; Miatta Gbanyan, Pool Fund Manager; Dr. Caullua Jabbeh-Howe, Director of County Health Services; Luke L. Bawo, Coordinator of HIS, M&E and Research; C. Benedic Harris, Assistant Minister for Policy and Planning; Mr. George P. Jacobs, Director of M&E; Mr. Stephen M. Gbanyan, Director of Health Information System; Mr. Mike Mulbah, Assistant Director of M&E; Mr. Thomas Nagbe, Director Emergency Preparedness and Response; Rev. Tijli Tyee, Chief Pharmacist; Rev. John Sumo, Director of Health Promotion; Mr. Tamba Boima, Director of Community Health Services, James F. Beyan, Director of Human Resources, Vera Musah, head of performance based financing, Roland Kesselly, Ernest Gonyon and Melanie Graser of the health financing unit for their important role played completion of this report.

Yah M. Zolia
Deputy Minister for Planning

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ACT	Artemisinin-based Combination Therapy
AFP	Acute Flaccid Paralysis
AIDS	Acquired Immune Deficiency Syndrome
ANC	Ante-Natal Care
ARI	Acute Respiratory Infection
ART	Anti-Retroviral Therapy
BEmONC	Basic Emergency Obstetric and Newborn Care
CEmONC	Comprehensive Emergency Obstetric and Newborn Care
CHT	County Health Team
CHV	Community Health Volunteer
CM	Certified Midwife
DHIS	District Health Information System
EmOC	Emergency Obstetric Care
EmONC	Emergency Obstetric and Neonatal Care
EPHS	Essential Package of Health Services
EPI	Expanded Program on Immunization
GAVI	Global Alliance Vaccines Initiative
GFATM	Global Fund for AIDS, Tuberculosis and Malaria
GOL	Government of Liberia
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HR	Human Resources
HRIS	Human Resources Information System
HSCC	Health Sector Coordination Committee
HSPF	Health Sector Pool Fund
IDSR	Integrated Disease Surveillance & Response
IEC	Information, Education, Communication
iHRIS	Integrated Human Resource Information System
IPT	Intermittent Preventive Treatment
LISGIS	Liberia Institute for Statistics and Geo-Information Services
LMHRA	Liberia Medicines and Health Products Regulatory Authority
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MDGs	Millennium Development Goals
MD	Medical Doctor
MOE	Ministry of Education
MFDP	Ministry of Finance and Development Planning
MOH	Ministry of Health
NCD	Non-Communicable Diseases
NDS	National Drug Service
NGO	Non Governmental Organization
NHA	National Health Account
NMCP	National Malaria Control Program
NTD	Neglected Tropical Diseases

OFM	Office of Financial Management
OPD	Outpatient Department
PA	Physician Assistant
PMTCT	Prevention of Mother-to-Child Transmission
PNC	Post-Natal Care
TB	Tuberculosis
UNICEF	United Nations Children's Fund
US$	United States Dollar
USAID	United States Agency for International Development
WB	World Bank
WHO	World Health Organization

Executive Summary

The 2016 Joint annual review exercise appraised the overall implementation of the phase one of the investment plan. The progress made in implementing various components during the fiscal year 2015/16, the challenges encountered and the experiences gained. According to the scope of work, the joint review monitoring is to focus on three strategic objectives (improve access to health services, improve quality of health services and improve health infrastructure) in relation to the implementation of maternal and child health initiatives and targets.

The assessment depended on primary and secondary sources of information. The main methods used to reach some of the conclusions were based on document reviews, and conducting semi-structured interviews at all levels of the system (central, counties, health facilities and communities).

Health service delivery and quality of care

There is strong political commitment to ensure accelerated expansion of (primary) health care creating favorable environment for expanding maternal, child and newborn health services, including deployment of contracted teams to transfer skills to health professionals working in remote and urban areas; accelerated midwifery training, training of Community Health Assistant on clean and safe delivery and efforts to ensure availability of FP commodities are expressions of these commitment. The one-year performance showed that there is variation in meeting the 2015/16 fiscal year annual targets across counties, however;

- The 2016 health facilities assessment showed that general service readiness index was 59% with all counties ranging between 53% and 65%. Basic amenities, equipment and standard precautions were frequently available across all counties but diagnostics and essential medicines were less available notably in; Bong (58%), Lofa (57%), River Gee (56%), Nimba (55%), Gbarpolu (55%), Bassa (53%), Sinoe (53%), and Maryland (53%) which had general service index below the national average (59%).
- Major disparity in the General service readiness index occurred between hospitals (77%) and clinics (57%), however, there was minimal difference between hospitals and health centers (70%). Public health facilities had the least general service index (57%) while, the highest was faith based/mission facilities (64%) followed closely by private for profit (63%) and Non-governmental facilities (60%). A 5% difference was also observed between the availability and readiness of the facilities in rural (57%) and urban (62%).
- Overall in Liberia, 73% of the health facilities (N=583) provide family planning services and 41% of them have at least 1 trained staff in the past two years preceding the survey and had guidelines to provide family planning services.
- Majority of the health facilities (92%) had basic equipment and medicines and commodities for family planning services.
- In the provision of ANC services (N=604), at least 40% of the health facilities had at least one tracer item (readiness score), though availability of basic equipment was available in 91% of the health facilities. Availability of guidelines and medicines and commodities for antenatal care was also low with only 40% of health facilities indicating available in stock.

- In Liberia, though most of the health facilities (N=602) had basic obstetric care services available, the readiness index for service provision was only 65%, meaning that almost one-third of health facilities in Liberia are not ready and access to the service by women needing this type of health care is low. Furthermore, the assessment observed that equipment and staff were major contributory factors for the low readiness index for the BEmOC services. In contrast, medicines and commodities for these services indicated a higher availability in 89% of the health facilities.
- The assessment established that on average, 57% of hospitals and health centers (N=48) in Liberia had at least one tracer item to provide comprehensive obstetric care services. However, in contrast, guidelines and trained staff were less available (49%), compared to health commodities for provision of CEmOC available in stock in 65% of the health facilities.
- Child preventive and curative care services had a readiness index of 67%, meaning that two thirds of the health facilities in Liberia (N=647) had at least one tracer item to provide child preventive and curative care services while one third of facilities had none of the tracer items necessary for providing this service. While availability of essential equipment for this specific service remains one of the challenges with two thirds (66%), the situation was worse when it comes to guidelines and staff training which had the least available items as follows: Guidelines (26%), health facilities and staff trained in growth monitoring at least in the past two years preceding the survey were in 9% of the health facilities respectively. More than three quarter of the health facilities had medicines and commodities (76%).
- Provision of adolescent health services readiness index (N=569) was 34%, more than two thirds of the health facilities had equipment, medicines and commodities required to provide the services. The least availability was guidelines and staff with recent training in adolescent health.
- Some of the key success factors for the improvements made have been the systems strengthening and coordination efforts at all levels, the priority given to maternal and child health in the health sector and the safe motherhood campaign initiated.

Disease prevention and control programs: CDC- (HIV/AIDS, TB, Malaria), NCD, and NTDs

Services for HIV/AIDS are of major concern across all counties as counseling and testing services were available in half of the health facilities (52%), with 66% of them (N=334) having at least one tracer item necessary to provide HIV/AIDS services. HIV care and support services available in only 16% of health facilities with wide variation between counties ranging from 1% to 51%. Across all counties, 55% of the health facilities (N=115) had at least one tracer item essential for the provision of services.

Prescription and ARV treatment was available in 12% of the health facilities and only 13% (N=94) of these facilities had at least one tracer item necessary to provide ART services. While 61% of the health facilities provided PMTC services, only 37% (N= 371) were ready to provide the services at the time of the survey. Majority of health facilities in Liberia (94%) had STI services available but only 55% (N=648) had at least one tracer item to facilitate service delivery in STI.

Tuberculosis was one of the services that were rarely provided by majority of facilities. Only 21% of health facilities were offering the services. Overall, 34% of (N=150) health facilities had at least one tracer item necessary to provide Tuberculosis services.

Malaria services were mostly available in health facilities in Liberia as was provided by 97% of the health facilities and across all the counties. During the SARA assessment, the mean availability of tracer items needed for service delivery for malaria treatment was 60% in all of the health facilities (N=676). However, only 1% of the health facilities had all tracer items.

Non-communicable diseases were major conditions for which services were assessed. Diabetes diagnosis and management was provided in 49% of the health facilities (N=205), Cardiovascular diseases diagnosis and management was provided in 43% of the health facilities in Liberia (N=327), Chronic respiratory disease diagnosis and management was provided in 37% of the health facilities (N=253) and Cervical cancer diagnosis was provided in 4% of health facilities in the country. Comparatively, the assessment established that 56% of hospitals, 20% of health centers and 1% of clinics respectively provided cervix cancer diagnosis.

Equipment for diagnosis and management of NCDs was mostly available in hospitals and health centers across the indicators used as tracer for NCD readiness.

On Neglected Tropical Diseases (NTD), 51% of the secondary health facilities (N=58) provided services, however, only 31% of them (N=59) had at least one tracer item necessary to provide the services with none of the health facilities having all tracer items.

Quality and safety of Care

Quality and safety of health care has attracted attention in response to the current Ebola outbreak and in response to building a resilient people centered health services and systems. To that effect, Liberia in collaboration with its partners has established a unit for quality health management. Policy, strategy and guidelines have been developed and endorsed. Indicators to monitor performance on quality services have also been introduced.

The 2016 health facility assessment (HFA) that used WHO health facility services and quality of care assessment provided important information on the current level of service delivery performance across the country.

The assessment of quality and safety of services delivered by hospitals and health centers within the four priority programs, namely, TB, Malaria, ART and PMTCT are low as indicated by the following key findings:

Quality and safety of ART care: Assessment on ART care in Liberia, established that the quality and safety of ART services delivery by hospitals and health centers in Liberia is low, with a mean percent of 35% of items. While 92% of patients are currently on cotrim prophylaxis, 5.3% of patients receive Isoniazid (INH) preventive treatment. 72% of TB status was recorded and 10.2% of CD4 Viral load were recorded during the survey period.

Quality and safety of TB services**:** Assessment of TB care found that quality and safety of TB services are low with a percentage mean score of 36%; 8% of patients received Cotrim preventive therapy as per national guidelines while 77% HIV test results were recorded and 65% of patients were diagnosed 2 of 3 sputum specimens being positive. The survey further found that 10 out of 240 of all household members of TB patient were screened for TB.

Quality and safety of Malaria care*:* Mean percentage was 30%, an indication of weak quality of malaria interventions. Whereas, 79.2% of suspects were correctly assessed and treated for malaria, only 22.2% of all patients with malaria diagnosed were confirmed through microscopy, therefore, majority of diagnosed patients were not confirmed hence putting malaria treatment in Liberia under question.

PMCTC services**:** Assessment of quality and safety of PMCT care offered to patients established a mean percentage of all PMCTC services of 24%, with

Section One: Introduction

1.1 Background and Context

The Liberia health care delivery system is organized into three tiers. The first level is the primary health care that consists of clinics and the community health program. The secondary level encompasses health centers and county hospitals and the tertiary level are referral hospitals, such as the John F Kennedy Hospital in Monrovia and Jackson F. Doe in Nimba. Theoretically, the county health system is managed by County Health Officers (CHOs), while District Health Officers (DHOs) manage the district health systems.

Liberia, in 2014/15 encountered the Ebola outbreak that overwhelmed the already struggling health system. Macro-economic activities and social efforts were clogged, despite significant strides in improving its population's health post civil war that came to an end in 2005.

The Liberia health system has recognized the constraints imposed by the path of dependency and revised the health sector strategic. In response, the country with support from its development partners developed a strategic investment plan with clear vision, long-term and incremental recovery for building a resilient health system that is responsive, effective and accountable to its development partners, while granting impetus to the overall economic development of the country.

The FY 2015/16 operational plan that has come to completion, set clear implementation linkages and an integral monitoring and evaluation arrangements with specific targets.

The current joint annual review is one of performance review mechanisms of the sector conducted every year jointly by the government and partners. Systematic assessment of the overall progress made on the implementation of the investment recovery phase helps monitor performance and identify challenges and explore best practices, if any.

1.2 Objective of the Performance Report

The overall objective of the performance report is to ensure that stakeholders develop a shared understanding of progress in the sector investment plan and identify the highest priority issues that need to be addressed to improve performance.

The specific objective of the report is to:

- Assess the MOH consolidated work plan and the health sector investment plan implementation;
- Document progress, challenges and lessons learned;
- Account for resources;
- Share information and best practices

1.3 Performance review process

The performance review was characterized by the assessment of the different pillars of the investment plan through field assessment in five counties (Rivercess, Gbarpolu, Margibi, Nimba, and Grand Cape Mt) and desk review of assessment and programmatic reports.

The field assessment designed using semi-structure questionnaire based on the nine investment pillars and targeted senior members of the county health teams, district health officers and officers in charge of selected health facilities. At the community level, community health workers were interviewed based on services they provide and major challenges.

The investment pillar thematic heads led the desk review. They reviewed HMIS data, assessments and surveys reports (e.g.; HRH census, SARA, etc), supervision and quarterly programs reports to generate the needed information that formed part of the FY 2015/16 performance report.

1.4 Methodology

The analysis involved both qualitative and quantitative data collection. Documents reviewed and stakeholder consultations were undertaken. Teams were pooled and orientated from various partners' organizations and the Ministry of Health central level to gather data.

The joint annual review was conducted at central, county and health facility levels. Five counties and a total of 10 health facilities in these counties were assessed using a semi structured data collection tools and guides.

1.5 Report Organization

This report is structured into 12 sections. Section one and two are the introductory portion that describes the background, objectives, processes involved with the compilation of the report and the performance framework. Section three through eleven presents the nine investment areas beginning with health care delivery, fit for purpose motivated health workforce, health infrastructure, medicines and supply chain, leadership and governance, health care financing, emergency preparedness and response, health information systems, monitoring and evaluation and community engagement. The last section, which is section twelve (conclusion and recommendations), summarizes the performance report and suggests policy recommendations.

Section Two: Monitoring Framework

The National Investment Plan (2015-2021), contains a monitoring framework with 28 indicators to monitor progress against the goal and objectives of the plan. At the time the plan was developed, baselines were established for each indicator as well as targets to be achieved by 2021.

The monitoring framework includes impact indicators, such as the maternal mortality ratio, life expectancy at birth, infant and under-five mortality rate. These impact indicators were not assessed during the period because they are usually generated from the UN best estimates or national surveys (e.g., DHS, Malaria Indicator Survey) and not monitored annually. Therefore, recent data is not available in this report.

The remaining indicators reflect the wider health system goals of access, responsiveness, and financial protection; most of which can be computed at the national and county levels. The monitoring framework does not include quality assurance indicators, however, the quality management unit is in the process of developing their policy and strategic plan that will include quality specific indicators.

Analysis of the 28 monitoring indicators found that progress was made in FY 2015/16 mostly in the area of health support system. For instance, core clinical health workers per population ratio increased from 8.6 core health workers (ie: Doctors, Certified Midwives, Nurses & Physician Assistants) per 10,000 population in 2015 to 11.7 in 2016 (SARA 2016). The proportion of health facilities that meet the minimum Infection Prevention and Control (IPC) standard increased from 65% in 2015 (HSA) to 73% in 2016 (SARA) and the percent of health facilities with basic utilities (ie: water and electricity) improved from 55% in 2015 (HSA) to 77% in 2016 (SARA). Additionally, the health facility density ratio increased from 1.6 health facilities per 10,000 population in 2015 (HSA) to 1.9 in 2016 (SARA).

Service delivery indicators have not reach pre Ebola period due to low utilization of health services. For example, Skilled Birth Attendants (SBAs) assisted 51% of deliveries in FY 2015/16 and 61% in 2013 (LDHS). The proportion of pregnant women receiving IPT2 and all immunization indicators did not reach pre EVD coverage. The number of couples that were protected from being pregnant (CYP) increased significantly from 71,714 in 2015 to 73,976 in FY 2015/16.

While many indicators showed slow recovery after the Ebola outbreak, significant progress was made in disease surveillance reporting, human resource development, policy formulation and infection prevention and control. Approximately 55% of health facilities experienced stock-out of essential drugs and supplies, especially for SP as a prophylaxis and HIV testing kits. Table 2.1 below presents the progress made on the adjusted investment monitoring framework.

Table 1: Revised investment Plan and National Health Plan Performance Framework

No.	Indicators	Baseline	Year	Source	Targets 2021	Progress to Date
1	Maternal mortality ratio (per 100,000 live births)	1,072	2013	LDHS	497	1,072
2	Neonatal mortality rate (per 1,000 live births)	38	2013	LDHS	19	38
3	Under -5 mortality rate (per 1,000 live births)	94	2013	LDHS	57	94
4	Infant mortality rate (per 1,000 live births)	54	2013	LDHS	22	22
5	Life expectancy at birth (years)	60	2015	UNDP HDI	N/A	60
6	% of pregnant mothers attending 4 ANC visits	54	2013	Annual Report	85%	58%
7	% of pregnant mothers receiving IPT-2	48	2013	LDHS	80%	41%
8	% of HIV positive pregnant women who received antiretroviral treatment	42	2013	Annual Report	80%	54%
9	% of deliveries attended by skilled personnel	61	2013	LDHS	80%	51%
10	Couple-years of protection with family planning methods	71,714	2013	Annual Report	N/A	73,976
11	% of children under 1 year who received DPT3/Penta-3 vaccination	84%	2013	HMIS	90%	65%
12	Proportion of children one year old immunized against measles		2015/16	HMIS	N/A	64%
13	% of infants fully immunized	65%	2013	Annual Report	91%	60%
14	TB case detection rate (all forms)	56%	2013	Annual Report	70%	56%
15	Treatment Success rate among smear positive TB cases (Under Directly Observed Treatment Short Course)	74%	2013	HMIS	85%	73%
16	% of health facilities meeting minimum IPC standards	65%	2014	HSA	100%	73%

17	Percentage of population living within 5 km from the nearest health facility	69%	2010	RBHS	85%	71%
18	Health facilities per 10,000 population	1.6	2015	HSA	2.0	1.9
19	Percentage of health facilities with all utilities, ready to provide services (water, electricity)	55%	2015	HSA	100%	77%
20	Number of counties with funded outbreak preparedness and response plans	0	2014	HSA	100%	100%
21	Percentage of health facilities with no stock-outs of tracer drugs at any given time (amoxicillin, cotrimoxazole, paracetamol, ORS, iron folate, ACT, FP commodity)	62.3%	2011	Accreditation	95%	44%
22	OPD consultations per inhabitant per year	1.90	2013	HMIS	2.0	0.7
23	Core health workforce (physicians, nurses, midwives, physician assistants) per 10,000 persons	8.6	2015	HR Census	14	11.4
24	Timeliness of HMIS reports	36%	2013	Annual Report	90%	57%
25	Proportion of facilities that submitted HMIS reports	83%	2013	Annual Report	100%	78%
26	Per capita health expenditure (US$)	US$ 65	2013	Annual Report	US$80	US$64
27	Public expenditure in health as % of total public expenditure	10%	2013	Annual Report	15%	12.4%
28	Out of pocket payment for health as a share of current expenditure on health	51%	2014	NHA	15%	51%

Section Three: Health Services

The Department of Health Services comprises five divisions (i) Communicable and non-communicable Disease Division; (ii) Family Health Division; (iii) Diagnostics and Imaging Services Division; (iv) Pharmacy Division; and (v) Institutional Care Division. The Communicable and Non-Communicable Disease Division is further divided into mental health unit, communicable disease prevention and control (HIV/AIDS, TB and Malaria) unit, and non-communicable diseases and neglected tropical diseases (NTDs) unit. The Family Health Division is sub-divided into reproductive, maternal, newborn, child, gender and adolescent health unit, environmental and occupational health unit, expanded program for immunization (EPI) unit, and nutrition unit. Diagnostics and imaging services division consists of radiology and biomedical technology unit, blood safety unit, laboratory unit, and county support services unit. The Pharmaceutical Division consists of supply chain management unit, national drug service unit, and pharmacy unit. The institutional care division consists of medical and dental services unit, nursing and midwifery services, complementary medicines unit, and quality improvement and management unit.

3.1 Maternal and newborn health services

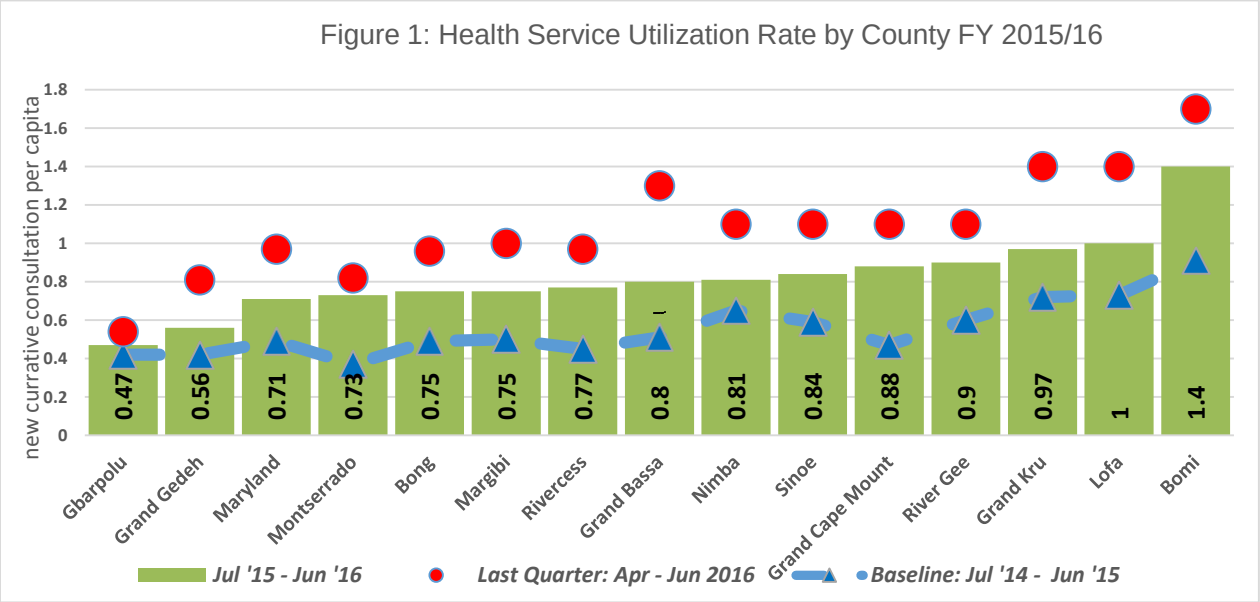
Achievements

- Developed and validated clinical guidelines for the management of Postpartum Hemorrhage (PPH), monitoring checklist and standardized package for EmONC;
- Reviewed and validated the Sexual, Reproductive, Maternal, Newborn, Child, and Adolescent Health (SRMNCAH) job-aids, strategies, policies and protocols;
- Conducted Misoprostol TOT in Montserrado, Lofa and Nimba Counties for 65 CHT Supervisors (RHS, DRHS and DHO CMs, RMs, RNs and PAs)
- Trained 44 health workers in EmONC from 22 of Grand Bassa County health facilities.
- Validated EmONC assessment monitoring tool in Bong County
- Integrated MNDSR into IDSR by making maternal and neonatal deaths public health event
- Trained 107 health workers in MNCI from Margibi, Nimba, Lofa and Grand Bassa
- Chlorhexidine (7.1% gel for umbilicus care) scale up strategic plan workshop conducted with support from MCSP for the country.
- Conducted two batches of Misoprostol training of trainers' workshop three days each for 16 supervisors and 45 clinicians in Nimba County.
- Youth corner established in the 12 facilities
- School Health Club established in 6 public schools (Maryland-3 and River Gee-3)
- Recruited and conducted surgery for 35 clients (15 at the Martha Tulman Hospital in Zwedru, Grand Gedeh County, 16 in Phebe hospital, Bong County, 2 at Ganta United Methodist Hospital, Nimba County 2 at Family Medical Center, Montserrado County)

Health facilities are places that provide health care. They include hospitals, clinics, and health centers centers. The utilization of services at the clinic, health center and hospital levels are categorized in outpatient consultations (OPD) and inpatient consultations (IPD). Utilization often measures the number of visits at health facility by the number of inhabitants in a given year. In 2015/16, health service utilization rate was 1.4 visits per inhabitant with Bomi (1.4 visits) and Lofa (1.0 visit) recording the highest utilization rate.

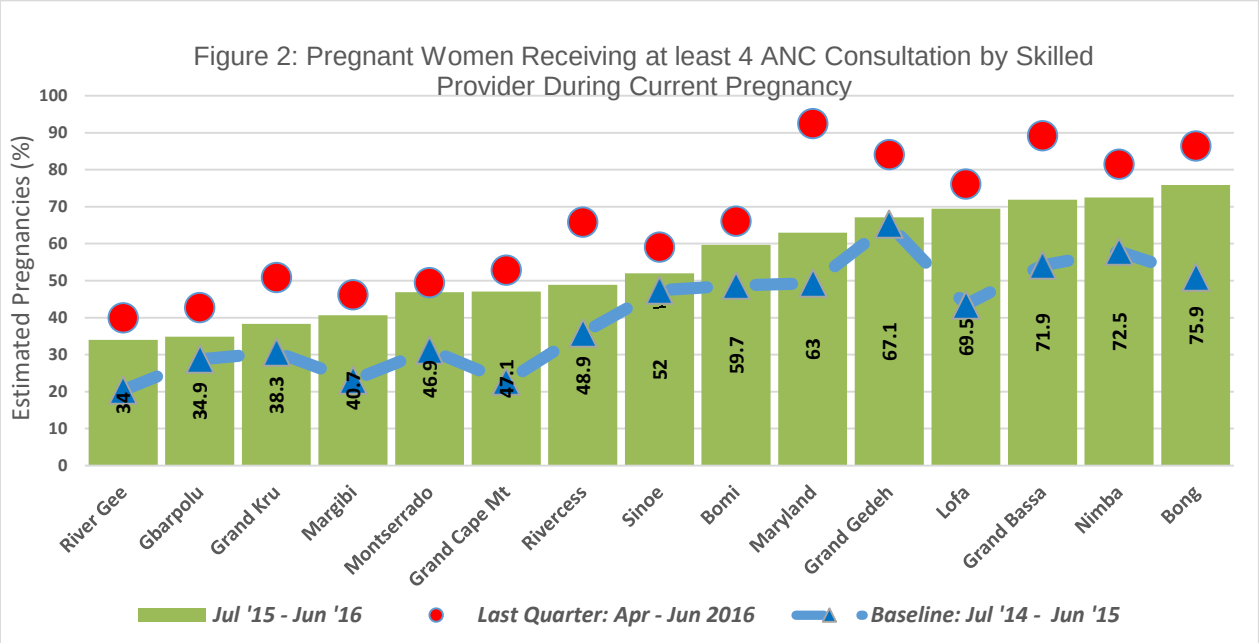
The current rate is far below (65%) the annual target of 2 visits. Figure 1 presents health service utilization rate by county.

Figure 1: Health service utilization rate by county in FY 2015/16.



Maternal and newborn health indicators are gradually improving as shown in figure 2. For example, institutional deliveries increased by 3.8% from 43.8% in 2014 to 47.6% in FY 2015/16. Although there is an increase in this national indicator, there are variations counties counties and regionals. In general, the southeast counties are the least performing counties. Services provided to pregnant women in the counties have significantly impacted the national achievements. Bong was the only county that exceeded the national ANC4+ target, with 75.9%, although, Nimba, Lofa, Grand Bassa and Grand Gedeh recorded over 60% coverage. River Gee, Gbarpolu, and Grand Kru counties had the lowest ANC4+ visits with percentages of 34%, 34.9% and 38,4% respectively. However, it is not clear if all attendees receive the full package of the necessary services.

Figure 2: ANC 4th visits coverage by county in FY 2015/16

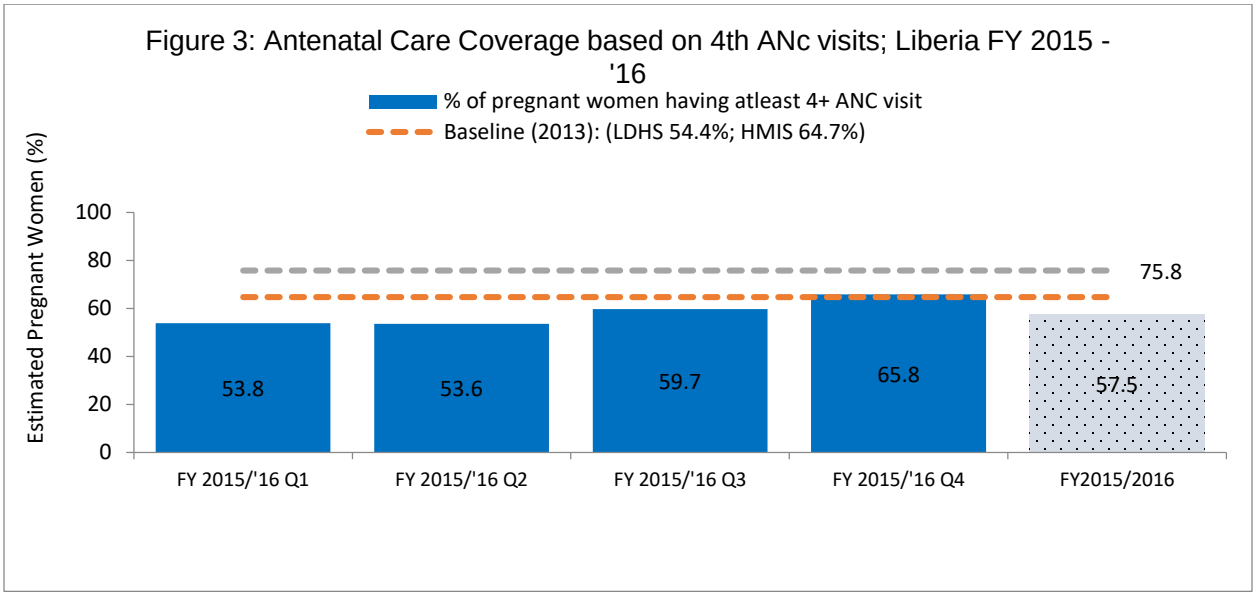


Antenatal care is a minimum service of care given to women during pregnancy. Liberia, like many other countries worldwide are recommending that pregnant women attend at least four scheduled ANC visits before delivery and thus an indicator used to measure the quality of care given to pregnant women. When pregnant women have access to quality ANC, maternal and newborn morbidity and mortality are reduced.

In 2015/16, the number of pregnant women completing ANC4+ visits showed a slight increase of 57.5% compared to 2014/2015 period that recorded 52.2%. The highest ANC coverage was recorded in the fourth quarter of 2015/2016. Though progress was made in the number of ANC4+ visits, the country fell far below its target of 75%.

All counties made significant progress in the last quarter of 2015/2016, contributing to fourth quarter achievement of 65.8%, with Maryland County getting the highest coverage and Montserrado with no progress made in ANC4+ visits when compared to previous quarter. Figure 3 depicts ANC 4th visit coverage over the four quarters of the budget year.

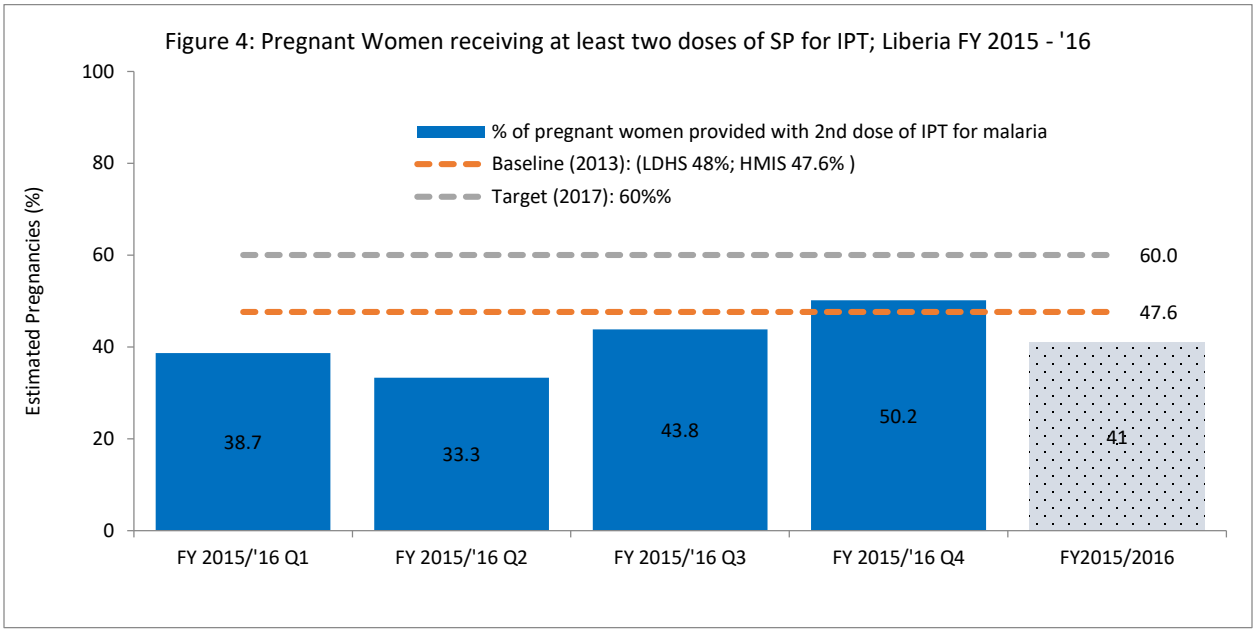
Figure 3: Antenatal Care Coverage based on 4th ANC visits; Liberia FY 2015 - '16



Liberia is endemic for malaria. Malaria in pregnancy (MIP) poses a health risk to mother and child at any time during pregnancy. Intermittent Preventive Treatment in pregnancy (IPTp) reduces maternal malaria episodes, maternal and fetal anemia, placental parasitemia, low birth weight, and neonatal mortality (WHO). The National Malaria Control program recommends at least two plus doses of IPT during pregnancy to reduce risk posed to mother, fetus and the newborn.

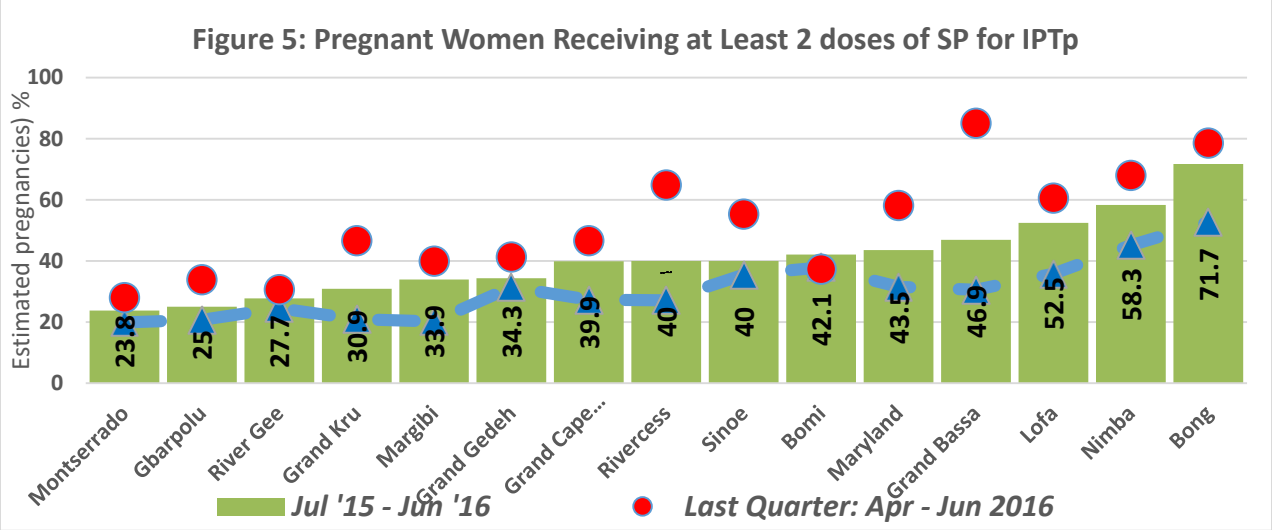
The number of pregnant women receiving at least two doses of SP for IPT for the FY under review was 41%. This shows a drop out rate of 19.0% from the set national target of 60.0%. The previous baseline of 47.6% was not also met. Nevertheless, the highest achievement of 50.2% for the year was in the fourth quarter. Like the previous year only Bong, Nimba, Lofa and Bomi have exceeded the national average slightly. The least counties are Gbarpolu, Grand Kru and Montserrado. Figure 4 presents IPTp second dose coverage by quarters in Liberia.

Figure 4: Pregnant Women receiving at least two doses of SP for IPT; Liberia FY 2015 - '16



Data from the health management information system shows low rate of IPTp2 coverage with nearly 5 out of every 10 pregnant women received second SP as prophylaxis during the period. The counties with the highest IPTp second dose administration were Bong (71.1%), Nimba (58.3%) and Lofa (52.5%). Figure 5 presents pregnant women receiving at least 2 doses of SP for IPTp.

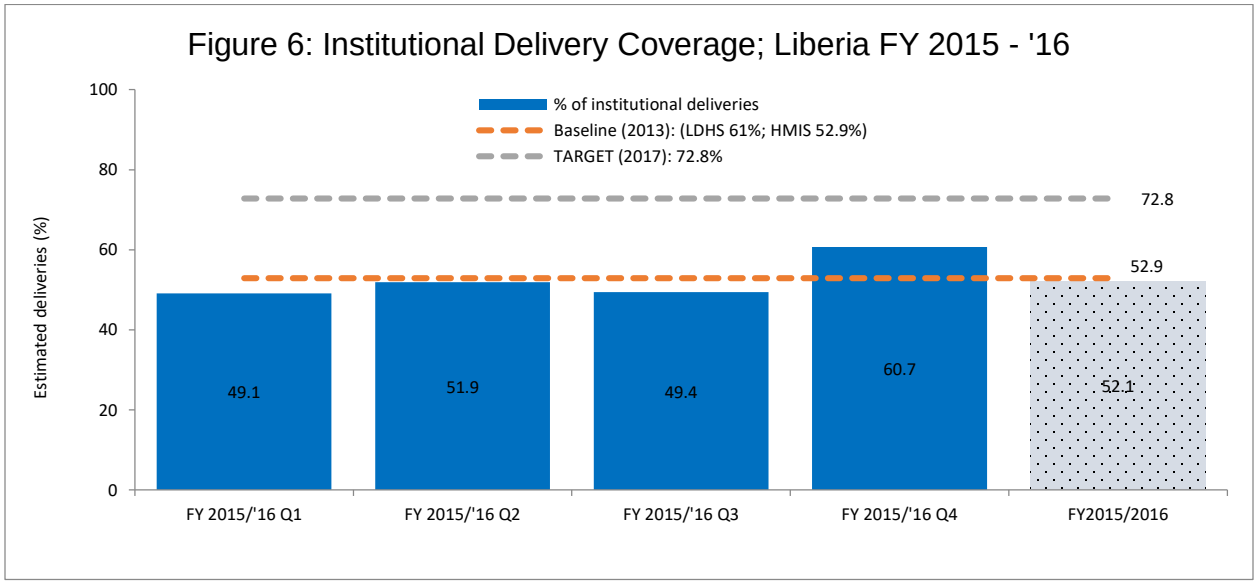
Figure 5: Percentage of pregnant women receiving at least 2 doses of SP for IPTp.



By institutional deliveries, we mean the percentage of deliveries done in the health facilities. Liberia missed out on the target set for FY 2015/2016 of 72.8% to a record low of 52.1%, showing a 20% drop out rate. Liberia was also unable to achieve the previous baseline of 52.9% achieving only 52.1% based on HMIS data. However, in quarter four, there was a significant increase in the number of institutional deliveries to

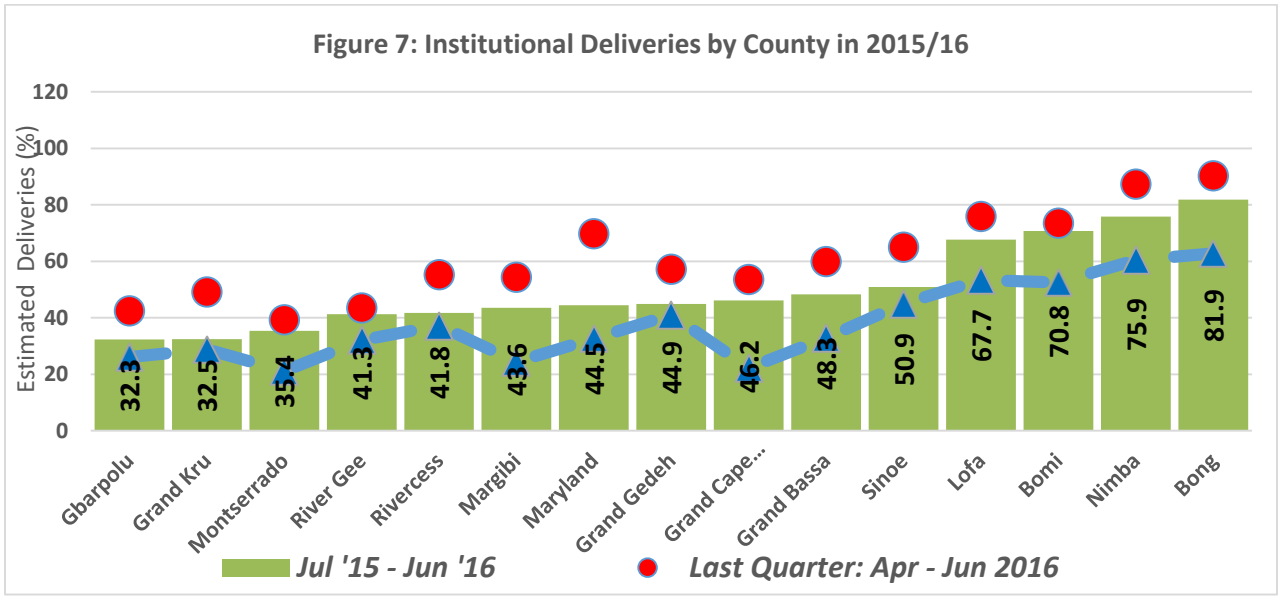
60.7% as compared to previous quarter of 49.4%, 51.9%, and 49.1%, respectively. Figure 6 shows institutional delivery coverage by quarters, baselines and targets.

Figure 6: Percentage of Institutional delivery coverage by quarters, baselines and targets.



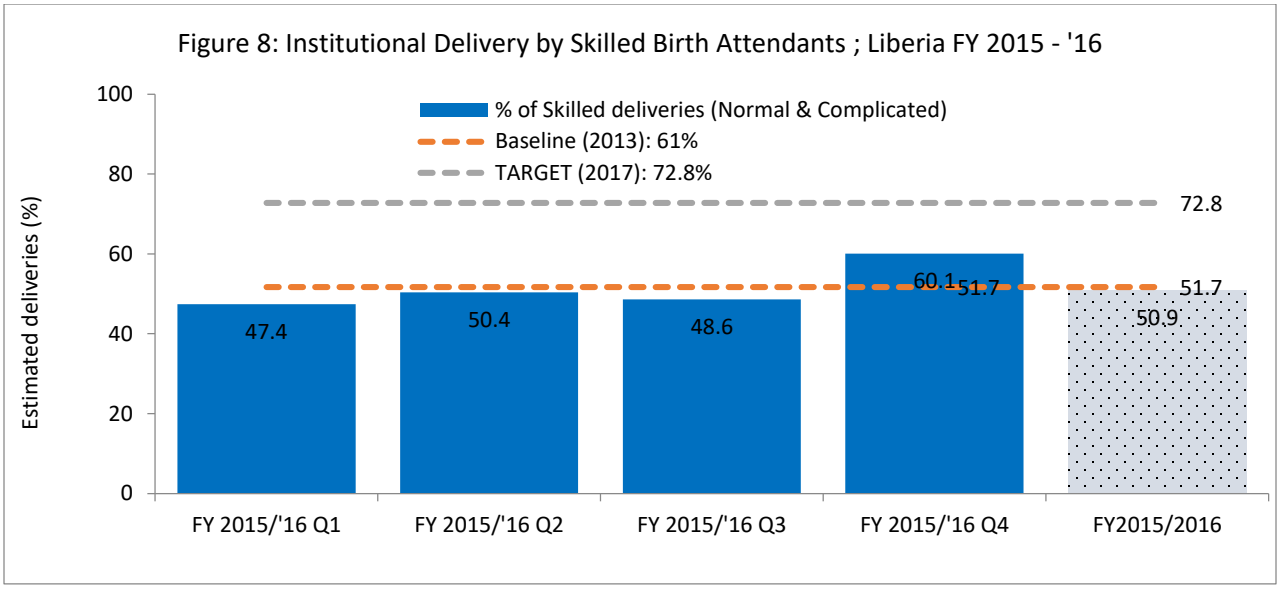
The MOH encourages institutional deliveries as a means to reduce maternal complications such as obstetric fistula and mortality. The proportion of pregnant women that deliver in health facilities is low due to limited access to basic health care and the quality of health services. In 2015/16, only 5 out of every 10 pregnant women were assisted during delivery in health facilities with Bong (81.9%), Nimba (75.9%), Bomi (70.8%) and Lofa (67.7%) recording above 50%. Figure 7 presents institutional delivery in 2015/16.

Figure 7: Percentage of Institutional delivery by County in 2015/16



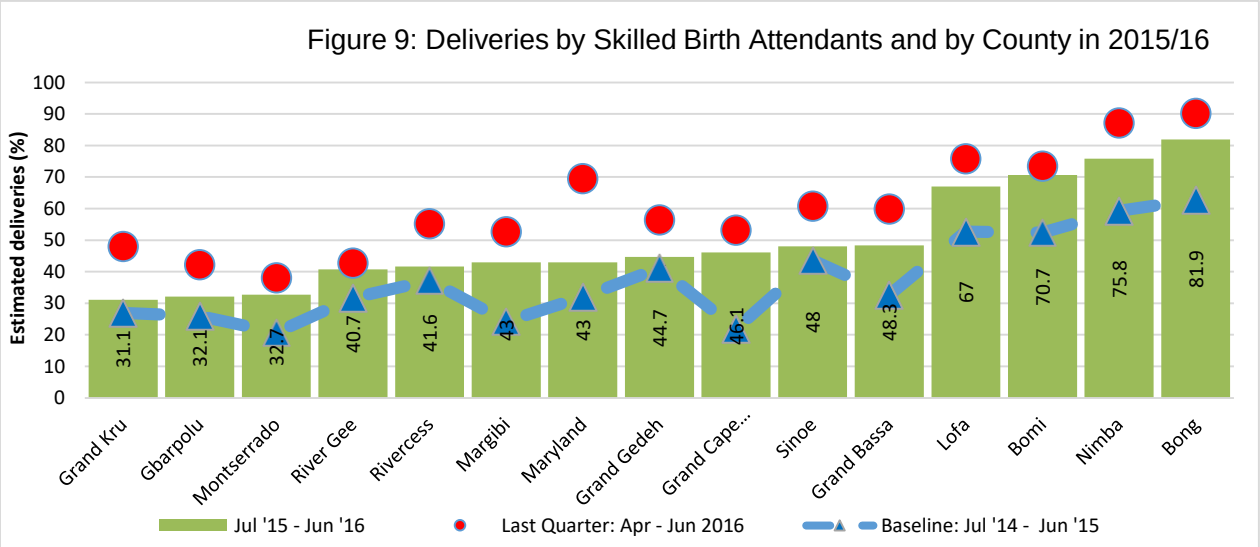
The proportion of pregnant women delivering in health facilities and by skilled birth attendants has improved over the years. During the period skilled birth attendants assisted 51.7% of expected pregnant women during deliveries. However, the 72.8% set by the Ministry was not achieved. Figure 8 shows the percent of deliveries assisted by skilled birth attendants.

Figure 8: Percentage of deliveries assisted by skilled birth attendants



An analysis of the HMIS data on deliveries by skilled birth attendants revealed variation across counties. Although the national coverage was 51.7%, 4 out of 15 counties achieved over 60% coverage. Counties with the highest coverage were Bong (81.9%), Nimba (75.8%), Bomi (70.7%) and Lofa (67%). Counties with the lowest coverage were Grand Kru (31.1%), Gbarpolu (32.1%) and Montserrado (32.7%) respectively. Figure 9 presents deliveries by skilled birth attendants by county in 2015/16.

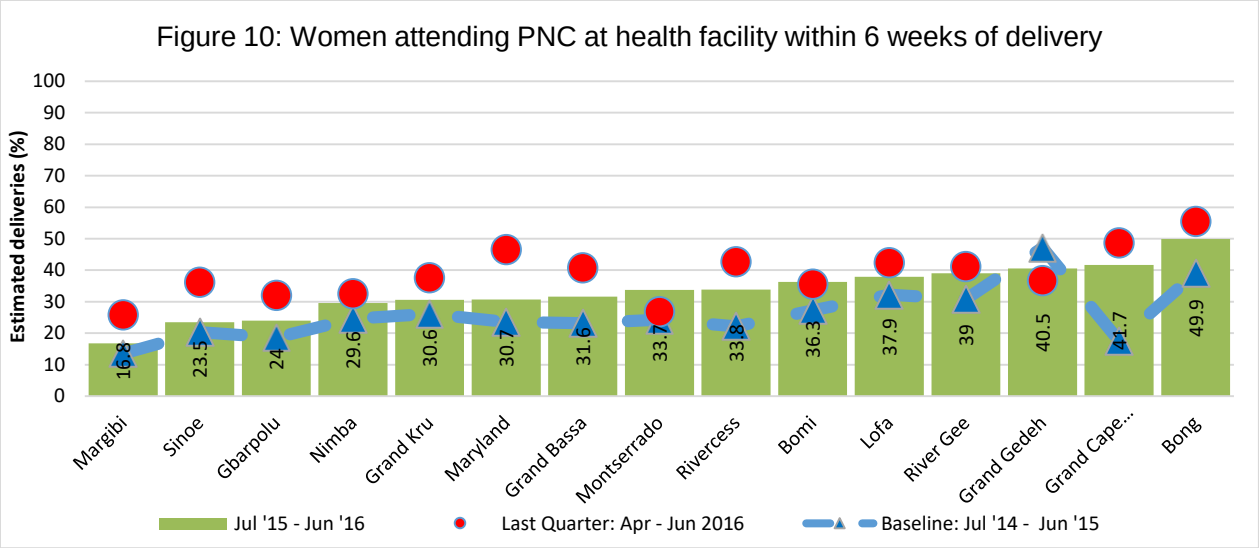
Figure 9: deliveries by skilled birth attendants by county in 2015/16.



Postnatal Care

Postnatal is an essential care that every new born mothers and their newborns receive within 24 hours after birth and within 42 days thereafter. This component plays a major role in the reduction of maternal and newborn morbidity and mortality as evidence has shown that significant number of mothers and their newborn died during this period. The highest percentage of women receiving PNC was from Bong, Grand Cape Mount and Grand Gedeh respectively. Counties with the least percent of women receiving postnatal care were Margibi with one out of 10 women, followed by Sinoe, Gbarpolu and Nimba with two out of three newborn mothers. Figure 10 depicts the percent of women attending postnatal care at health facilities within 6 weeks of delivery.

Figure 10: Women attending PNC at health facility within 6 weeks of delivery



3.2 Child Health

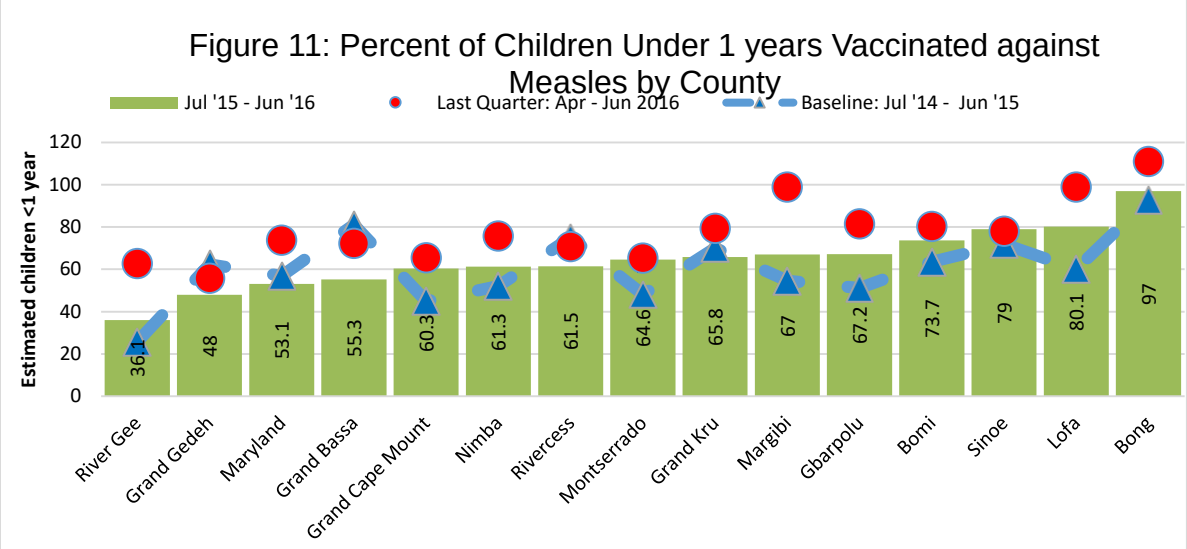
Achievements

- Conducted 2 rounds of Polio NIDs and one round PIRI
- Implementation of the Urban Immunization Strategy phase 2 in Monrovia District, Montserrado County
- Installed 140 Solid Direct Drives (SDDs) and hired 15 county cold chain technicians
- A total of 36 AFP cases were reported as of Epi week 29 with all 15 counties reporting at least one case of AFP.
- Ten counties (Bomi, Bong, Gbarpolu, Grand Cape Mt., Grand Kru, Lofa, Margibi, Maryland, Rivercess and Sinoe) attained Non-polio AFP rate ≥2 and stool adequacy (<14 days of paralysis onset)
- The annualized Non-AFP rate is 3.5, above the global target (2/100,000 <15 pop.) and stool adequacy rate is (<14 days) is 98%, above the global target (80%)

- Non-polio enter virus rate is 17%, above the global (10%)

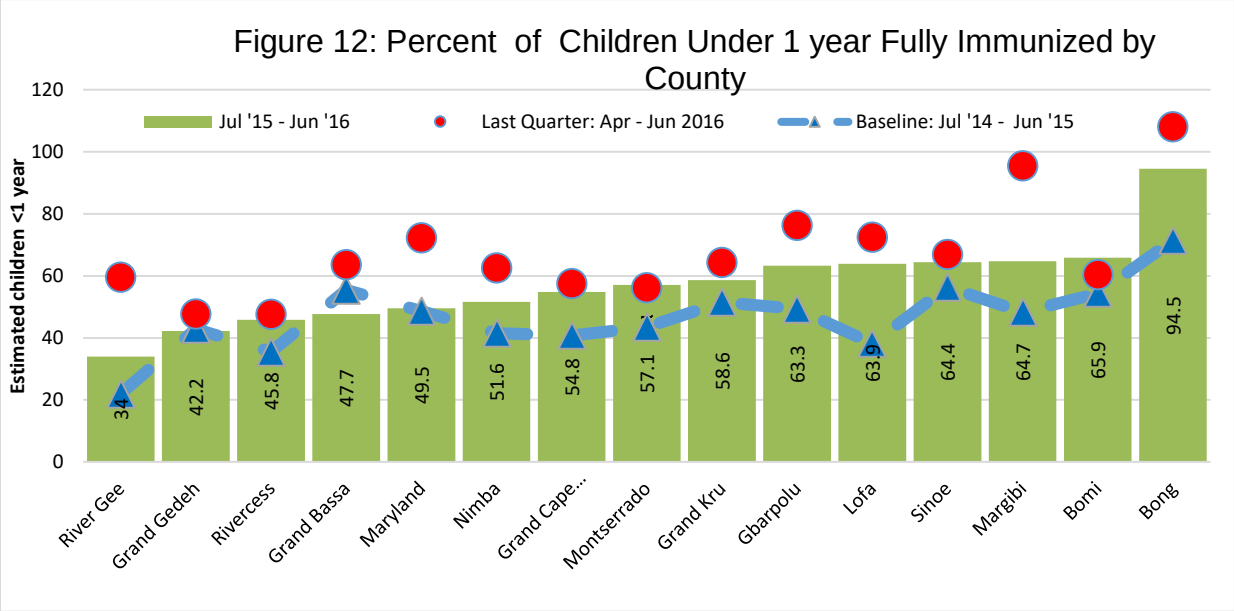
The percent of children that received Measles vaccination varies from county to county with Bong (97%) administering the highest measles vaccination followed by Lofa (80.1%) and Bomi (73.7%). River Gee (36.1%) and Grand Gedeh (48%) reported the lowest coverage of Measles vaccination. Figure 11 presents the percentage of children under 1 year that were vaccinated with Measles vaccines by county in FY 2015/16.

Figure 11: Percentage of Children Under 1 years Vaccinated against Measles by County



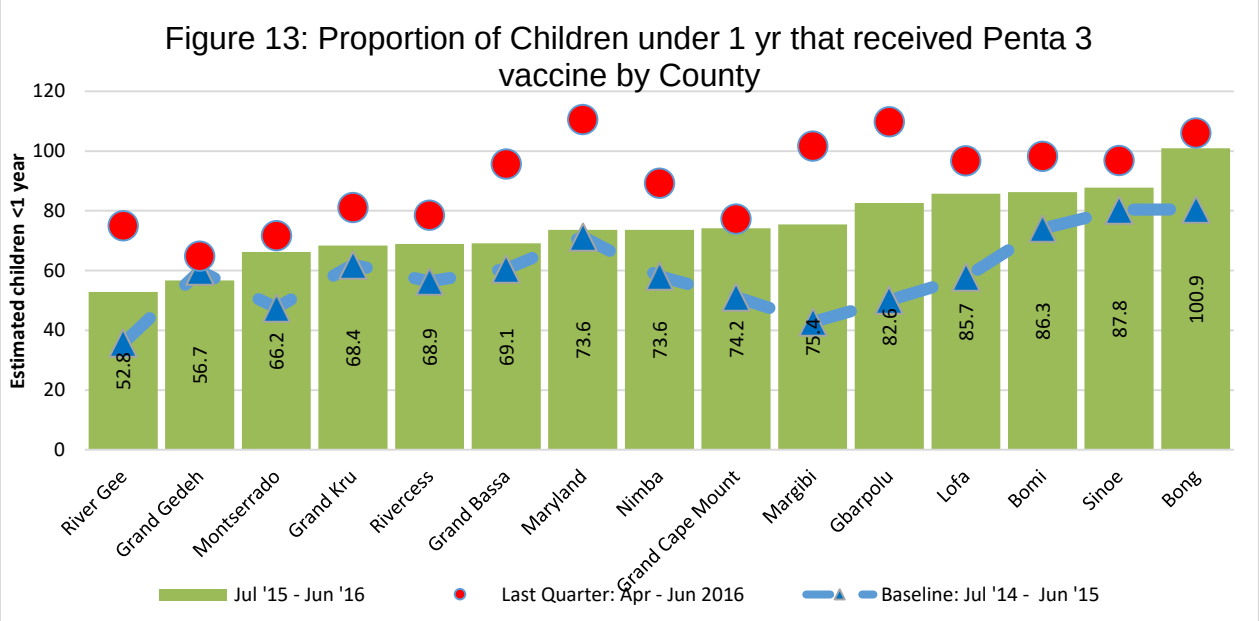
Bong County has vaccinated the highest number of children under 1 against measles in the year under review achieving 97% indicating that almost all the children in the county were vaccinated against measles. Nine of every ten children were fully immunized compared to River Gee where only three out of every ten children were fully immunized. Figure 12 presents the number of children under 1 year that were fully immunized by county.

Figure 12: Percentage of Children Under 1 year Fully Immunized by County



Consistent with the three immunization coverage indicators; Penta-3, Measles and fully immunized, Bong County has the highest coverage among all the counties with Bomi following in all three categories. Bomi achieved 86.3% coverage for Penta-3, 73.7% for Measles and 65.9% for fully immunized respectively. The county with the least immunization coverage of all indicators is River Gee with 52.8% Penta-3, 36.1% for Measles and 34% for fully immunization coverage respectively. Figure 13 depicts the proportion of children under age 1 who received Penta -3 vaccines by county.

Figure 13: Proportion of Children under 1 yr that received Penta 3 vaccine by County



3.3 Nutrition Services

Anemia, malnutrition and over nutrition are contributing factors among women and children. According to 2015 MOH annual reports about 3.4% of under-five diseases is caused directly by anemia and malnutrition and many more indirectly. In the 2015 annual work plan there are no targets set by the Division of nutrition. However, many activities are carried out by the division which include the followings:

1. Provision of micronutrients supplement to 519,710 (two doses of Vitamin A)
2. Deworming of 518,104 children 12-59 months
3. Distribution of micro nutrient powder to children (6-23 moths) in Bomi and River Gee Counties
4. Trained health providers on integrated management of acute malnutrition (IMAM) and essential nutrition action (ENA) and setting up malnutrition sites in almost all counties.
5. Vitamin A and deworming campaign was integrated with polio campaign October 2016 with 98.8% vitamin A coverage and 99% deworming coverage.
6. Vitamin A and deworming campaign was integrated with polio campaign last March 2016 with 95% vitamin A coverage and 97% deworming coverage.
7. In 2015, baby friendly facility initiative concept document and budget finalized.
8. 58% of EPHS health facilities are providing ENA services
9. Four Counties Health staff trained in Essential Nutrition Package (Lofa, Margibi, Rivercess and Gbarpolu)
10. In 2016 three planned for (Bong, Montserrado and Cape Mount). Negotiation is ongoing with CHTs, Nutrition Division and UNICEF

In 2015, a total of 6,902 children enrolled in the program were discharged. Out of this, 96% of severely malnourished children were cured and discharged. Defaulters accounts for 2%, death rate 1% and severely malnourished children discharged and referred accounts for 1% of the total admission. The severely malnourished children were referred due to other medical conditions, which impeded their treatment. The map below shows number of IMAM sites per county.

Challenges

- Infant and young child feeding indicators are not part of HMIS thus reporting thus reporting is difficult
- Staff attrition leads to miss application of IMAM protocol by new staff.
- Limited funding support to Nutrition activities

3.4 Communicable disease control

3.4.1 Malaria prevention and control

Achievements made by the NMCP include the following:

- 1.2 million malaria cases were treated with recommended antimalarial; 83% ACTs and 17% Artesunate IM, Quinine tablets and IM.
- 166,239 pregnant women attended ANC clinics and took SP for prevention of Malaria during pregnancy. Of these women, 45% for the first dose and only 36% were recorded for second dose IPTp2.
- 103,892 pregnant women attended ANC and were issued LLINs at first attendance.

- Two Sentinel sites set up in two regions; North Central in Nimba County at Ganta United Methodist Hospital and Grand Bassa County at Liberia Government Hospital in February 2015.
- Distributed 2.8 Million LLINs through mass campaign to reduce the prevalence of Malaria
- Two rounds of end user verification conducted in selected facilities in Bong, Lofa, Nimba, Margibi, Montserrado and Grand Bassa Counties.
- Revised and validated the National Malaria Strategic Plan (2016-2020).
- Revised IPTp Strategy to include at least three doses as full coverage.
- Distributed 153, 950 LLINs ANC clients around the Country
- Implemented Private Sector ACT in 103 pharmaceutical outlets
- Conducted Malaria prevalence study in areas where Durable Lining was implemented in Bomi County in collaboration with Mentor Initiative
- Piloted the use of 'Deckie Reader' to verify compliance and adherence to RDT results in 15 health facilities in Bong County
- Conducted Malaria impact evaluation (2008 – 2013) supported by ICF
- In Collaboration with WHO, developed the Therapeutic Efficacy Monitoring Protocol
- Conducted three rounds of EUVs with support from DELIVER and CSH
- Completed the printing of Malaria In Pregnant Guidelines with support from vector works
- Distributed 100,000 LLINs for ANC and institutional delivery in 15 counties with support from Vector Work
- Collaborated with JSI DELIVER to assess ANC net storage in three counties (Grand Cape Mount, Gbarpolu and Bomi)
- Conducted insecticide resistance testing in Margibi and Grand Bassa Counties
- Conducted routine entomological monitoring in Bong and Montserrado Counties
- Distributed 100,000 LLINs in 28 communities in Montserrado to address gaps identified from the 2015 campaign
- Developed an updated National Malaria BCC strategy
- Developed messages and materials for Malaria in Pregnancy reflecting the new guideline

3.4.2 HIV/AIDS,

As in the case of TB and Malaria, HIV/AIDS Control program is supported financially mainly by Global Fund. GOL support is limited to paying basic personnel salaries.

Review of the performance in 2015 reveals the EVD outbreaks greatly slow down the activities of the program and that NGOS like PSI, Shalom and the Catholic Church HIV program provided valuable prevention services. Besides, there inherent are weaknesses in both the programs and the health system to support efficient and effective implementation of the HIV/AIDS program, especially at the county level.

The main traditional strategies of prevention of the HIV program include behavioral change communication, condom distribution, Control of ST, counseling and testing, and PMTCT/ placing infants on ARV prophylaxis.

Achievements

Through the contribution of NGOS like PSI, Shalom and Catholic HIV programs about 2 million condoms were distributed, counseling and testing done. Shalom provided supports for about 3,000 orphans PSI trained 25 youth counselors

A total of 88,180 clients were pre-test counseled, 87,201 agreed to be tested and 85,569 were post-test counseled. Of the number tested, 3,236 (3.7%) were HIV positive. Majority of those tested were pregnant women (62%), 61% received their results and 30% of those tested positive were pregnant women. Table 3.2 presents HIV counseling and Testing Results in 2015.

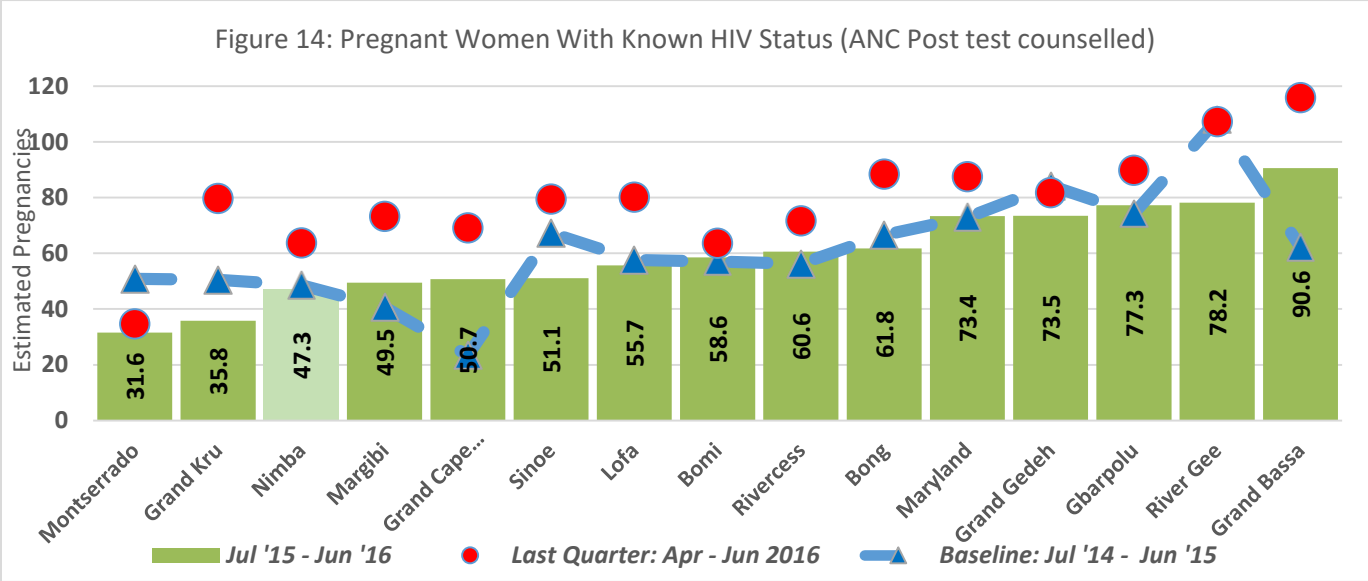
Table 2: HIV Counseling and Testing Results in 2015

Table 2: HIV Counseling and Testing Results in 2015				
County	Pre-Tested	Tested	Post-Test	HIV Positive
Bomi	2895	2911	2863	55
Bong	9295	9295	9214	150
Gbarpolu	1098	1039	1006	18
Bassa	6740	6740	6740	146
Grand Cape Mount	1313	1313	1313	49
Grand Gedeh	3195	3061	2931	137
Grand Kru	677	667	661	17
Lofa	8406	8395	8249	108
Margibi	3769	3720	3645	89
Maryland	2779	2775	2785	162
Montserrado	30939	30588	29600	1755
Nimba	12865	12519	12380	362
River Gee	1419	1417	1408	82
Rivercess	1379	1350	1365	43
Sinoe	1411	1411	1409	63
Total	**88,180**	**87,201**	**85,569**	**3,236**

Prevention of Mother to Child Transmission of (PMTCT)

A total of 53,817 pregnant women were tested in 2015, 98% received their results and 973 were HIV positive. Table below presents ANC HIV counseling and testing by County in 2015. Three hundred forty-two (342) HIV positive pregnant women received ARVs during ANC visits, while 159 received ARVs during delivery. Three hundred twenty (320) pregnant women were eligible for ART, and 284 neonates were placed on ARVs at birth in 2015. Figure 14 presents pregnant women with known HIV status in FY 2015/16.

Figure 14: Pregnant Women With Known HIV Status (ANC Post test counseled)



In 2015, 284 neonates born to HIV positive pregnant mothers were placed on antiretroviral (ARVs) drugs. A total of 54,753 pregnant women were counseled for HIV and 98% (53,817) of those counseled were tested. Table 3 below presents ANC HIV Counseling and Testing by county in 2015.

Table 3: ANC HIV Counseling & Testing by County in 2015

Table 3: ANC HIV Counseling & Testing by County in 2015								
County	ANC Pre-test Counsel	ANC clients Tested	ANC client Post- test	ANC clients HIV Pos.	ARVs Received at Delivery	HIV+ Women for ART	ARVs received during ANC Visits	Neonate on ARV at Birth
Bomi	2020	2036	1987	13	6	52	4	5
Bong	6906	6904	6902	60	13	3	39	13
Gbarpolu	915	892	862	6	2	4	2	3
Grand Bassa	4755	4755	4755	25	2	3	5	5
Grand Cape Mt.	962	962	962	7	1	0	6	1
Grand Gedeh	2309	2196	2178	39	17	5	26	27
Grand Kru	538	528	527	6	1	2	2	2
Lofa	4850	4850	4722	37	6	4	16	6
Margibi	2937	2888	2894	36	4	2	16	3
Maryland	1822	1818	1818	22	9	2	13	17
Montserrado	15084	14734	13745	539	60	210	132	152
Nimba	8348	7979	7868	134	17	8	38	30
River Gee	1135	1134	1127	21	12	13	11	13
Rivercess	1096	1065	1080	14	8	9	7	6
Sinoe	1076	1076	1074	14	1	3	25	1
Total	**54,753**	**53,817**	**52,501**	**973**	**159**	**320**	**342**	**284**

A total of 9,913 patients were reportedly in care, and 6,824 on antiretroviral therapy (ART). Children 0-14 years account for 12.8% (1,262) of the number of people in care, and 381 on ART. Table 4 shows HIV patients in Care and on treatment in 2015.

Table 4: HIV Patients in Care and on Treatment, 2015

Table 4: HIV Patients in Care and on Treatment, 2015												
COUNTY	**Patients In Care (On & Not On ART)**					**All in Care**	**Patients on ART only**					**All on ART**
	<12 Months	12 - 59 Months	5 - 14 Years	> 14 Years	Pregnant Females		<12 Months	12 - 59 Months	5 - 14 Years	> 14 Years	Pregnant Females	
Bomi	11	12	0	30	81	**134**	0	1	0	88	0	**89**
Bong	31	11	19	40	143	**244**	0	5	8	125	0	**138**
Gbarpolu	1	0	1	8	14	**24**	0	0	1	16	0	**17**
Grand Bassa	12	4	14	74	151	**255**	0	2	14	177	4	**197**
Grand Cape Mt.	5	4	1	14	36	**60**	0	0	0	25	0	**25**
Grand Gedeh	36	29	5	115	316	**501**	0	1	0	299	10	**310**
Grand Kru	0	0	0	4	20	**24**	0	0	0	5	0	**5**
Lofa	9	17	0	52	186	**264**	0	2	9	164	0	**175**
Margibi	25	10	10	215	170	**430**	0	0	7	272	1	**280**
Maryland	26	36	13	87	26	**188**	0	3	9	242	3	**257**
Montserrado	416	141	199	1884	3,709	**6,349**	10	97	189	4,312	77	**4,685**
Nimba	39	15	20	181	487	**742**	0	5	15	439	3	**462**
River Gee	43	11	3	67	142	**266**	0	2	0	78	1	**81**
Rivercess	9	2	0	2	4	**17**	0	0	0	12	0	**12**
Sinoe	10	1	2	30	95	**138**	0	0	1	90	0	**91**
LIBERIA	**673**	**293**	**287**	**2,803**	**5,580**	**9,636**	**10**	**118**	**253**	**6,344**	**99**	**6,824**

Challenges

1. The Ministry of Health did not test infants in 2015 because of the relocation of the DNA/PCR laboratory from the Liberian Institute for Biological Research (LIBR) Center to the National Leprosy and Tuberculosis Control Program's (NLTCP) laboratory where dried blood samples (DBS) were taken for PCR test in July 2014. Apart from the relocation of the Lab, a moratorium was placed on testing in 2014 and 2015 because of the EVD crisis. This suspension led to the expiration of available PCR reagents. The PR therefore decided that reporting on the indicator would be suspended until the DNA/PCR machine is re-located to LIBR.
2. Number of sites providing PMTCT services are not yet known. The number reported by HMIS is 52 (figure), which is below the 2015 target of 56 % of facilities.
3. Delay disbursement of funds and lack of proper implementation of planned activities
4. Inadequate access to baseline laboratory testing to support patient initiation and monitoring for monitoring (CD4 machine)

5. Weak referral system to support quality clinical management
6. Limited knowledge at county level by CHT supervisory teams – to support facility-based care management on HIV and AIDS
7. Weak sample collection system by county diagnosis supervisors (Lab Tech) for DBS – support for Infants born to HIV-infected women receiving a virological test for HIV within two months of birth (number)
8. Lack of male partners involvement into PMTCT and comprehensive care and treatment
9. Very bad road condition limits movements during the period under review

3.4.3 TB and leprosy prevention

- Conducted a Situational Analysis of TB Control Services around the Country
- Form a Task Force on TB Research to drive one of the pillars of the end TB strategy
- Successfully join the West African Regional Network for Tuberculosis (WARN-TB); Two staffs benefited from training in TB operational Research
- Target Met for retreatment of cases: 60 Retreatment cases was tested for Rif Resistant TB,

3.5 Non-Communicable Diseases

- Trained 445 health workers, and 8,649 Community Directed Distributors in eleven counties
- 787,473 persons received Mass Drugs Administration (MDA) treatment which provides a therapeutic coverage of 83%;
- Conducted coverage survey for lymphatic fever and onchocerciasis in six counties
- MoU signed between UL-PIRE and Liverpool school of Tropical Medicine for One year to conduct Social Science research that will guide the control and elimination of targeted NTDs
- Capacity of two NTDs staff built on Evidence Synthesis and Meta-Analysis
- Developed the first draft of NTD CM strategic plan globally (Leprosy, BU, Hydrocele, and Lymphedema)
- NTDS CM the first National integrated program developed
- Integrated mapping of Leprosy, Buruli Ulcer, lymphedema, hydrocele piloted in two district of Margibi county: Nine lymphoedema cases found, 1hydrocele, two leprosy cases, two BU and several hernia cases found. Case management to follow in next phase.
- NTD CM integrated in the Community Health Services module 4 training package 2016
- Treated 148 Buruli Ulcer cases in Bong, Lofa and Nimba Counties, all recovered with no complication in 2015
- Completed the mapping of Schistosomiasis in the fifteen (15) counties **(**Bong 68.9%, Nimba 49.8%, Lofa 45.4%, Margibi 9.9%, Rivercess 3.09%, Gbarpolu 11.56%, Grand Gedeh 21.56%, Bomi 9.56%, Margibi 9.9%, Rivergee 16.36%, the remaining counties are pending data analysis
- (Train Health Workers (DHOs (20) and OICs (178)), Educational Officers (DEOs (20) and Teachers (1200)), gCHVs (2509) and Town criers (1500) on the Schistosomiasis Mass Drug Administration Treatment Protocol in three Counties (Bong, Nimba and Lofa).

- School aged Children (5-14 years) treated with Praziquantel: Preliminary Therapeutic and Geographical coverage results from Lofa (93.4% and 96 %) Bong (69%, 90%) and Nimba (64%, 92%) respectively
- Finalized NCDs Policy and Plan
- Developed draft Cancer Control Strategy

The National Eye Health Division was established as a separate unit a year ago to mainstream eye health, a mandate of the World Health Assembly.

Achievements:

- Revive Vision 2020 Task force with 3 working committees
- Two nurses for ophthalmic nurses for training; one person for optometric technician training in the Gambia and one cataract surgeon to upgrade his skills in Kenya

3.6 Community Health Services

The National Community Health Services Policy and Strategic Plan was revised following months of stakeholder consultations and a validation workshop held on 11th December 2015. A Revised National Community Health Services Policy sets the stage for the National CHW Program. A key element of the revised National Community Health Assistant program is the institution of a new cadre in Liberia's Health system –Community Health Assistants. The Ministry of Health's vision for Liberia's National Community Health Services is a coordinated national community health care system in which households have access to life-saving services and are empowered to mitigate potential health risks. The revised policy transforms fragmented status quo into a standardized National CHW Program covering a standardized package that includes: incentives, service package, training program, supply chain, monitoring and evaluation, and supervision. The policy calls for a national program to place a professional community health worker (CHW) in every remote community. CHWs will only serve communities located further than 5kms from primary healthcare facilities. Community Health Volunteers will continue to serve communities closer to primary healthcare facilities. The program targets training and deploying 4,000 CHWs over 7 years to serve approximately 1.2 million people with limited access to lifesaving services. Mapping of CHWs was also completed within the fiscal year. This is a component of the Health workforce program. Launch of the National Community Health Assistant program planned for July 2016.

3.7 Mental Health

Key Achievements

- Adapted Mental Health Gap Action Programme (mhGAP) intervention Guide to the Liberian Context
- Developed a new Mental Health Policy and Strategic Plan for 2016 – 2012
- More than 504 Primary Health Care workers trained in mhGAP as a drive to integrating mental health in the primary health care as stated in the EPHS
- Commenced the training of a cadre of mental health professionals and a total 21 have trained in Child & Adolescents Mental Health Clinician

- MHPSS assessment conducted in all counties
- Substance use disorders services assessment conducted in 7 facilities in Montserrado and Margibi including Edward Snog Grant (E. S. Grant) Mental Hospital
- Mental Health Indicators integrated in the HMIS
- Draft Mental Health Act has been passed by the House of Senate pending concordance by the House of Representatives
- Establishment of a board for the Liberia Center for Outcome Research in Mental Health
- Liberia responded for the first time to the World Health Organization (WHO) mental health ATLAS
- Survivor Network chapters established in 10/15 Counties,
- Survivor Care Policy validated & endorsed
- Survivor Strategic Plan being developed
- Survivors' BYLAW and Constitution Draft
- Anti stigma and resilience building activities ongoing in communities in Montserrado and Margibi counties targeting

Challenges

- Lack of funding to enable the implementation of the new Mental Health Strategy
- Delay in rolling out the validated HMIS Facility reporting form that captures all Mental Health conditions and medications (no adequate HMIS Mental Health service data to inform decision making)
- Limited supply and availability of psychotropic medications to address the demand created by integration of mental health services

Section Four: Health Workforce

In the course of this fiscal year (FY 2015-2016), substantial efforts were made by the Ministry of Health and partners to address some critical health workforce issues being faced by the health sector. The content of this section of the report focuses on the desk review informed by key Ministry of Health reports such as the Investment Plan for Building a Resilient Health System (2015-2021), Ministry of Health Operational Plan (FY 2015-2016), the 2015 Ministry of Health Annual Report, and the Emergency Hiring and Management Plan.

The health workforce pillar of the investment plan is one of the three core priority pillars that is currently focused to build resilience in the sector. The objective of the health workforce pillar (2015-2021) is to build a fit for purpose, productive and motivated health workforce that equitably and optimally delivers quality services. This pillar outlines five strategic areas which are expected to lead to the restoration of safe essential services and core health systems functions, improved health workforce performance, professional ethics and health workforce distribution in line with sector needs. These focus areas are:

- Ensure and accelerate the recruitment and retention of a needs-based public sector health workforce to restore safe essential health services and core health systems functions.
- Implement innovative strategies to optimize and strengthen health workforce performance, motivation and accountability including needs-based in-service training.
- Strengthen health workforce production at pre-service education and post-graduate education levels as a means to develop health workforce capabilities.
- Implement a national community health workforce program.
- Implement robust and long-term needs based health workforce planning, management and development.

Health workforce investments seek to implement a balanced and coordinated set of sustainable strategies to address critical labour market failures such as inadequate pool of health workforce with the right set of competencies to operationalize the EPHS and health systems functions; wage bill constraints resulting in 44% the public sector workforce that is not on GOL payroll; weak regulatory systems, accountability and performance management systems to ensure performance and appropriate conduct; and inadequate and variable quality health worker production pipelines due to limited training capacity.

As part of the efforts to strengthen the health workforce, an Emergency Hiring and Management Plan was developed as part of the human resources pillar. It is intended to empower MOH to direct new and existing funding streams and enable donor harmonization with MOH priorities, ensure health workforce hiring, planning, management and development is needs and evidence based, and, prioritize placement of health workforce on to the payroll for the restoration of essential services and core health systems functions.

4.1 Overview of Workforce Issues

The Health Systems Assessment was conducted prior to the development of the investment plan for building a resilient health system and highlighted some key health workforce challenges. Despite significant gains attained in the implementation of the *National Health Policy (2011 – 2021)*, shortages of critical health worker cadres persist in the country. Some critical issues affecting Liberia's health workforce includes high proportion of Government workers not on payroll. According to February 2015 statistics, 41% (4,132/10,052) of government health workers were not on the payroll, which precipitated health worker

strikes. Similarly, the health workforce model was not fit for purpose with skills gaps noted in certain areas and inequitable distribution between and within counties. The aforementioned coupled with weak regulation of workforce production and practice, disincentives to health workers' performance, workforce attrition impacted on shortage of critical health worker cadres needed in the country. Also of note is the absence of programs to train specialists for service delivery, health managers, logisticians, field epidemiologists and other cadres that are critical to the health system. Other issues related to production and performance include inadequate capacity of training institutions to adequately scale up health worker production, variations in the quality of education with limited regulation for quality improvement. A coordinated response to address these issues was impacted by fragmented MOH Human Resources for Health (HRH) central structures and functions with notable weaknesses at the county level. The consequences of the resulting health workforce shortage were further amplified during the 2014-2015 Ebola Virus Disease (EVD) outbreak. Training institutions across the country closed during the 2014-2015 academic year thus providing one fewer class of graduates to the health workforce than expected. Furthermore, health workers were disproportionately affected by the EVD outbreak and were approximately 30 times more likely to be infected with the disease than the general population. Liberia lost 187 health workers, which led to further depletion of critical health cadres in the country.

4.1.1 Established a functional MOH Human Resources for Health structure

The HRH Team reviewed the structure of HR at the MOH and proposed a merger of 3 key HR units under one department for effective functioning and also for alignment to international best practices. Prior to starting this process, the reform leading to the merger of the 3 units was endorsed by the MOH Senior Management Team. It also took into consideration the ongoing MOH reform process led by the Governance Commission as part of the Public Sector Modernization reform launched by the Government of Liberia. The Reform brings together 3 units (Human Resources, Personnel and Training) within the Ministry of Health, which fell under two separate departments (Planning Research and Development and Administration) into a single cohesive division - "Human Resource Division" to be managed under the Department of Administration.

4.1.2 Implement Performance Management and accountability System

The performance management system has commenced at MOH, with all employees' involvement are required. Systems have been put in place for the effective implementation of performance management at each ministry with the direct collaboration with Civil Service Agency (CSA). The Performance Management Policy Manual has been developed and circulated to various government ministries and Agencies. These performance Management Policy Manuals have been circulated with the four departments at the Ministry of Health. Presently, CSA is working with MOH to ensure that each staff develop his/her performance plan base on their TOR and work plan, a tool that will be used to conduct performance evaluation in Dec 2016. This exercise is mandatory for all staff at MOH.

4.1.3 Training on Workload Indicators of Staffing Need (WISN)

A WHO regional Training of Trainers (TOT) on workload analysis and WISN methodology was conducted in Victoria Falls, Zimbabwe from November 17-20, 2015. A total of four persons was trained from, Liberia – three from the central Ministry of Health and one from JFK. Funding has been sourced from the World Bank to conduct as part of the emergency hiring plan to conduct the workload analysis. The team from

Liberia was supported by the World Health organization as part of its support to the HRH pillar. The team is expected to conduct workload analysis for health facilities within Public Health facilities.

4.1.4 One employee one file

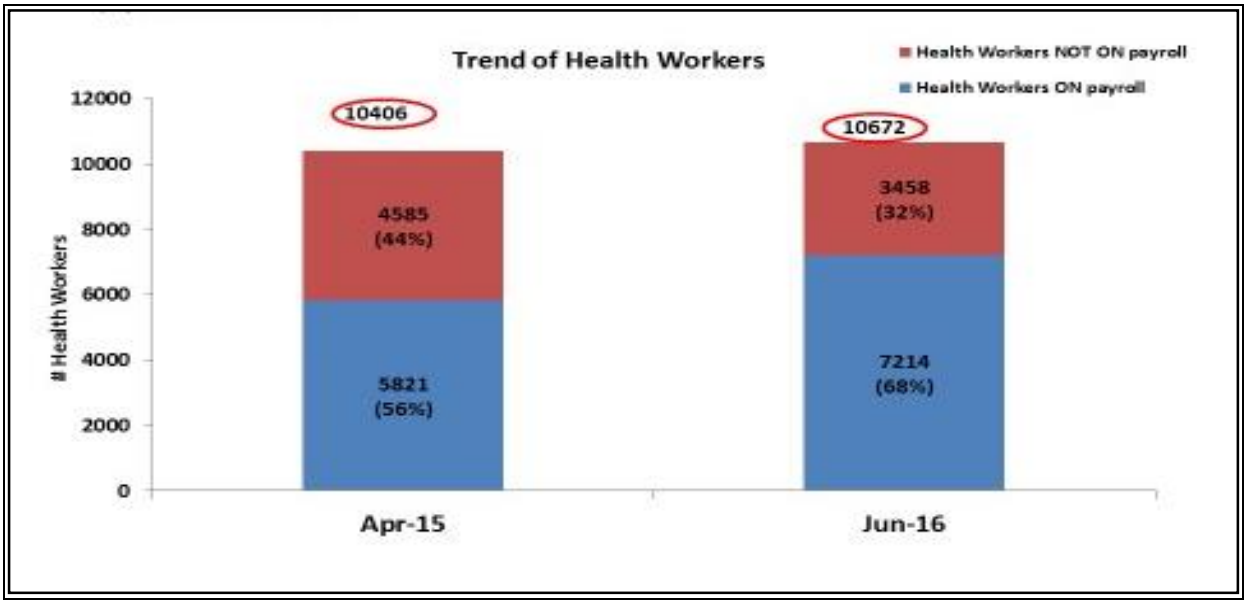
The Government through the Civil Service Agency introduced the one employee one file system across all GoL Ministries and Agencies. The purpose of the system is to have a filing system set-up of required documentations. Through this system, each staff is tracked and considered an employee of the Ministry. The MOH is completing the filing system at the central and county levels.

4.1.5 GOL Payroll Rollout

The MoH set-up a team comprising of staffs from the Civil Service Agency (CSA), Ministry of Finance and Development Planning and Ministry of Health with technical support from the WHO and CSH (USAID) worked on the processing of personnel action notices for payroll enrolment. The target for the roll out of MOH employees on to payroll was 50% of health workers not on payroll. The processing of Personnel Action Notices was review with the HR team and all processes were halted as of June 2015 in order to be able to track the PANs submitted for processing to the Civil Services Agency (CSA). The criteria of health worker payroll prioritization was developed to be enable a rationalized absorption of health workers on GoL payroll targeted to meet critical needs was developed. The World Bank supported the team operational cost. This activity has been a high priority one for the MOH in the course of this year. There were a total of 3,115 personnel action notices processed by the MOH through an organized process with the support of staffs from the CSA working at the MOH. However, the personnel staffs reported that the support was not very effective as anticipated given that following the review of the PANs at the MOH, further reviews were conducted with PANs sent back for clarification, which delayed processing. Personnel action notice processing is quite a manual process although the MOH succeeded in getting some of the documents electronically processed which helped speed the processing of the PANS. Out of the total number of PANs processed, 720 were clinical MOH employees (PA, RM, CM, RN, Lab Tech, OR Tech, Pharmacists, Doctors) whilst administrative staffs were 134 (procurement officers, administrator, HR, accountant, senior clerk/registrar, M&E, IT, auditors, office assistant). About 2261 support staffs PANs were also processed (nurse aide, dispenser, vaccinator, lab aide, lab assistant, vaccinator security, cleaners and driver). These PANs were submitted from all counties, which were unlike before only clinical staffs (Nurses, Doctors, PA and Midwives). As of the close of the fiscal year, no PANs were within the MOH for processing as the CSA has a set period for submission prior to the closure of the fiscal year. Approximately 1,600-1,700 were returned as being processed on to payroll.

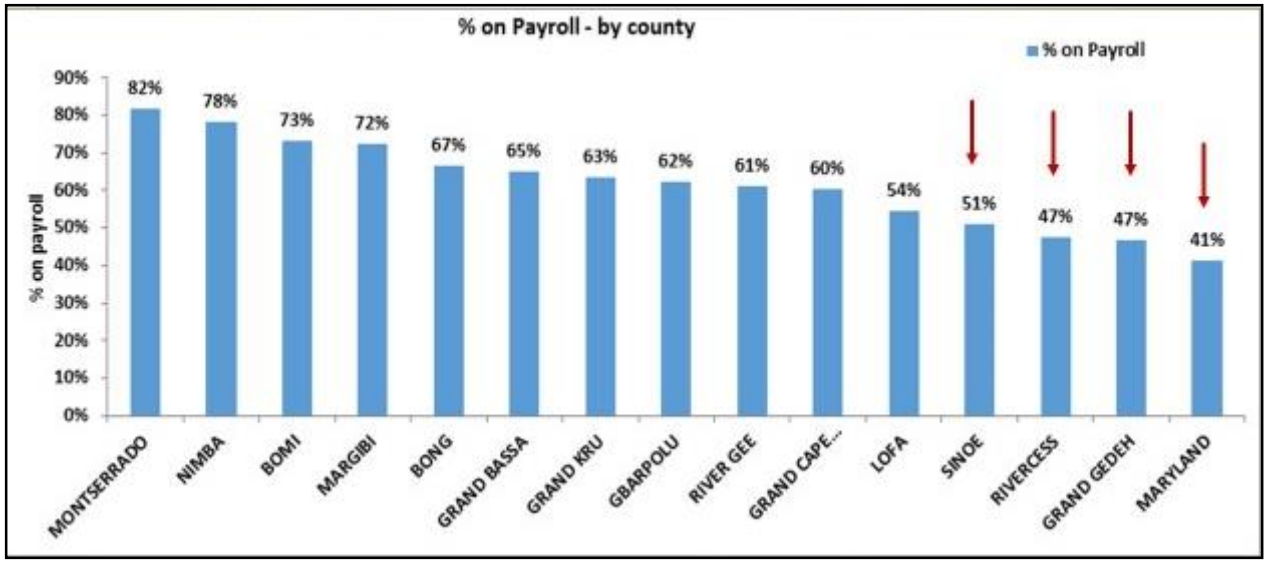
The total Public Sector health workforce is 10,672 as of June 2016. This was 10,406 in April 2015 at the time the investment plan was developed. There was 44% of the workforce not on payroll. Process has been made to roll MOH employees on to the payroll. Payroll percentage progressed significantly in the past year, from 56% (5,821) to 68% (7,214). Almost all clinical cadres are on payroll. There are 32% (3,458) of the MOH employees not on payroll with a 12% reduction of the number of staffs not on payroll (Figure 4.1). The percentage of employees not on payroll improved across all counties except Montserrado. The counties to be prioritized are Maryland, Grand Gedeh, Rivercess, Sinoe and Lofa as they have the highest number of staffs not on payroll. Despite the roll out of staffs on payroll, health workers seem to be moving from rural areas towards Monrovia for job opportunities, good living conditions and the need for professional development. Figure 15 presents the number of MOH employees placed on Government of Liberia Payroll during FY 2015/16.

Figure 15: Number of MOH Employees Placed on GOL Payroll During FY 2015/16



The proportion of health workers that are on payroll varies from county to county with Montserrado having the highest percent of employees on the GOL payroll. Eight out of every ten public health workers in Montserrado are on GOL payroll compare to 4 out every 10 in Rivercess, Grand Gedeh and Maryland Counties. Figure 16 shows the percent of health workers on GOL payroll by counties in 2016.

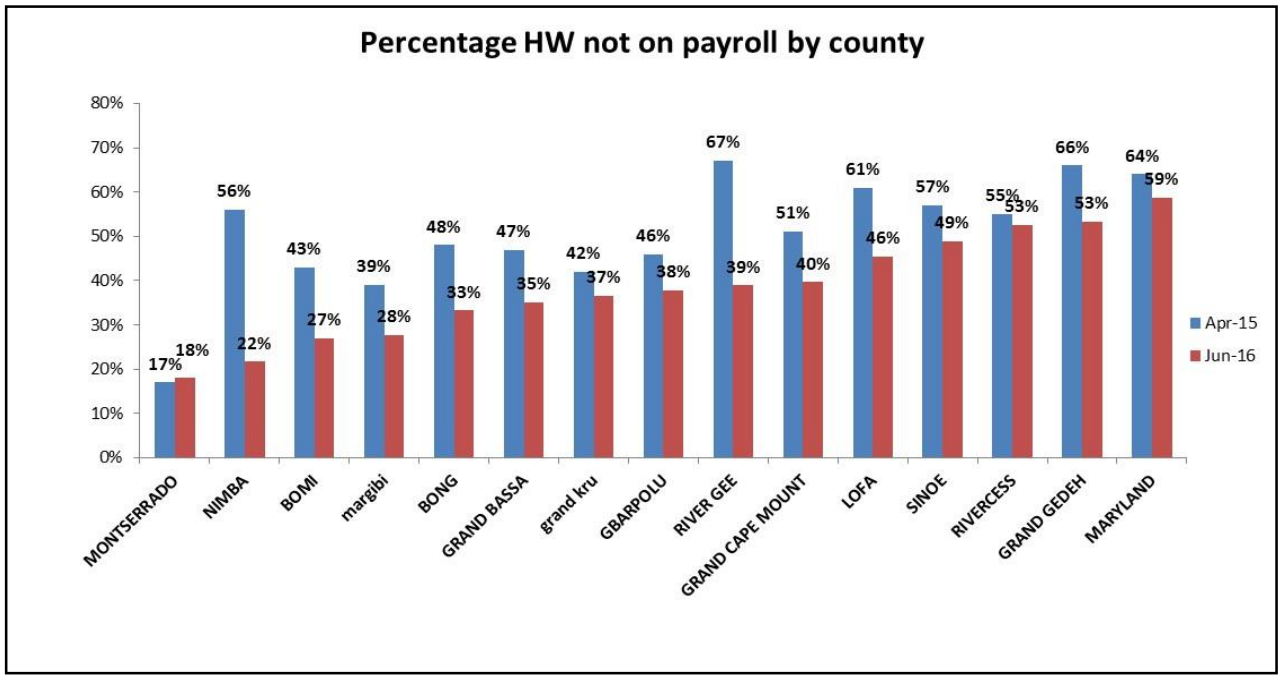
Figure 16: Percentage of health workers on payroll by counties 2016



Placing health workers on GOL payroll is one of the biggest HR challenge in the sector to insufficient budgetary allocation to absorb contract employees. However, the MOH has made progress over the years in reducing the number of contract workers. Presently, the county with the lowest health workers not on GOL payroll is Montserrado followed by Nimba, Bomi and Margibi respectively. In these counties, only two

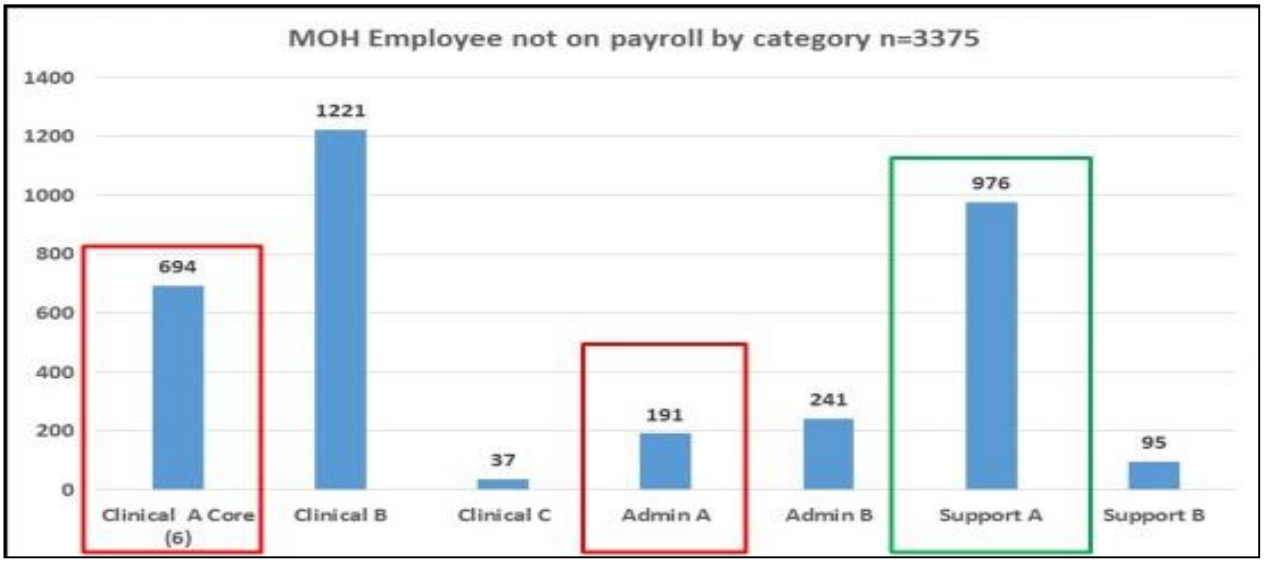
out of every ten health workers are not on GOL payroll compare to 6 out of every 10 in Maryland County. Figure 17 shows the percentage of health workers on GOL payroll by counties in 2016.

Figure 17: Percentage of Health Workers not on GOL payroll by counties in 2016



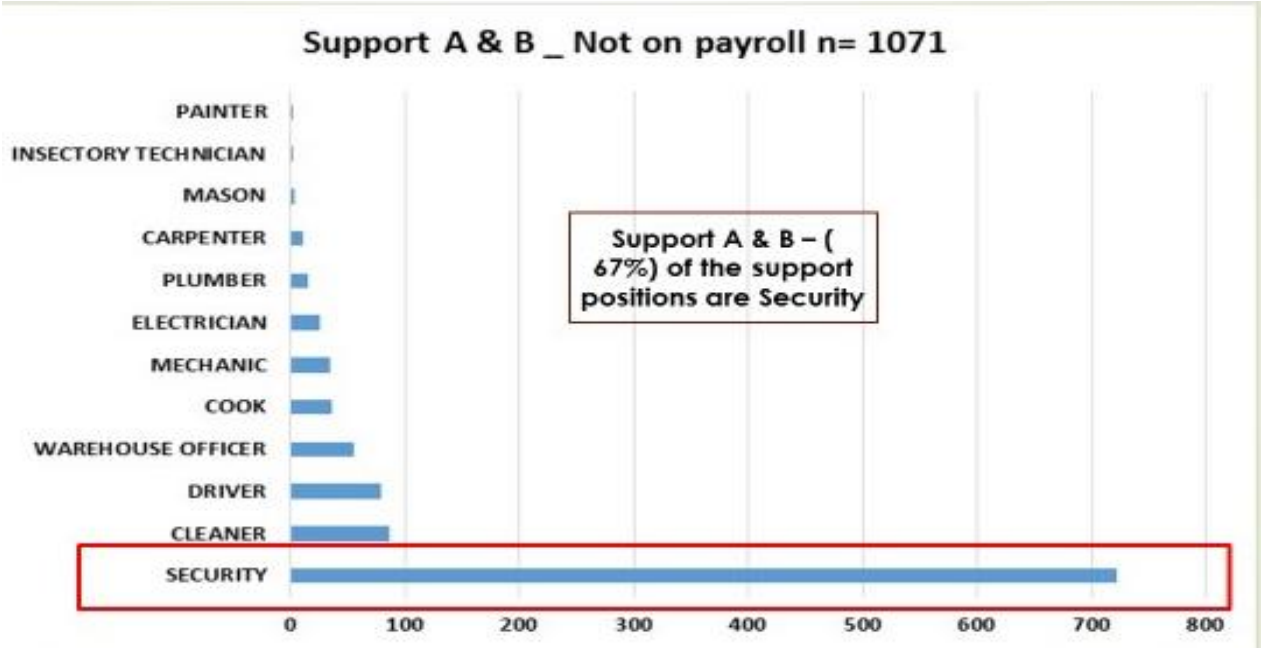
A further analysis of the number of employees not on GOL payroll shows that less number of support staff are not on payroll compare to clinical or professional health workers. Approximately 2 (20%) out of every 10 core clinical health workers (Nurses, Midwives, PA, Medical Doctors) are not on the GOL payroll compare to nearly 4 (37%) out of every 10 non core clinical health workers (e.g; vaccinator, aides –laboratory and Nurse, dispensers, registers, scrub nurse, x-ray technician etc.). The percent of Administrative (accountants, HR officers, Internal auditors, Logistics/procurement officers, lawyer, managers, coordinators, supervisors for programs, etc) not on GOL payroll is 13% while 30% of support staffers (e.g.; cleaners, security, carpenter, mason, drivers, cooks, laundry staffs etc) are not on the GOL payroll. Figure 18 depicts the category of health workers not on payroll in 2016.

Figure 18: Category of health workers not on GoL payroll in 2016



The highest proportion of support staff that are not on GOL payroll are securities. Two-third (67%) employed MOH securities assigned to various health facilities are not on GOL payroll. Figure 19 shows the number of support staff that is not on GOL payroll in 2016.

Figure 19: Number of Support Staff not on GoL Payroll in 2016



4.2 National Health Workforce Census

Health Workforce Census[1]: The health workforce census was a critical milestone planned to be achieved by the Ministry of Health led by the Research team. It was conducted for about a 30-days period beginning November 26, 2015 to February 2nd 2016 with period of break relative to the holiday season. (The last health workforce census was conducted in 2009 with a public sector health workforce salary survey conducted in 2012. Planning for the workforce requires a clear sense of the labor market dynamics and failures. The Goal of the census is to provide the MoH and stakeholders with a reliable and up to date minimum dataset on the available health workforce across the public and private sectors in Liberia to inform health workforce decisions.

The purpose of the Health Workforce census was to:

- To enumerate the number of health workers in Liberia
- To determine the availability, distribution and skills mix of health workers in all counties and health facilities in both the public and private sector
- To determine socio-demographic and economic characteristics of the HWs
- To establish a robust and reliable minimum dataset of all health workers to strengthen the health workforce information system including validated essential identity information (national identification, photo, bank account number).

The census covered health workers from public, private institutions, NGOs and partners' organizations. An Ethical approval was obtained from the UL PIRE Ethical Review Institution before the conducting the census. Two questionnaires were used for the census: (1) facility/institution questionnaire to capture basic descriptive information on its location and infrastructure, (2) health worker questionnaire to capture a minimum dataset for health workforce planning and management.

4.2.2 Health Workforce distribution and Density

Health workers in the 15 counties were counted. A total of 16,064 health workers captured in the 2015/2016-health workforce census in Liberia with 98.3% of them interviewed and 1.7% absent during the census. Higher proportion of health workers were captured from Montserrado, Nimba, Lofa and Bong counties. However, these counties also have the highest number by population as well as health facilities distribution in Liberia. Clinical health workforce (including Aides and health technicians) constituted over half (56.4%) of the overall workforce. The census recorded 4,756 core clinical health workers (Midwives, Nurses, Physicians and Physician Assistants) across the 15 counties of Liberia in both public and private facilities. Registered Nurses accounts for the highest number of core clinical workers 64.7% (3077/4756), followed by midwives (19.5%), physician assistants (10.9%) and physicians (4.9%). Four counties namely: Montserrado, Nimba, Bong and Lofa have 68.2% of this group of cadre across the entire country with Montserrado alone obtaining 30.6% overall cadre. Table 5 presents health cadre by county in 2016.

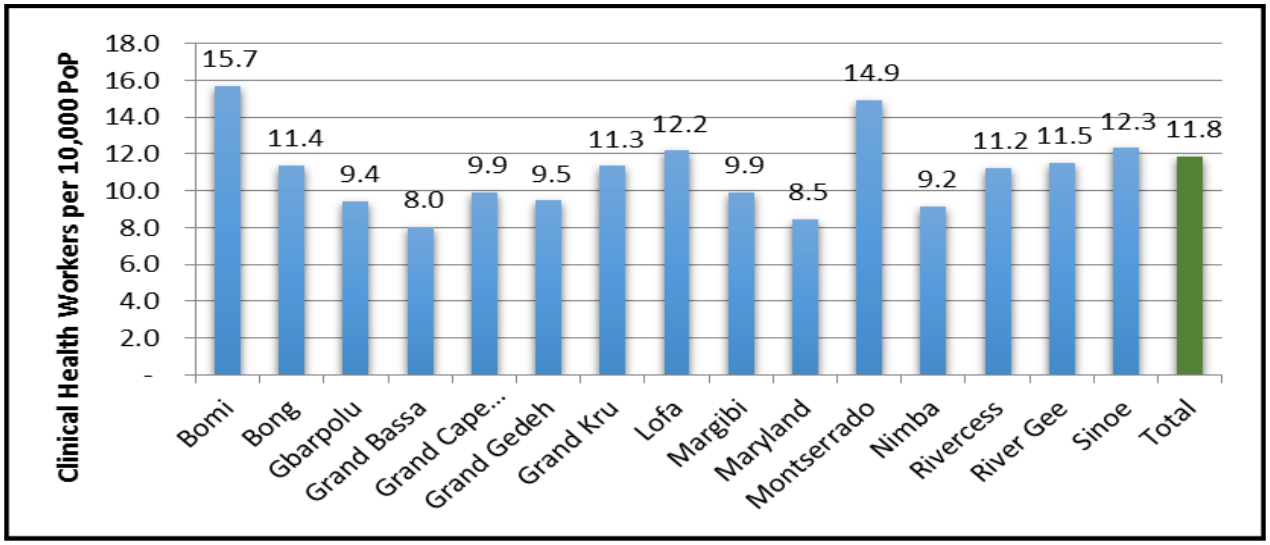
[1] The census report is currently being reviewed by the HRH Technical working group and will be publish up review and finalization.

Table 5: Health cadre by County in 2016

Professional Details	Grand Total	Bomi	Bong	Gbarpolu	Grand Bassa	Grand Cape Mount	Grand Gedeh	Grand Kru	Lofa	Margibi	Maryland	Montserrado	Nimba	River Gee	Rivercess	Sinoe
Administrators	1,404	33	93	21	47	48	36	22	108	78	53	638	137	15	30	45
Administrative Support	4,311	129	320	73	184	130	217	103	384	228	131	1,564	525	114	85	124
Clinical Support	3,601	128	220	49	111	99	177	71	269	163	128	1,502	416	83	48	137
EHT	285	9	14	6	15	7	20	2	15	16	7	117	40	4	5	8
Dentist	14	0	0	0	0	0	0	0	2	0	0	11	1	0	0	0
Lab Technician	300	6	35	2	8	6	7	4	12	22	11	139	31	6	3	8
Midwife	927	32	110	25	33	34	35	24	97	40	35	316	79	17	20	30
Registered Nurse	3,077	111	286	55	143	77	77	36	245	162	81	1,270	328	59	51	96
Pharmacist	109	4	5	0	4	3	2	2	5	13	2	54	9	2	3	1
Pharmacy Workers	962	31	78	17	38	38	42	17	75	48	38	377	84	15	23	41
Physician	234	3	20	3	7	4	3	2	9	13	6	128	30	3	1	2
Physician Assistant	518	13	19	9	18	33	23	15	38	24	14	209	49	15	20	19
Public Health Specialist	68	0	1	0	4	2	0	0	0	1	1	56	2	0	0	1
Social Workers	254	5	14	2	3	3	11	2	12	32	6	135	21	2	1	5
Total	16,064	504	1,215	262	615	484	650	300	1,271	840	513	6,516	1,752	335	290	517

Health worker density is an important indicator for measuring health workers. The World Health Organization (WHO) global target for health workers' density for 10,000 population is 23 which Liberia is yet to obtain at least 50 percent. The current national health worker density per 10,000 population is 11.7 with variation across counties. Figure 20 shows health workers density per county in 2016.

Figure 20: Health Workers Density per County in 2016



4.2.2 HR Information System (iHRIS)

The MOH has a Human Resource Information set-up that is in use. The focus was to integrate HR information system with existing information systems and evolve into a national observatory with up to date minimum dataset for workforce planning, management and development. The focus for the HRIS is to operationalize the use of the system.

Mobile Health Electronic Response & Outreach (mHero) – is an open-source mobile health worker communication and coordination platform. mHero facilitates strong two-way communication enabling health workers and MOH to be connected via text messaging. The mHero platform test piloting started December 2014. Implementing Partners and Unit heads have sent out workflows to health workers. mHero base-line survey conducted to measure level of awareness of the communication and coordination platform. Its reflection and vision workshop is planned for July 2016 to be hosted by MOH and partner by IntraHealth, USAID and Dalberg to chart mHero road map on moving communication and coordination platform forward.

Training (Central & County)

All National HR's (15 Assistant Administrative Officers) with (3 Assistant Admin Officers) Hospital HR's and 15 County Data officers were trained in the use of the IHRIS manage application in February 2016. With Support from CSH the National HR's were all given laptops. Intrahealth provided an IHRIS Developer to conduct the TOT. Nine persons trained at Central MOH as IHRIS Super-users (Data Managers, Payroll Officer, IT technicians, M&E staff). Intrahealth provided a senior program Officer and IHRIS user from Uganda to conduct the IHRIS Super users Training. The census data will be uploaded into the system following cleaning and analysis.

4.2.3 National Housing for Health Workers

There are currently Two (2) schemes under development:

#1. Mortgage Housing Scheme

- GOL scheme for Mortgage Housing done in collaboration with the National Housing Authority to construct 100 housing units targeting eight (8) counties (SE: *Maryland, Grand Ku, Sinoe, Grand Gedeh, RiverGee, Rivercess*, West: *Gbarpolu*, Central: *Montserrado*.)
- Between 5 and 15 units to be built in each of the above counties. GOL has funds loaded approximately 500,000 USD for this housing scheme.
- The policy for the Mortgage Housing scheme is under development (draft is under consideration)

#2. Construction of Homes in Remote/Rural Regions

- Construction of 200 housing units in remote areas to ensure recruitment and retention of workforce to high-need, rural communities.
- Process and policy development and plan for construction and distribution currently under discussion.
- World Bank has committed 2 million USD to housing scheme
- Tender and bidding process for the World Bank-funded units began for the construction of 41 two bed-duplex units across the eight counties mentioned above. The bidding process for the NHA managed project still pending.

4.3 Health Workforce Program

The Ministry of Health with support from CHAI defined the Health Workforce Program Strategy, which articulated critical interventions to help achieve the goals of the strategy. A National Health Training Institution Assessment conducted by CHAI with Liberia's Ministry of Health informed the strategy development process. This informed prioritized interventions for the HWP strategy. The cabinet approved the HWP strategy during the Health Sector presentation in November 2015.

As part of efforts to ensure alignment of the Health Workforce program strategy and its successful implementation, the MoH has set up different coordination structures to drive alignment and implementation efforts of the Health workforce strategy. These include the HRH Inter-ministerial Taskforce, the Human Resource for Health TWG, Nursing and Midwifery sub-committee and a Physician sub-committee. Also, the MoH contracted CHAI at the end of June 2016 under funding from the World Bank to provide technical assistance on management activities needed for successful oversight of the Health Workforce Program implementation.

In a bid to understand the investment funding requirements for the Health Workforce Strategy, CHAI supported a high-level 7-year costing which articulated resource needs at about $US280 million over seven years. CHAI also supported the MoH to embark on an activity prioritization as part of a review of the high-level costing. Based on this exercise, a 2-year activity-based costing was conducted with prioritized 2-year resource needs of approximately US$46 million for all activity components excluding investments needed for Redemption Hospital. The Ministry of Health, with CHAI's support, has been able to secure funding for the first two years of the Health Workforce Program. This includes re-purposed Ebola Emergency Response Program Funds from the World Bank towards the Program. Additionally, funding contributions by USAID, Global Fund and Peace Corps have been committed to support critical components of the 7-year initiative.

In the first half of 2016, the World Bank approved a total of $US2.3 million for investments to scale up infrastructure and other operational investments at the A.M. Dogliotti College of Medicine. These investments aim to strengthen Liberia's health workforce by improving the student-learning environment at the AMD and will cover the following:

- Renovation of the existing dormitory, and construction of a new dormitory and dining hall at the AMD College of Medicine to accommodate the current and estimated additional number of medical students to meet students' basic living needs. Depending on the existing budget, the project will also support rehabilitation of the faculty office block and faculty accommodations.
- Improvements in the basic infrastructure environment, to provide running water and 24-hour electricity, and internet.
- Establishing and equipping the AMD College of Medicine with two additional classrooms, a new lecture hall, and a skills lab.

- Other operational support (e.g., supplies, logistics) for students, faculty, and management team.

Through support from the Peace Corps 3 qualified educators were hired and deployed as visiting faculty at nursing and midwifery training institutions. Placement sites include Phebe Paramedical Training Program and the Tubman National Institute of Medical Arts.

Scholarships: Currently, 183 Nursing & Midwifery students merited the CSH scholarship from 4 training institutions; (United Methodist University, Esther Bacon, Phebe, and Mother Pattern). Tuitions have been paid for two semesters with the third semesters in process. Scholarship committee has been reformed with guidelines been updated.

Training In-service Training Situational Analysis: In-Service Training continues to be a major investment from the Ministry of Health (MOH) and donors and supports Liberian efforts to "build a fit for purpose productive and motivated health workforce that equitably and optimally delivers quality services." A situational analysis was conducted from October 28 to December 5, 2015 by the USAID supported Collaborative Support for Health (CSH) to analyze the current in-service training system and make recommendations for strengthening the in-service training system in Liberia. The global framework for in-service training strengthening framework produced in 2012 was used to organize the situational analysis and recommendations in the areas of: Strengthening training institutions and systems, coordination of training, continuum of learning from pre-service to in-service, design and delivery of training, support for learning and evaluation, and improvement of training.

Strengthening training institutions and systems: There are no clear expectations or terms of reference documents for the different bodies engaged in in-service training, the current Training Unit, MOH vertical programs/units, county health teams, and training providers. Clear roles and responsibilities are essential for a functional in-service training system. MOH vertical programs/units are not currently formally accountable to the Training Unit for coordination with the county health teams or each other.

Coordination of training: Coordination and tracking of training is the priority issue identified for action across multiple sources. The 2015 Civil Service Agency Human Resource Policy requires that every program or unit prepare a biennial training plan, this is not currently done.

Continuum of learning from Pre-service Education to In-service training: There are no clear mechanisms to coordinate between the MOH vertical programs/units and the professional councils and boards who oversee the pre-service education for their cadres.

Design and delivery of training: 75% of the training providers reported their training includes a practical component and the use of interactive methods that foster active learning. However, desk reviews reveal lecture and didactic methods (which have been shown to result in no-to-low learning outcomes) are still heavily used. The Civil Service Human Resource Policy that requires workplace-based new-staff orientations to include, "at a minimum, on-the-job training or work-related instruction that prepares employees to perform their current jobs."

Post-Training Support for learning: There is no formal system for ensuring workers receive post-training support in the workplace, and only half of the training providers provide on-the-job support to learners after training. Half of training providers evaluate their training, but comments indicate this may only be the participant evaluation. They do not share the results of evaluations with the MOH.

4.4 Qualitative Study of Health Workforce

Qualitative Study on Availability and Performance of Health workers: The study was conducted from May 2015 to February 2016. The data collection was performed from October 8 to November 18, 2015, in rural, semi-urban and urban communities in five counties – Margibi, Bomi, Nimba, Lofa and Grand Bassa. The counties were chosen based on the following criteria: specifically, low health care utilization, high proportions of health workers that are not on the Government of Liberia payroll, low health worker density and counties hardest hit by EVD. The main objective of the study was to provide baseline information on the current perspectives of the communities and the health workforce to inform the effective implementation of the MOH Emergency Hiring and Management Plan. A qualitative research design with a multi-method approach. The study was intended to explore the following questions: What is the situation of health workers after the EVD outbreak (including social aspects and mental health), What affects the availability of the health workers and why? What affects the performance of health workers and why? And how is the interaction of health workers and communities (patients) and what influences that? The Institution Review Board (UL-PIRE) granted ethical approval. Some of the results from the study were as follows:

The overall situation of health workers in Liberia is characterized by a deep frustration regarding payment issues (many of health workers not being on government payroll, insufficient wages, delay of payment, no insurance for health workers on incentives), shortage of investment in human resources (lack of staff, no possibilities of professional development, lack of housing and transport), and shortage of material resources at all levels resulting in poor working conditions and often poor quality of health care delivery. These challenges not only lead to low trust of health workers in the administrative system but also profoundly impact on the interaction of health workers and communities. They were considerably amplified and made more visible by the Ebola Virus Disease crisis 2014-2016. Despite these challenges, the study showed the resilience amongst health workers towards these challenges. However, the MOH have to be very cautious not to overstretch this resilient capacity as the frustration could outbalance this capacity quickly. Many communities were quite satisfied with the performance of health workers. However, they reported about two main challenges they faced – the lack of essential drugs and the lack of transport during emergencies. Several communities openly accused health workers engaging in their own business with drugs and criticized the structural deficiencies and the lack of monitoring that support corruption and nepotism [2].

Retention Strategy

Develop strategy to address findings from study on motivation and means to attract staffs to rural areas. MOH is exploring many avenues to develop and implement a robust retention strategy to keep health workers at places of work. Some of these strategies though expensive but if developed, will motivate health care workers and attract qualify staff to the workforce. Some of these strategies MOH is trying to develop and implement are:

- The housing program for health workers

[2] The study report will be available once finalized.

- The propose CSA pay skills for health workers
- Continue professional development program through MOH scholarship program
- A well structure rotation program for health workers. (Rotating workers after servicing for a specify period in each location
- An incentivize package for health workers serving in a selective location (hard to reach counties) etc.

Most of the retention strategies have not been operational yet and there are still ongoing discussions.

Strengthening Regulation Systems

The strengthening of regulatory system requires work with the medical council and boards. Activities to be covered under this focus area include:

- Regulatory information system
- Strategic planning
- Licensure
- Accreditation
- Continuous Professional Development (CPD)

Coordination

The coordination of key stakeholders supporting the MOH health workforce initiatives is crucial to avoid duplication of effort and resources and get the maximum benefit out of the investments made. Given that the issue of Human Resource for health cuts across various sectors, coordination efforts become necessary leveraging structures that include stakeholders from all relevant sectors. Some important coordination structures developed to coordinate health workforce stakeholders are inter-ministerial taskforce on HRH, Technical Working Group and Sub-committees.

Achievements:

- Developed new organogram for the Human Resource Division
- HR Division Director was appointed my the MOH and approved by the Civil Servant Agency
- MOH along with CSA have launched a process to develop performance plan for employees and conduct appraisals
- MOH has initiated the one employee one file system
- Established the Inter ministerial taskforce for HRH
- HRH TWG was re-established and process of its TOR revision completed
- Nursing & Midwifery and Physicians' sub-committee established with coordination meetings held frequently
- Developed standard operating procedures (SOPs) processes for accreditation, licensure and re-licensure of health facilities, training institutions and professional staff
- Series of stakeholders' meetings were conducted to develop standard operating procedures for Continuing Professional Development (CPD) approval process and proposed tools.
- Purchased licensing equipment for LBNM

- Updated global pre-service education accreditation tools for training institutions and health facility serving as clinical sites.

Critical issues to be addressed within the public sector health workforce are:

- Putting 32% of the workforce that are not on GoL payroll but have been working for many years with anticipation of moving on to payroll
- Effective and efficient Management of the workforce at central and county levels inclusive of improving the performance management system.
- Revision of the MOH incentive scheme which have been in existing since 2007
- Conduct of regular payroll audit
- Advocacy on the use of the Civil Servant pay scale and budgetary allocation for this process.
- Retention package for health workers i.e housing in rural and hard to reach areas
- Regulation of the recruitment of health workers and the pressing need for some cadre i.e. Midwives

Challenges

The table below summarizes some critical challenges faced in the course of the fiscal year in implementing each of the key areas of the health workforce pillar.

Health workforce investment area	Challenges
Establish a functional MOH Human Resources for Health structure	• Delay in the finalization of the skills assessment conducted and recommendations to the MOH relative to re-positioning and potential recruitment of new positions led by the Governance commission as part of the MOH reform process. • Sourcing resources to cover salaries /incentives for critical staffs for the division • Timeliness of filling in critical position for the division
GOL Payroll Rollout	• Timeliness of payroll processing across the 3 agencies due to the manual approach • Delays in the submission of the appropriate documentation by both clinical and none clinical staffs • Delay testing by CSA for non-clinical workforce due to the centralized nature of testing • Delay licensure for clinical staffs due to the centralized nature for processing • Weak capacity of the HR officers at the county level to send through appropriate data • Payroll prioritization not adhered to
National Health Workforce Census	• Delay in finalization of census analysis, report dissemination and use of data as baseline data to inform HR M&E efforts
HR Information System (iHRIS)	• Operationalization of the system at each level and coordination between various units involved with the use of the system. • The presence of IHRIS records without a unique identifier or (Unique Identification Number) throughout the HIS architecture

	• Operationalizing the m-hero system at the county level has fallen short of expectation. • Decision on how the migration of census data will be carry out
National Housing for Health Workers	• Delay in the procurement process for the construction of housing units for both schemes.
Health Workforce Program	• Inadequate financial resources to implement the full program activities have prompted prioritization discussions and delayed full implementation of the program • Delay to procure implementation and management firm for the World Bank-funded part of the CHA program
Qualitative Study of Health Workforce	• Delayed review and finalization of the report due to competing priorities
Retention strategy	• Further discussion required at the inter-ministerial level
Strengthening Regulation Systems	• Lack of resources for the implementation of CPD by the regulatory bodies
Coordination	• Delay to secure MoH HR Unit Director and other critical positions needed to staff up the HR Unit and to carry out Secretariat functions for the HRH TWG impeded some core coordination functions expected to be led by this unit.

Recommendations

The following recommendations are linked to the key areas for the Human Resources for Health Pillar. These are expected to be implemented within or start up in the course of the next fiscal year and be closely monitored.

- Review and update the HRH Policy based on the available data on the workforce.
- Reinforcing performance management at all levels. Management of the workforce on payroll to ensure they are present at their areas of deployment and are performing well
- Explore the options for the use of mobile money to support the timely payment of health workers
- GOL-CSA to consider electronic processing of Personal action notice to fast track payroll roll out processing
- Funding is needed to roll out the remaining health workers and support staffs on to payroll
- A regulation on the recruitment of health workers should be passed by the MOH
- Strengthen regulation relative to the accreditation and production of health workers linked to training institutions and practice linked to an accreditation of health facilities, licensure, testing, continuous professional development, information system and use of data for the health workforce
- Migrate the census data to the HR Information System and create a workforce observatory as per the WHO guidelines and conduct workload analysis to facilitate workforce planning.
- Operationalized the use of the HR information System at the national and county level.
- Fast-track the procurement process of the both housing schemes
- Develop a policy for housing for health workers

Section Five: Health Infrastructure

5.1 Access to Health Care

Physical access to health facility has to be improved as nearly one-third of the population lacks access within one hour of walk in reach of a facility. The number of health facilities providing basic health services increased from 687 in 2014 to 727 in 2015. These facilities provide 71% of the population with access to health services within one hour of walk or 5KM radius. Although these facilities are functional, majority lack sufficient observation and in-patient beds and sanitation facilities. Table 6 presents distribution of health facilities by county and basic amenities.

Table 6: Distribution of Counties by Basic Amenities, access to GSM coverage and in-patients beds in 2016

Table 6: Distribution of Counties by Basic Amenities, access to GSM coverage and in-patients beds in 2016							
#	County	Access to healthcare	% of health facilities with Water Source	% of health facilities with Electricity	% of health facilities with GSM Coverage	% of health facilities with sanitation facilities	In -patient beds per 10,000 population
1	Bomi	69%	73%	96%	91%	85%	14
2	Bong	48%	83%	92%	79%	79%	13
3	Gbarpolu	32%	50%	100%	50%	60%	4
4	Grand Bassa	51%	62%	86%	83%	43%	17
5	Grand Cape Mt	66%	71%	88%	65%	100%	7
6	Grand Gedeh	55%	75%	88%	63%	81%	37
7	Grand Kru	59%	26%	84%	37%	80%	4
8	Lofa	70%	63%	95%	63%	66%	22
9	Margibi	74%	81%	89%	78%	88%	28
10	Maryland	78%	69%	100%	58%	78%	2
11	Montserrado	96%	57%	92%	96%	97%	51
12	Nimba	58%	78%	85%	68%	67%	111
13	Rivercess	64%	44%	67%	72%	65%	13
14	River Gee	46%	61%	78%	28%	83%	10
15	Sinoe	61%	56%	85%	24%	75%	18
	Total	**71%**	**63%**	**88%**	**75%**	**76%**	**17**
Sources: National Health Workforce Census and SARA							

As indicated above, there are 727 health facilities in the country as of 2015. However, the recent health workforce census covered 701 health facilities and could not reach the remaining due to bad road condition and closure. The census collected information on health facility ownership by county and found that 62.3% of the health facilities covered during the census were public and 37.6% private (30.8% private for profit and 6.8% private not for profit). Table 7 presents health facilities by type, ownership and county.

Table 7: Health Facilities by County, Ownership and Type

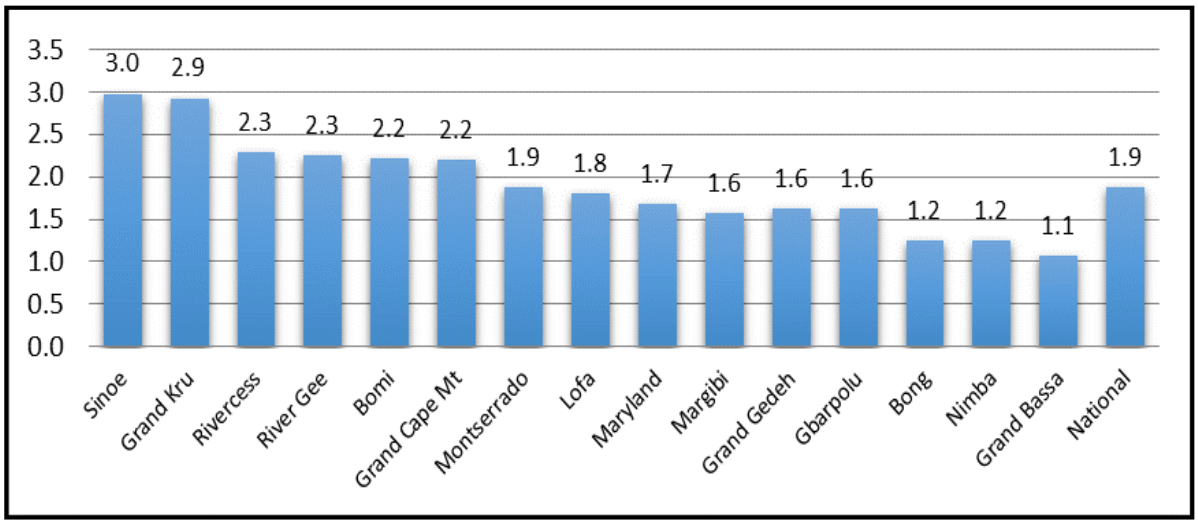
County	Clinics	Health Centers	Hospitals	Total	Private for Profit	Private Not for Profit	Public
Bomi	21	0	1	22	4.5	4.5	90.9
Bong	43	1	3	47	10.6	4.3	85.1
Gbarpolu	15	0	1	16	6.3	0.0	93.8
Grand Bassa	25	1	3	29	6.9	13.8	79.3
Grand Cape Mt	30	3	1	34	0.0	2.9	97.1
Grand Gedeh	21	2	1	24	12.5	0.0	87.5
Grand Kru	14	4	1	19	0.0	5.3	94.7
Lofa	51	4	4	59	5.1	1.7	93.2
Margibi	26	8	2	36	36.1	8.3	55.6
Maryland	24	1	1	26	11.5	3.8	84.6
Montserrado	221	19	11	251	69.3	10.0	20.7
Nimba	58	5	5	68	13.2	11.8	75.0
Rivercess	17	0	1	18	0.0	5.6	94.4
River Gee	15	2	1	18	0.0	0.0	100.0
Sinoe	33	0	1	34	5.9	0.0	94.1
Total	**614**	**50**	**37**	**701**	30.8	6.8	62.3

5.1.2 Health Facility distribution and Density

A total of 701 health facilities were covered in the census across the 15 counties. Of the 701 health facilities, 616 were health clinics, 48 health centers and 37 hospitals. A total of 437 health facilities assessed were public, 216 were private for profit and 48 private not for profit health facilities. About two-third (62.3%) of health facilities were public and 37.6% private (30.8% private for profit and 6.8% private not for profit). Montserrado accounts for the highest number of health facilities in the country (36%) and Gbarpolu the lowest (2%). Physical access to health care facility is dare in Liberia with 29% of the population lacking. An important indicator that measures population physical access to healthcare apart from distance (hour or KM of walk) is the health facility density[3]. The World Health Organization (WHO) global target for health facility density for 10,000 population is 2, which Liberia almost obtained. Currently 71% of the population of Liberia has access within 1 hour or within 5KM of walk to reach the nearest health facility (DHS 2103). The current density ratio is 1.9 nationally with variation across counties. Figure 21 presents health facility density per county in 2016.

[3] Facility density is estimated as number of health facility divided by the population multiply by 10,000

Figure 21: Health Facility Density per county in 2016



5.2 Health Infrastructural Projects

Housing for Health Workers

Periodic assessments of the Liberia's health system have continued to show that the high attrition of health workers from rural communities is partly caused by the lack of staff housing. The provision of housing facilities for rural health workers is among the several retention, and recruitment strategies recommended in the 2015 Health Workforce Assessment Report. Determined to address the housing problem, the Ministry mobilized US$2.5M to finance two heath workers housing projects. The Government of Liberia through the Ministry of Health disbursed US$500,000 to the National Housing Authority to build 20 low cost mortgage housing units, and US$ $2 M of World Bank Ebola Emergency Response Project (EERP) portfolio was allocated to the Ministry to construct 100 housing units.

A). Mortgage Housing Units

Implementation of the mortgage housing project is far behind schedule as the first units which were expected to be inaugurated on July 26, 2016 Independence Day were never constructed mainly due to procurement challenge. The NHA has reported that contract award is completed, construction materials mobilized, site preparation completed, and the construction of 15 housing units are undergoing construction in Zwedru, Grand Gedeh. NHA's action to build all the housing units in Zwedru without authorization from the Ministry grossly contravenes the contract agreement that clearly mandates the former to construct 20 low cost mortgage-housing units in two counties.

B). Rural Health Workers Housing Units

Not much progress has been made to begin the actual construction of the housing units for rural health workers. Preparations are however far ahead to jumpstart construction activities before the end of 2016. The land donated by the community through the County Health Teams have been survey and GPS map displaying exact locations for the construction produced; and land documents obtained from community

residents. The engineering designs of the buildings were developed and approved; and bid evaluation and contract award processes will be concluded by the end of October 2016.

C). Re-engineer and build resilient health infrastructure

Liberia's health infrastructures are inadequate, incapable of responding to public epidemic such as Ebola and insensitive to the needs of physically challenge persons. Most of the health infrastructures are suffering from dilapidated structures, lack of laboratory diagnostic equipment, the lack of reliable electricity and pipe born water supply. The lack of isolation units and triage to protect health workers and to enhance infection prevention control are major health infrastructure weaknesses of Liberia Health care delivery system.

Planned Activities

To accomplish the health infrastructure goal, the Ministry through the Government of Liberia engaged the donor community to (a) upgrade and equip three county hospital (Phebe in Bong, J.J Dossen in Maryland, Redemption, Montserrado) to function as regional hospitals, (b) renovate, equip and staff John F. Kennedy to be certified to functional as Liberia's premium tertiary hospital, (c) build a new modern Redemption Hospital in Caldwell, (d) establish a National Laboratory Diagnostic and Imaging Center, (e) complete the construction of unfinished clinics, (f) upgrade the services of a select health centers, (g) construct a National Bio-Bank, and (h) establish Cancer Center of Excellence for Women among others.

Progress

EERP US$12 Support Project

The World Bank directly disbursed over US$12 M of the EERP funding to UNOPs to carry out several construction projects nationwide. The Bank also provided funds to UNICEF to construct water wells to provide constant supply of water to the triage; and also provided funds to WHO to procure medical equipment for all public hospitals. Under the EERP the Bank also provided US$14 million and US$2 million to the Ministry through the Ministry of Finance to respectively finance the construction of the new Redemption Hospital, and Laboratory Diagnostic and Imaging Center at JFK. UNOPs has to date demonstrated commitment to implementing the project and has to date (September 2016) accomplished the following:

- 19 of the 24 triage (15 for county hospitals and 9 health centers) constructed and 7 fully operational in Bomi, Bong, Margibi, Grand Cape Mount, and Grand Bassa Counties;
- Renovated the Phebe Hospital is progressing with the completion of the wire fencing of the immediate surrounding of hospital; and the gate house, fencing and the reroofing completed; the disposal of AC ducts and asbestos sheeting has been done under the supervision of the Environment Protection Agency of Liberia to satisfy the international environmental regulation;
- Medical doctors are undergoing postgraduate training at the hospital facilities and WHO has established a medical library fully furnished, equipped with seven computers and Internet established to enhance learning, and delivered a new X-ray machine. With funding disbursed through WHO, UNOPs procured and delivered medical equipment to all three hospitals.
- Construction of the 20 bed isolation units at Phebe has commenced, and contract awarded for the construction of the isolation units at Redemption, and Tellewoyan Hospitals;
- Renovation of the F.J. Grante Hospital in Sinoe County and Rally Time Hospital are ongoing,

- Renovation of Liberia Biomedical Research Center (LIBR) is nearly completed; as the installation of the mechanical systems and renovation of the individual labs are the major hold up;
- The design for the Transit Unit at Redemption Hospital completed and procurement process for the recruitment of the construction firm ongoing; and
- Procurement completed for the construction of Outpatient Clinic and Magnetic Resonance Imaging Laboratory Extension at the Jackson F. Doe Hospital funded by the Islamic Development Bank is planned to start in October.

Planned Activities

Drawing from the experience of Ebola, the construction of a new Redemption Hospital to serve as a modern referral facility in the Caldwell to address health care needs of the population was prioritized. With Government of Liberia Funding, the Ministry contracted the services of the Mass Design in 2015 to develop the architectural drawings for the new 150-bed Redemption Hospital to include, existing drawing of the Pediatric Hospital (see draft contract attached). About US$14 million of EERP fund has been allocated to finance the construction of Redemption Hospital, while the Global Fund, USAID and the Government of Liberia are jointly financing the Warehouse project. Both the Warehouse and hospital construction projects have been disappointingly delayed due to dispute over the ownership of some portion of the 35 acres of land designated for the projects.

Progress

i) Redemption Hospital

For nearly 10 months individuals claiming ownership of Redemption Hospital land took legal actions and prevented the contractors from accessing the project site. After several legal consultations and argument both parties through their legal counsels agreed to peacefully resolve the land dispute out of court. In May 14, 2016, the project-affected persons (PAP) accepted the Ministry's proposal to pay the assessed value for structures and disburse US$3500 per lot. To date, the Ministry has disbursed a total amount of US$45,000 to 11 project-affected persons for 13 vacant lots or 3.1 acres of land; and 32-land deeds have been submitted to the National Archives for authentication. To satisfy the Bank construction requirements, an independent consultant carried out Social and Environment Impact Assessment to develop an Abbreviated Resettlement Action Plan for individuals directly affected by the construction of the hospital. The report estimates the disbursement of US$610,000 as the total assessed value for land, structure and relocation assistance. Construction of the first phase of Redemption Hospital has been approved for an investment value of US$14 through a World Bank EERP funding. A design firm has been contracted for the design phase of project implementation.

ii) Warehouse Project

Compared to Redemption, the warehouse project has made remarkable progress. Both the Supervising Firm and construction company have been contracted, and execution of the agreement started. Engineering design has been completed, approved and certified. All project affected persons received full settlement for their land and structures. Construction activities commenced in August 2016 with the demolition of structures, mobilization of construction materials, site clearance and demarcation; and construction of access road with crush rocks.

Section Six: Medicines and Supply Chain

The health sector needs to have comprehensive improvements across the entire medical supply chain in order to ensure accessibility and availability of drugs and medical supplies at all times at all levels and reduce wastage. In the immediate period, the sector will focus on asset transfer and transition of medical supplies and diagnostics capacities used during the EVD response to the routine health services, scale up the purchase of essential medicines and supplies for all the reopened facilities, and accelerate procurement according to quantified needs for drugs, supplies, equipment and machinery.

In the transition phase, the sector worked to accelerate capacity improvements in warehousing and distribution, purchase required essential supplies and incorporate all equipment (like incinerators for medical waste) remaining after EVD response into regular system.

Beyond 2015/16, the sector focus has been to coordinate and harmonize all different supplies systems in order to build adequate capacity for management of required medicines and supplies at all levels.

Achievements

- Restructured the National Drug Service to fulfill the role of an independent, integrated Logistic Service Provider (LSP) for the public sector in Liberia through defining its legal status (government autonomous agency), improving functionality, centralizing/integrating parallel supply chains, developing HR capacities, improving storage capacity, ensuring proper functioning of supply management system and assuring good distribution practices from central to county depots.
- Restored or constructed where there is none, county depots to improve storage capacity at county level (considering storage of cold chain items).
- Developed HR capacities to enable proper functioning of supply management system and ensure last mile distribution from county depots to facilities through the availability of assigned logistics
- Assessed drug revolving fund to improve financial sustainability of essential medicines and supplies consistent with the Bamako Initiative.
- Established and supported overall distribution system; consideration will be given to the possibility of outsourcing distribution system throughout the entire supply chain but with the aim of building capacity to be handed over by the government before the end of this plan.
- Rehabilitated medicines QA laboratory through the purchased of needed equipment and materials, and the increased in the number of skilled staff.
- Installed appropriate technology for the destruction of all expired, counterfeit and damaged medicines.
- Drafted five (5) years Strategic Plan with operational budget document for complimentary medicines
- Developed and launched the National Traditional Medicine Policy and Strategy document

Challenges

- NDS legal status has not been clearly defined. An interim management team is indefinitely managing the system.
- Lack of funding to renovate and construct depots at county level.

Section Seven: Leadership and Governance

7.1 Organizational and Institutional Framework

The Ministry of Health manages the health sector. The Minister of Health heads the Ministry and is assisted by four Deputy Ministers (Chief Medical Officer/Deputy for Health Services, Administration, Planning and Research and Public Health Emergency) and six Assistant Ministers. The highest decision making body in the health sector is the Health Sector Coordination Committee (HSCC) that meet quarterly and chaired by the Minister of Health. The HSCC consists of donors (USAID, Irish Aid, EU, the French Development Agency, etc), UN agencies (UNICEF, WHO, UNFPA, UNAIDS, UNDP and UNOPS), Government Ministries (Ministry of Finance and Development Planning, Ministry of Internal Affairs, Ministry of Education, etc), private sector representative (Mother Patern College of Health Sciences), Christian Health Association of Liberia and NGO representative. The health sector also has two additional coordination platforms: Health Coordination Committee (HCC) and the Pool Fund Steering Committee. The HCC is chaired by the Chief Medical Officer and comprised of health sector non-governmental organizations (NGOs) such as IRC, AFRICARE, Partners In Health (PIH), Medicine Du Monde, International Medical Teams, ACCEL, Collaborative Support for Health (CSH), Save the Children, etc. The Pool Fund Steering committee is the highest decision making body for the pool fund. It is chaired by the MOH and co-chaired by UNICEF. The committee consists of United Kingdom's Department for International Development (DFID), Irish Aid, the Swiss Agency for Development and Cooperation (SDC), the French Development Agency (AFD), WHO, Ministry of Finance and Development Planning, Ministry of Internal Affairs, etc.

The Ministry is decentralized at the county and district levels. The County Health Team is headed by a County Health Officer who is a medical doctor, while at the district level, the District Health Officer heads the team and is usually a Physician Assistant or a Nurse.

The current partnership and management arrangement fosters engagement of the civil societies, as services providers and watchdogs. Professional and regulatory bodies are ad hoc members of the health sector coordination membership. They are usually invited based on the agenda.

Institutionally, the MOH operates a three-tier health services management arrangement delivery at the county, district and community levels. The delivery of health services in Liberia is structured into primary, secondary and tertiary levels. The primary health care level consists of health care clinics and community health services. The secondary level system consists of health centers and County Hospitals situated in the capital city of each county with referral to the tertiary hospitals such as the John F. Kennedy Hospital in Monrovia. The county health system is managed by County Health Officers (CHOs), while District Health Officers (DHOs) manage the district health systems.

7.2 Policies and Planning

The strategic objective for the resilient plan under the governance, partnership and decentralization pillar is to strengthen governance, leadership and management capacities at all levels to implement the national and county health plans. The three focus areas under this pillar are: governance, partnership and decentralization. The implementation of these activities falls under the Department of Planning, Research

and Human Development through the stewardship of three units; Decentralization, External Aid and County Health Services.

Over all, the Policy and Planning Unit coordinates sub-sector policy development and strategic planning at facility, county and central levels within the sector.

7.2.1 Policies and Strategic Plans

During the period (FY 2015/16) the Ministry of health formulated the below policies and strategic plans to guide the sector and set the development agenda.

1) Developed the National Laboratory Policy and Strategic Plan
2) Developed the Health Sector Monitoring and Evaluation Policy and Strategic Plan
3) Developed Mental Health Policy
4) Developed Health Information System (HIS) Policy and Strategic Plan
5) Revised the Community Health Program Policy and Strategic Plan
6) Developed the National Health Promotion Policy and Strategic Plan
7) Developed Risk Communication Plan and a National Health Promotion Communication Strategy
8) Developed National Public Health Institute strategic plan including research agenda
9) Develop Integrated Disease Surveillance and Reporting (IDSR) Strategic Plan
10) Developed the National Laboratory Strategic Plan
11) Adopted and developed IDSR technical guidelines, training modules, community event based surveillance manuals and Job Aides
12) Developed National and County specific Epidemic Preparedness and Response Plans and set up Rapid Response Teams (RRTs) in all counties and district across the country
13) Established functional Emergency Operations Centers (EOCs) in all counties with relevant standard operating procedures and plans
14) Developed National Tuberculosis Multi-drugs Resistance Expansion Plan and Standard Guidelines for the Management of Drug Resistance TB in Liberia
15) National Standard Treatment Guidelines revision ongoing

7.2.2 Operational Plan

Developed 15 County Annual plans and a consolidated national Plan 2015/16: The key achievement for 2015 was the conduct of operational planning process for all fifteen (15) counties. The annual operational plan is an instrument that is required to ensure that MOH long- term plan is implemented. The overall objective is to enhance implementation of the Investment plan. The Operational Plan presents estimated targets, activities and financial needs—for fiscal year 2015/2016. It covers both central and county levels priority activities, projection of resources (HR, Infrastructure, and funds), monitoring framework that consists of baselines and targets, key activities for programs and departments.

7.3 Legislations

The Ministry with support from partners drafted numerous acts and submitted to the national legislature for passage into law. These legal frameworks when passed into handbills and fully implemented will facilitate development in the sector. Below are draft legal instruments submitted for enactment into law;

- Drafted an Act to create the new Ministry of Health following the separation of the Department of Social Welfare from the Ministry of Health and Social Welfare
- Drafted the National Mental Health Act, which is passed by the Senate and submitted to the lower House for concurrence.
- Drafted an Act to create the National Public Health Institute of Liberia (NPHI) as an autonomous agency
- Drafted National Health Equity Fund Legislation (Health Insurance scheme)
- Ongoing review of the 1976 Public Health Law to reflect emerging diseases and conditions in present day realities
- Passage of Immunization Legislation "An Act to Amend Chapter 15 of The Public Health Law, Title 33 of the Liberian Code of Law Revised" by the Senate and House of Representatives

7.4 Coordination and Decentralization

The Health Sector Coordination Committee (HSCC), which coordinates macro level sector inputs, increases transparency by information sharing and advises on national health plans, policies and strategies for the Liberian health sector, has been strengthened and now also includes members of the EVD response partners. During this reporting period, Liberia signed the International Health Partnership plus (IHP+) Global Compact, signaling Liberia's resolve to join the IHP+ and signed the IHP+ Global Compact.

The Ministry of Health and donors organized a Joint Financial Management Assessment (JFMA) to enhance and strengthen the National Financial Management Systems to sustain accountability, openness and transparency. The JFMA will reduce the transaction costs due to duplicated Financial Management Assessments, processes and parallel FM systems applied by different partners.

The MOH in partnership with the USAID Collaborative Support for Health Program trained twenty-seven senior (27) directors/assistant and four ministers in a Leadership Development Program Plus (LDP+) training manual. The training was based on strengthening in service training for newly central level junior technicians and CHTs managers. The County Health Board Term of Reference (ToR) has been reviewed and revised as well as incorporated into a draft CHB Operational Manual. The CHB operational manual is designed to orient CHBs member with basic precedence in Leadership Management & Governance (LM&G) and will be used as a standard for subsequent board development at the district level. Once validated and approved by the MOH it will drive the strengthening of health boards.

Section Eight: Resource Mobilization and Healthcare Financing

A mix of financiers, namely, government, donors and households, finance health care in Liberia. In 2011-2012, the Ministry of Health & Social Welfare finalized Liberia's Health Financing Policy and Plan (2011-2021), which was established to govern the mobilization and allocation of the resources necessary to implement the National Health and Social Welfare Policy and Plan (2011-2021).

The overarching goal of the Health Financing Policy is to ensure that the health and social welfare services provided to the people of Liberia are affordable to the country while preventing catastrophic household expenditures. Sustained leadership, stakeholders' commitment, resources and effort are needed to achieve this goal by accomplishing the following five objectives:

1. Increasing the mobilization and predictability of adequate, sustainable financial resources for health and social welfare
2. Improving the planning, budgeting, and accounting for equitable resources allocations
3. Increasing the efficiency of resource utilization
4. Increasing systemic efficiency and equity through a harmonized provider payment mechanism and
5. Strengthening the financial evidence base for decision-making

In May 2015, the Ministry of Health produced the Investment Plan for Building a Resilient Health System (2015-2021) with the objective to establish a sustainable Health Financing System that will ensure sufficient and predictable resource generation, risk pooling mechanisms and strategic purchasing of services. The health care financing section of the Investment Plan for Building a Resilient Health System includes:

1. Mobilize required resources
2. Building the capacity of MOH staff to cost-effectively manage the resources used within Liberia's health sector, regardless of source
3. Improve the process of purchasing services to ensure that services are of good quality and are available to those that need them on an equitable basis
4. Reduce final barriers for those who are unable to pay at the point of use for healthcare through risk pooling mechanisms.

8.1 Resource Mobilization

A crucial component of health sector financing is mobilizing and sustaining the level of resources to guarantee financial sustainability in health service provision and the implementation of the National Health Policy and Plan (2011-2021) and Investment Plan for Building a Resilient Health System (2015-2021). There are several ways of mobilizing health sector resources, ranging from domestic and external sources to contributions from individuals, usually referred to as cost sharing. As stated in the National Health Financing Policy and Plan (2011-2021), a form of cost sharing will be introduced over time. However, to date, the public health sector relies on domestic and external resource mobilization as public health care is provided free of charge.

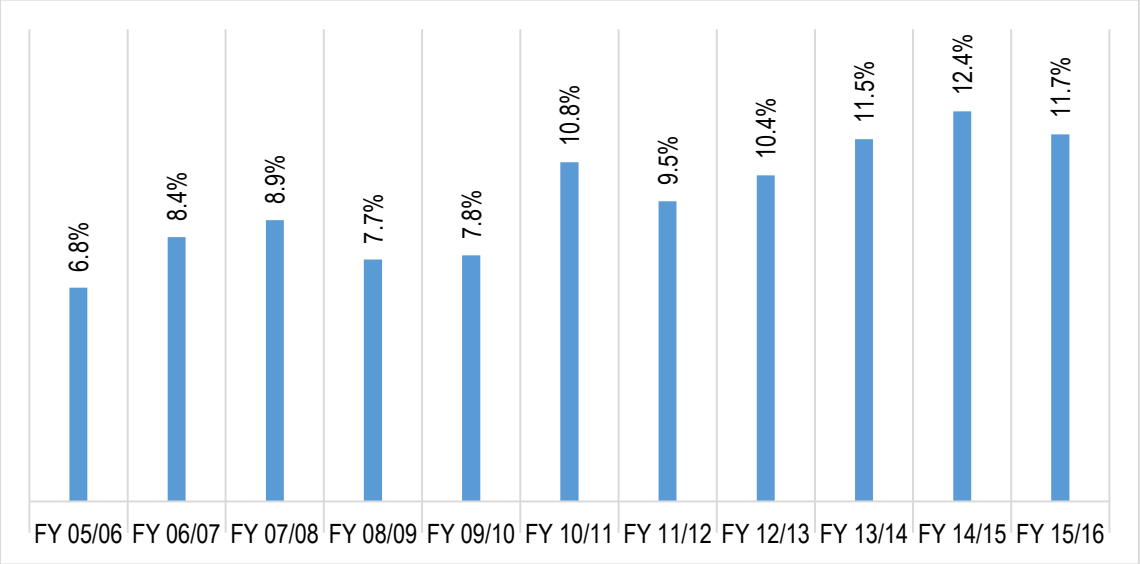
8.1.1 Domestic Resources

General Budget Appropriation to the Health Sector

Though donors have dominated resource mobilization for the health sector since 2005, the government of Liberia has made steady progress toward increasing budgetary allocation to the health sector. The aim is to achieve the target of allocating 15% of the annual budget towards health, a commitment made by World Leaders at the Abuja Declaration in 2011[4].

Figure 22 shows the annual budgetary appropriation to the health sector since FY 05/06. Although there are fluctuations from year to year, the overall trend since FY 05/06 in the percentage of the budget appropriated to the health sector is positive. In FY 05/06 the percentage was 6.8% while in FY 15/16 it was 11.7%. Although there has been a slight decrease from 12.4% in FY 14/15 to 11.7% in FY 15/16, the overall increase in the percentage appropriation over the past years demonstrates the government's commitment towards achieving the target of 15% over the coming years.

Figure 22: Government of Liberia Appropriation to Health since FY 05/06



Source: IFMIS, Liberia.

While the relative appropriation of the government budget towards the health sector has increased over time, the actual expenditure of GOL funds remains lower. Historically, the actual expenditure in the health sector has differed from both the appropriation in the budget and the allocation. Appropriation is the authorization to spend money, given that it is available. The allocated amount refers to the actual amount of funds that are released. Table 8.1 shows that the % utilization of the original appropriation in the budget is at 87.94% for FY 15/16 while the % utilization of the allocation is 98.24%. The difference between actual expenditure and the appropriation may be due to macro-level revenue shortfalls, causing the MFDP to cut funding across sectors. The difference between the actual expenditure and the allocation is much smaller and stems from inefficiencies at the micro level. As the spending entities in the health sector can only utilize the funds that have been released, it is appropriate to look at the % utilization of the allocated amount when

[4]WHO, Abuja Report, 2011: http://www.who.int/healthsystems/publications/Abuja10.pdf

analyzing efficiency in expenditure at the health sector level. As table 8 portrays, the percentage utilization of the allocated amount has been close to 100% over the past four years.

Table 8: Government Health Appropriation, Allocation and Actual Expenditure, Historical Trend since FY 12/13

Fiscal Year	**Health Sector Appropriation in Budget**	**Health Sector Allocation**	**Health Sector Actual Expenditure**	**% Utilization of Appropriation**	**% Utilization of Allocation**
FY 12/13	$ 70,651,983.31	$ 62,863,231.51	$ 62,829,589.02	88.93%	99.95%
FY 13/14	$ 66,246,408.91	$ 58,466,974.08	$ 55,105,049.58	83.18%	94.25%
FY 14/15	$ 72,828,586.75	$ 71,518,439.50	$ 69,843,524.35	95.90%	97.66%
FY 15/16	$ 72,618,517.00	$ 65,008,255.92	$ 63,861,835.91	87.94%	98.24%

Source: IFMIS, Liberia, 2016

The health sector budget allocation has been laid out as a traditional input based budget. The recurrent budget is divided into salary and non-salary lines. The MFDP covers salary and transfers costs of the health workforce since 2007, with a large number of contract staff that are now being transferred to permanent positions. Table 9 shows the actual expenditure by the MOH on different expenditure categories from FY 12/13 up to FY 15/16. The total expenditure for salary alone for the fiscal year 2015/16 was US$ 23,103,804, a 10% increase from FY 14/15 and a 27% increase from FY 13/14. This demonstrates the government's commitment towards enrolling more health workers on the government payroll. The 2015/16 budget allocation for MOH non-salary operating costs was US$ 2,601,261.00 while for FY 14/15 it was US$ 10,842,059.26, a 76% decrease (MOH Unaudited Financial Statement, FY 15/16). The government's contribution to fixed capital has been minimal.

Table 9: MOH National Budget actual expenditures by categories, FY 12/13-15/16

Category	**FY 12/13**	**FY 13/14**	**FY 14/15**	**FY 15/16**
Wages, Salaries & Employee Benefits	16,255,952.26	16,866,700.88	21,465,245.15	23,103,804.00
Supplies & Consumables	3,404,170.68	3,270,619.38	10,841,059.26	2,601,261.00
Purchase of Plant, Equipment, Construction	103,739.00	236,600.00	-	950,588.00
Transfers & Subsidies	28,743,515.35	21,886,230.75	22,631,812.17	22,404,226.00
Total	**48,507,377.29**	**42,260,151.01**	**54,938,116.58**	**49,059,879.00**

Source: IFMIS, Liberia & MOH Unaudited Financial Statements

Earmarking Taxes for the Health Sector

In the quest to increase domestic resource mobilization for health, stakeholders have recognized the earmarking of taxes for the health sector as a lucrative option. The advocacy, which began 2013 with the Liberian Cabinet, has been focused on allocating a percentage or the entire revenue collected from specific taxes towards health. The achievements in FY 15/16 have been to set up a working group between the MFDP, LRA and MOH on earmarking taxes for the health sector. The outputs of this working group have been a feasibility analysis of the different taxes that could be ear marked along with a projection of potential revenue that would accrue to the health sector if they were. Some new taxes or increases in existing taxes which could potentially provide revenue for the health sector are: increasing the excise rate on tobacco and alcoholic beverages to align with ECOWAS requirements (sin taxes), imposing a sugar tax on sugar and confectionaries and increasing the General Services Tax (GST). Table 10 summarizes the proposal and includes potential revenue to the health sector if the proposal would pass.

Table 10: Potential Tax Revenue Sources for Earmarking for Health

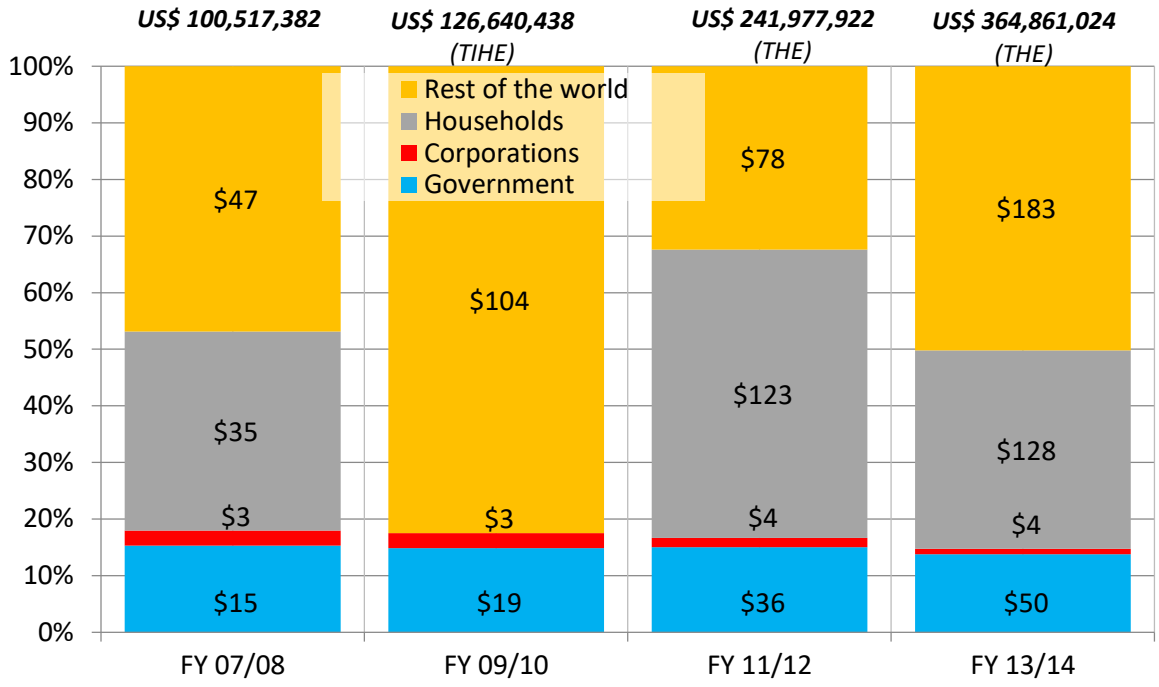
Tax	Proposal	**Potential Yearly Revenue Mobilization for the Health Sector**
Sin tax: Excise tax on tobacco and alcohol	Increasing the excise tax rate from 35% to 80% for tobacco and from 35% to 45% for alcohol would mitigate the harmful effect of smoking and excessive drinking.	US$ 5 million
Sugar tax	Redesigning the excise tax rate on imported non-alcoholic beverages (excluding water) by increasing the tax rate from 10% to 20% Expanding the tax base to include fruit juices	Unknown
GST	Increasing the GST rate from 7% to 10% in anticipation of ECOWAS VAT and earmarking the additional revenue to the health sector	US$ 19.99-23.00 million

Source: Direct Tax Unit, MFDP, Liberia

8.1.2 External Resources-Resource Mapping and Expenditure Review

The National Health Accounts (NHA) FY 07/08, 09/10, 11/12 and 13/14 recognized the high donor contribution towards the health sector over time. Donor contribution towards the health sector was 47%, 82% and 32% of THE/TIHE in FY 07/08, 09/10 and 11/12 respectively and 50% of THE according to the preliminary NHA results for FY 13/14. Figure 23 shows actual donor expenditure over the years in millions US$. Between FY 07/08 and FY 13/14, absolute expenditure fluctuated but increased overall from US$ 47 million in FY 07/08 to US$ 183 million in FY 13/14.

Figure 23: Trend in health sector expenditure



*Note: For FY 13/14, the preliminary NHA results are displayed

Since FY 15/16, the MOH conducts a resource mapping exercise to track expected expenditure in the health sector for the upcoming fiscal years. An expenditure review, mapping actual expenditure against the expected expenditure after the fiscal year has passed, enables the MOH to analyze whether commitments made were disbursed.

The various channels for funds to flow to the health sector are:

1) Directly to MOH (excluding Pool Fund)
2) Through other GOL ministry or agency
3) Through Health Sector Pool Fund
4) Directly to CHT or health facility
5) Directly to implementing partner
6) Through budget support via MFDP

Off-plan, or off-budget support, is classified as funds going directly to implementing partners (#5). All the other channels are classified as on budget. To conduct the expenditure review, apart from those whose resources are managed directly by the MOH (Global Fund, GAVI, Pool Fund, FARA, World Bank), the MOH relies on donors to provide expenditure information. Apart from the European Union, no expenditure information was submitted to the MOH. Table 11 below shows the expected expenditure from the resource mapping conducted in June 2015 against the disbursements in FY 15/16 for external funds managed by the MOH.

Table 11 shows that commitments for FY 15/16 did not equal disbursements. After consultations with the different program managers, the reason for this variance are low absorptive capacity in the health sector, delays such as late procurement, the EVD crisis, and unsettled funds from the previous year. For example, Pool Fund commitments do not equal disbursements because the Pool Fund Steering Committee did not agree on some activities that were budgeted for. Most program managers have said the variance stems from in-country inefficiencies rather than from the side of the donors.

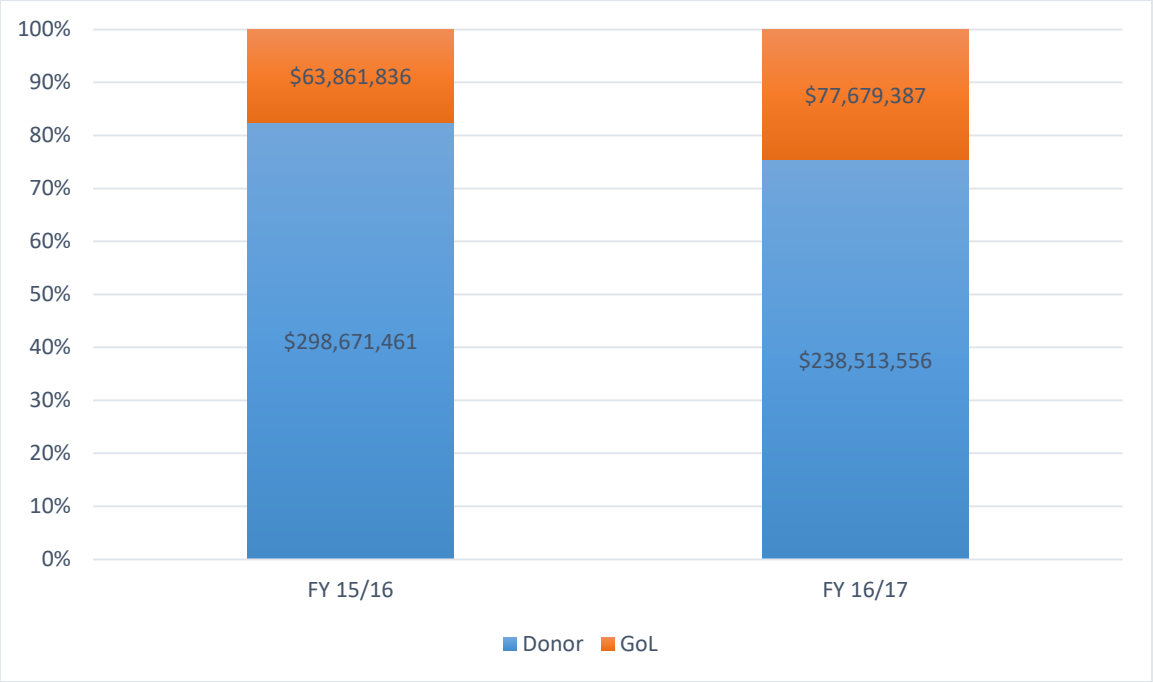
Table 11: Donors and Partners Commitments against Disbursements, External Sources

Source	Commitments FY 15/16	Disbursements FY 15/16
Pool Fund	US$ 9,517,579	US$ 6, 744,542
Global Fund: HIV/AIDS, Malaria and TB Grants	US$ 21,329,028	US$ 6,937,384
GAVI	No new commitments/ disbursements due to unutilized funds from FY 14/15	No new commitments/ disbursements due to unutilized funds from FY 14/15
FARA	US$ 9,190,681	US$ 8,034,175.42
World Bank	US$ 126,950,299	Not Submitted
EU	US$ 12,816,646	Approximately US$ 6,500,000 disbursed and the rest on-going since January 2016

The NHA report for fiscal years 14/15 and 15/16 are in progress as it takes time for donors to consolidate their expenditure data. Therefore, analyzing actual donor expenditures for these years is not possible at the moment. Nonetheless, the resource mapping exercise looks at expected expenditures over a particular period of time. Figure 24 shows the percentage of resources from donors and GOL, along with expected expenditure[5], for FY 15/16 and FY 16/17. Resource mapping for FY 15/16 and 16/17 put donor contribution toward the health sector at 82% and 75% of the total (government and donor) resource envelope (Resource mapping, MOH, FY15/16 & 16/17). Expected donor expenditure is US$ 298.67 and US$ 238.51 respectively. Compared to the donor contributions for previous fiscal years (figure 23), the total amount has seen a large increase.

[5]Donor expenditure for FY 15/16 is termed as expected expenditure as the data stems from the resource mapping exercise from FY 15/16. Donors did not submit their actual expenditure for FY 15/16 on time.

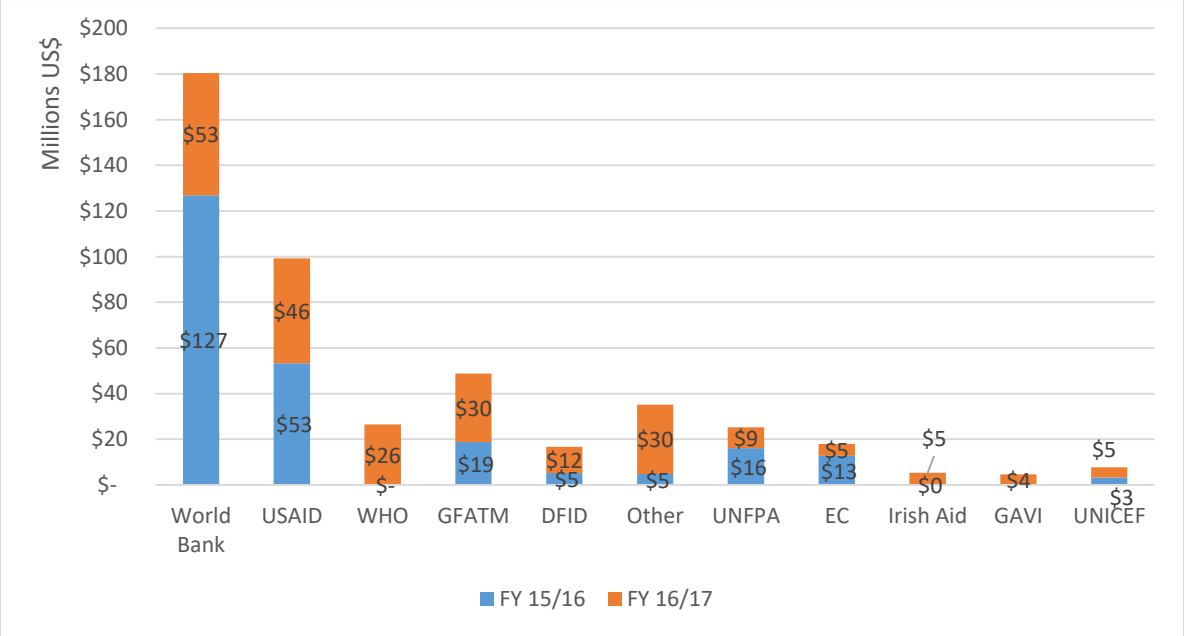
Figure 24: Resource Mapping FY 15/16 & 16/17, GOL & Donor Expected Expenditure



Note: GOL expenditure for FY 15/16 is actual expenditure, while GOL expenditure for FY 16/17 is the health sector government appropriation in the draft budget FY 16/17.

Figure 25 disaggregates the donor contributions among the 11 largest donors to the health sector in FY 2015/16 & 2016/17. The blue represents contribution for fiscal year 2015/2016 while the orange represents fiscal year 2016/2017. The World Bank and USAID have consistently been the two largest donors to the sector. In FY 15/16 and FY 16/17 the Bank contributed US$111.63 million and US$ 91.70 million while USAID has contributed US$95.46 million and US$ 38.46 million respectively.

Figure 25: Health Sector Resource Mapping Exercise FY 15/16 & 16/17



Source: Resource Mapping Exercise 15/16 and 16/17, MOH

8.2 Update on Investment Plan Activities

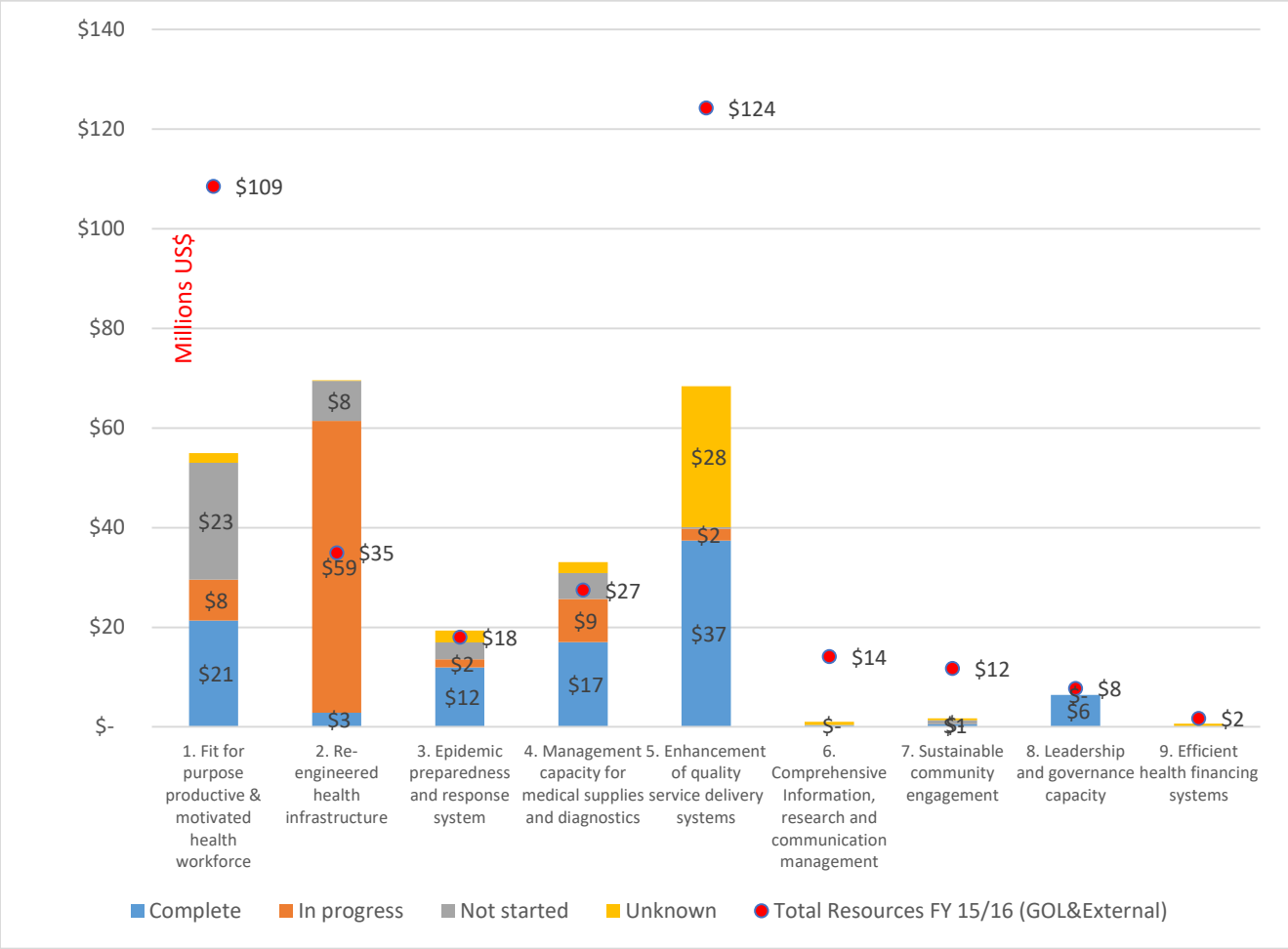
The MOH conducted a review to confirm the status of activities per investment area that were planned for the first year of the investment plan. The aim is to analyze what activities, and their costs, need to be carried forward to FY 16/17. The MOH focused on the activities that were part of the moderate scenario of the investment plan.

Overall, there were enough resources pledged in the health sector to cover the costs of the first year implementation of the investment plan (Resource Mapping, MOH, 2015). The total cost for the moderate scenario in FY 15/16 was US$ 255.2 million, while the total resources available from both government and external sources was US$ 362.5 million.

Figure 26 shows, per investment area, the total resources available (red dot) and the activities that were completed, are in progress, have not started or are unknown (represented by colors in the bars). The bars also indicate the total cost of each investment area. Figure 26 shows the imbalance in resources compared to national priorities. On one hand, the investment area "Re-engineered Infrastructure," which is also the major cost driver in the investment plan, faced a resource gap of approximately US$ 35 million. Correspondingly, only a relatively small proportion has been completed. On the other hand, the investment area "Fit for purpose health workforce" and "Quality Service Delivery" faced a resource surplus. While a relatively larger proportion under these areas has been completed, there are still activities costed at US$ 23 million under "Fit for purpose health workforce" that have not started.

There are three main reasons for the delay in activities. Firstly, a large proportion of donor funding was off-plan (43%), resulting in a misallocation of resources compared to the activities planned out by the government in the investment plan for FY 15/16. Secondly, of the donor resources committed, it is unknown what percentage of the funds reach the health sector and what are overhead costs. If the discrepancy is large, then the resources available for project implementation are much lower. Thirdly, there has been a delay in the implementation of activities (for example, for the Health Workforce Program), which are now due to start for FY 16/17.

Figure 26: Status of costed activities per Investment Area (recurrent and non-current), FY 15/16

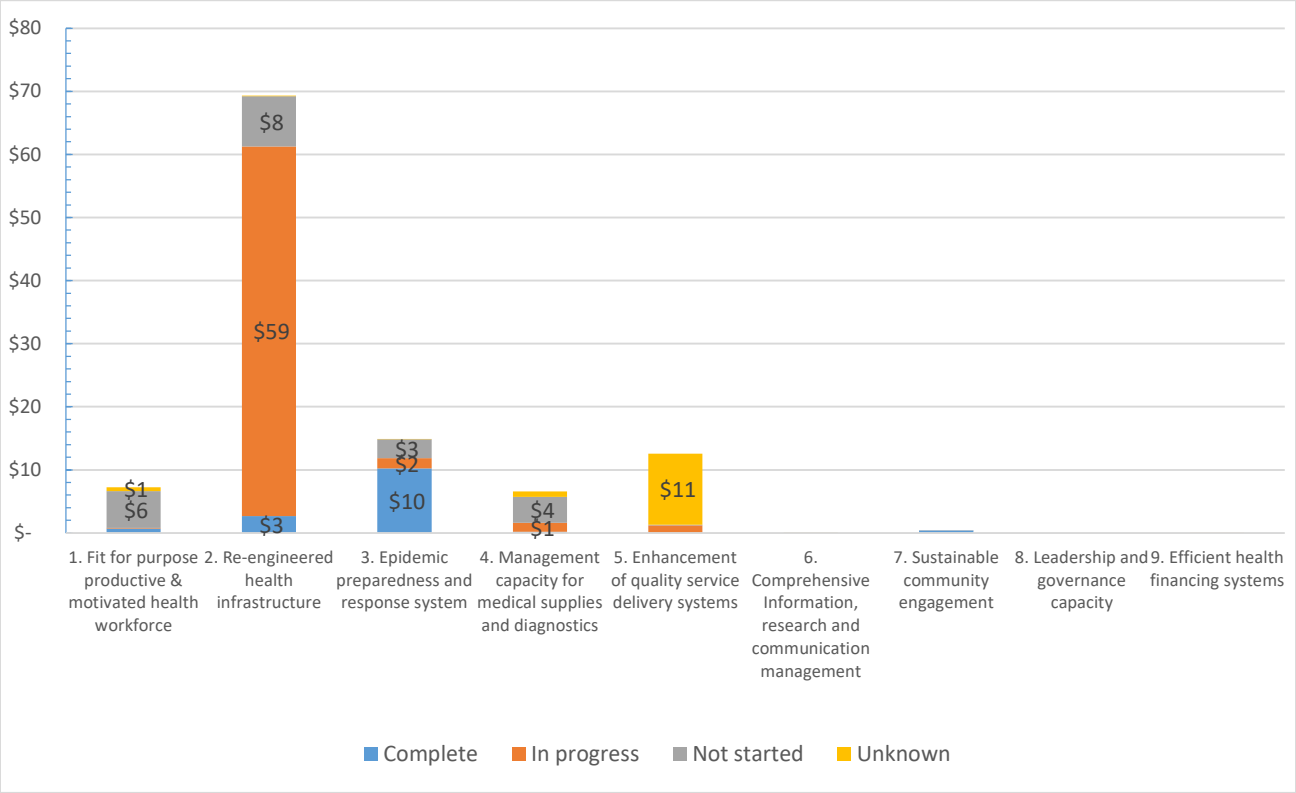


Source: 1). Cost-Investment Plan for Building a Resilient Health System Costing Exercise, Liberia, 2015 &
2). Resources- Resource mapping exercise FY 15/16

The costs that need to be carried over to FY 16/17 are non-recurrent costs, mostly infrastructure investments. Figure 27 below shows, per investment area, the status of the non-recurrent costs that were planned for FY 15/16. From the US$ 70 million needed for infrastructure investments in FY15/16, US$ 59 million of Investment Pillar "Re-engineered Health Infrastructure" are in progress, while US$ 8 million of investments have not started and only US$ 3 million have been completed. Of the US$ 59 million costed FY15/16 activities, US$ 5.8 million have been spent. Therefore, US$ 61.3 million worth of infrastructure investments need to be carried forward to FY 16/17.

Similarly, for "Fit for purpose health workforce," of the US$ 7 million capital investment budgeted for FY 15/16, US$ 6 million worth of activities have not started. In comparison, the investment pillar "Epidemic Preparedness and Response" is progressing well. US$ 10 million of the US$ 15 million budget have been completed and only US$ 3 million of activities have not started.

Figure 27: Status of costed activities per Investment Area (non-current)



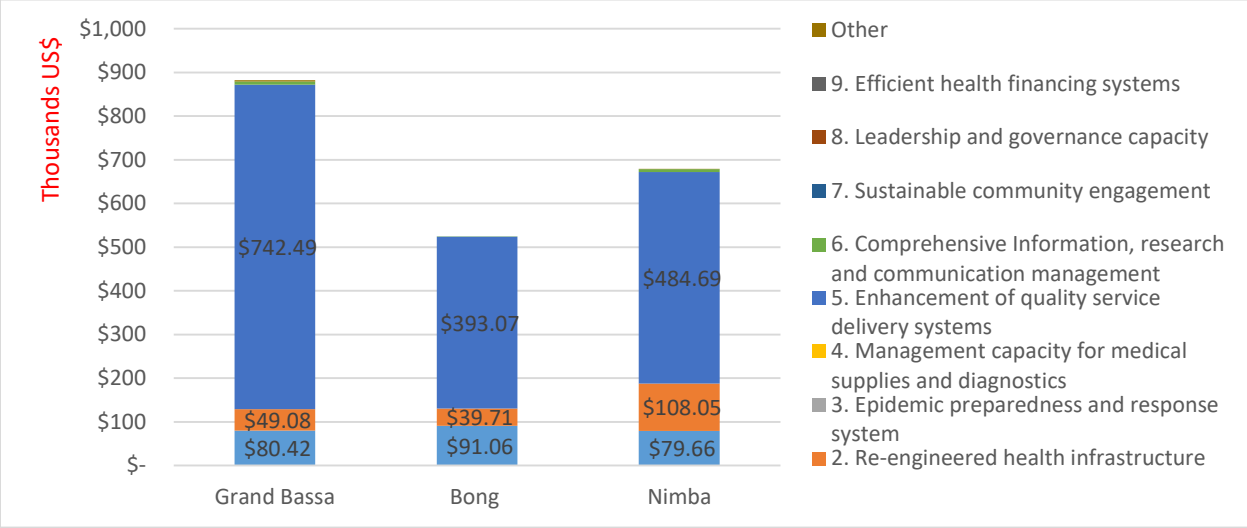
By far the biggest component that needs to be addressed is infrastructure. Not only did it face a large resource gap in FY 15/16 (US$ 35 million, Figure 26), but also the resources available need to be aligned to meet the priorities in the investment plan. Only approximately US$ 8.8 million of the estimated US$ 35 million for infrastructure in FY 15/16 have been spent on activities budgeted for in the investment plan. The annex shows in more detail the status of various infrastructure investments planned for FY 15/16.

Expenditure per Investment Area across Counties

The method used to analyze the expenditure per investment area across counties was to align the expenditure per line item across major cost categories to the investment plan areas from the county cash books. The analysis was done for three representative counties: Nimba, Bong, and Grand Bassa. Figure 28 shows the distribution of expenditure across investment areas from both GOL and external sources that were recorded in the county cashbooks. Please note that a bulk of expenditure is off-budget and not recorded by the MOH. Therefore, the expenditure per county was likely higher. Figure 28 shows that a

majority of expenditure went to "Quality Health Service Delivery Systems," followed by "Fit for purpose Health Workforce" and "Re-engineered Infrastructure."

Figure 28: Expenditure across investment areas in three counties, GOL and External, FY 2015/16



Source: County Cash Books, CHTs

8.3 Pooling of resources and risks in the health sector

Health insurance coverage in Liberia is insignificant, with less than one percent of a private health insurance schemes. The main way of pooling risks in Liberia is by pooling general revenue, which provides free health care use of public health services, accessible to all. Liberia suspended user fees in all primary health care facilities across the country in 2006 as a result of reports of major problems of access to health services. This has been in effect since April 2006, following the president's suspension of health care fee in all primary health care facilities. However, due to lack of adequate financing and limited provision of the required level of inputs, such as drugs and skilled personnel, and limited geographic access of health facilities, services have been more used by non-poor urban residents and these circumstances could not allow pooling of risks for those with more limited access, like the rural poor.

Along development of a sustainable health financing strategy and to reduce pressure on households and move towards UHC the government has undertaken major financing reforms taking into account country context. These reforms have been believed to have effects on UHC goals, such as reducing the gap between need and use, improve quality of care, secure financial protection, improve efficiency, equity and transparency and accountability. Such reform measures included;

- With the growing GST tax base, an increase in government allocation to health (to maintain $65 current spending), (3.5% of GDP),
- Improve prioritization of the health sector spending by government as percentage of total spending (at least achieve and maintain 15%),
- Develop and implement new pooled financing mechanisms, and direct revenue generation mechanisms, such as sin tax, VAT, etc. based on feasibility studies,

- Increasingly improve donor support and their alignment to the NHPSP and other IHP+ principles. Liberia has signed the IHP+ in April 12, 2016; undertaking joint assessment of plans, financial management arrangements, joint m and e mechanisms and is in the process of developing a country compact.
- Pilot community based revolving drug system is being piloted to improve stocks and regular availability of essential drugs, as well as improve quality and use of services at community levels, while creating a path for sustainable drug financing
- Capitalize on the GFF investment case for RMNCAH as an opportunity to mobilize more and sustainable resources to the health sector,

8.4 Equity of resource allocation

Allocations to counties are being made based on traditional budget lines and not based on need. This does not take into account fiscal equalization among the various counties. The per capita expenditure across counties varies greatly from US$ 12 per capita to US$ 2 per capita. Table 12 shows the budgetary allocation and per capita expenditure by county, FY 2015/16.

Table 12: Budgetary allocation and per capita health expenditure by county, FY 2015/16

Level	GOL	POOL FUND	Global Fund	Project Funds	TOTAL	Population	Per Capita Expenditure
Central Ministry	39,983,695	2,352,009	4,963,202	4,960,746	52,259,652	NA	NA
Bomi	430,623	730,849	17,390	2,920	1,181,781	98,313	$12
Bong	591,443		22,350	30,504	644,297	389,751	$2
Gbarpolu	242,500	305,737		97,442	645,679	97,459	$7
Grand Bassa	546,017	182,711	14,470	1,400	744,598	259,101	$3
Grand Cape Mt	594,239			450	594,689	148,518	$4
Grand Geddeh	231,048	883,252	11,535	11,411	1,137,246	146,394	$8
Grand Kru	406,395			20,151	426,546	67,685	$6
Lofa	750,457	319,682		880	1,071,018	323,580	$3
Margibi	652,314			1,425	653,739	245,345	$3
Maryland	415,680	770,292	8,460	520	1,194,952	158,876	$8
Montserrado	2,033,778	484,621	1,984,372	120,699	4,623,470	1,306,929	$4
Nimba	956,804	761,823	10,050	10,728	1,739,404	539,987	$3
Rivercess	440,865	382,863		320	824,048	83,575	$10
River Gee	398,235	418,245		29,030	845,510	78,059	$11
Sinoe	385,789		4,525	12,410	402,724	119,668	$3
Total Expenditures	49,059,879	7,592,083	7,036,354	5,301,037	68,989,353		

Source: MOH Unaudited Financial Statement, FY 15/16

The latest census based national health facility assessment that uses the standard tool, health services availability and readiness assessment survey and quality of care revealed prevailing large discrepancies in public infrastructure to population ratios across the counties. The assessment revealed that most of the public and private health facilities are skewed to the urban settings. Furthermore, staffing trends show considerable variability among the various geographic areas, with 55% of the doctors, 41% of nurses and 34% of midwives assigned in the capital, Monrovia respectively.

Cognizant of the inequitable distribution of resources for health across the 15 counties, the Ministry in 2012 started initiatives that will lead to the development of a resource allocation formula (a scientific procedure to inform health budgeting). These initiatives lead to a health financing study in collaboration with the Ministry and World Bank, which observed fragmentation and duplication of resources toward the health sector especially in the allocation of donor funds. The study proposed the use of prescriptive formula linked to six indicators at different weights to help determine allocations. The six indicators were population density, proportion of population under the age of five, share of population that reported illness, proportion of the population living more than 5 kilometers away from the nearest health facility, poverty status and share of public clinical staff.

As a component of a broader health financing reform, the Liberian Cabinet endorsed the resource allocation formula on February 10, 2016 to be implemented as proposed. Following Cabinet endorsement, the Ministry immediately developed a terms of reference for a consultant who will assist the revision and modification of the current formula. Initial calls to identify a potential consultant have been made pending approval.

Purchasing of services

Based on the on-going reform and reengineering of infrastructures, there is an on-going revision of the package of essential health care and the standards of different facilities. However, passive purchasing has been the norm. Providers are paid by budget and fee for service mechanisms. There is generally limited understanding of the quality of care being rendered.

Equity of utilization of services

Though there is little evidence regarding health care seeking behavior in Liberia, the information from the latest SARA survey showed that there is as low as 1.4 visits at outpatient level while WHO recommends 5 visits annually. This low utilization is partly due to frequent shortage of medicines, supplies and high absenteeism of health workers. The level of care seeking is much higher in urban areas and use of emergency facilities is higher for richer and urban households. A recent Benefit Incident Analysis (BIA) carried out by USAID found that public health expenditure is broadly unequal with a greater percentage of government subsidies going towards hospitals and therefore being pro-rich (BIA, Liberia, USAID/GOL, 2010).

8.5 Financial management systems (judiciary and auditing functions)

An effective and efficient financial management system is a prerequisite for Liberia to achieve the goals it has set out in improving the health sector post-Ebola and achieving the objectives laid out in its investment plan for building a resilient health system.

Developments in Financial Management in the GOL landscape

The Ministry of Finance and Development Planning (MFDP) has implemented an Integrated Financial Management Information System (IFMIS) to improve its financial management and planning. Over time IFMIS will enable capture of donor financing; at present 15 projects have been added to IFMIS. While this may be useful in future for accounting and expenditure reporting in the counties, this is not being rolled out at present.

Concerning the health workforce, major constraints exist in adding all existing staff onto payroll, equally with new staff. These bottlenecks are a result of inadequate resources to fund the number of individuals due to be added to the MOH payroll, a lack of incentive to add non-clinical cadres onto payroll, and processing challenges.

The Public Procurement and Concessions Commission (PPCC) performs public procurement functions for all government organizations nationwide (with the exception of National Security Agencies). It is currently centrally located but intends to decentralize. The PPCC has established a web-based procurement procedure in order to improve transparency and improve its work. Given that the national budget is often delayed, the PPCC created a framework agreement, which enables early procurement of activities[6]. This will allow the procurement process to kick off once an allocation for 1/12 of the previous year is granted. This framework has been endorsed and approved by Cabinet.

The Civil Service Agency (CSA) manages all employees on GOL payroll. This spans all sectors and includes recruitment and placing employees on the government payroll. In order to put a new government employee on payroll the process must be initiated at the spending entity, such as MOH.

The MOH sends Personnel Action Notices (PAN) to the CSA who reviews the PAN based on a number of criteria. Once the PAN has been through processing and been signed off at CSA it is passed along to MFDP for budget approval. The PAN will then be sent back to CSA in order to be added to GOL payroll. CSA has the required number of staff to process PAN as an Occupational Analyst has been assigned to process each Spending Entity's PAN. However, the CSA has no standard time for processing PAN. In the past it has taken a month to process a PAN, but it now takes between two to three weeks to process a PAN. Efforts are being made to reduce the processing time.

8.6 Health Financing: Achievements and Challenges

Achievements

- The President formed the Cabinet Committee on Health Financing in February 2016 to advise on health financing reforms. This show the political will to move forward with these reforms.
- The country has made good use of existing resources with a health expenditure of US $64 per capita (NHA FY 2011/2012). The level of spending is considered relatively high as compared to average value for low-income countries in SSA (table 8.6).

[6] Accelerating National Development through Increased Efficiency, Competition, and Value for Money in Public procurement Framework Agreement and Advance Procurement. Public Procurement and Concession Commission. A shot Note. Developed in Partnership with USAID-GEMS.

- Public spending as a percentage of the total government spending has reached 12.4% in FY 14/15 and 11.3% in FY 15/16, showing the government's commitment to reaching the Abuja target of 15%.
- Innovative domestic financing mechanisms are under discussion. A working group on earmarking tax revenue for the health sector has been formed and the feasibility analysis has begun with the goal to accrue additional domestic revenue starting FY 17/18.
- Liberia has joined the International Health Partnerships (IHP+) platform for increased coordination between government and donors to align resources to the country's health sector priorities.
- Progress for Revolving Drug Fund
    - Held Stakeholders' Consultation Workshop on RDF with GoL and partners
    - Completed RDF concept note and pricing model
    - Conducted studies on consumers' preference and willingness to pay study on RDF
- Increase in coordination on health financing issues across countries: Liberia became member of the Joint Learning Network and was represented at the JLN Conference in Malaysia in June 2016.

Challenges

- The recovery phase of the investment plan for fiscal year 2015/16 revealed that there was an imbalance in allocation versus national priorities where some investment areas were over-funded while others faced a resource gap.
- Slow implementation or changing priorities among different units, led to only 38% of all activities being completed, 31% being in progress, 16% not started and 14% unknown.
- Due to delays resulting from the EVD crisis, the National Health Accounts are lagging behind with the MOH only working on the NHA for FY 14/15 and FY 15/16 in November 2017.
- Difficult release of information by some NGOs and donors partners for resource mapping and National Health Accounts exercises.
- The GOL budget process is not efficient. When the budget is not approved the Minister must declare up to 1/12th of the previous year's budget per month. Salaries, which make up a large proportion of the budget, are prioritized along with running costs such as salaries, fuel and lubricant. Only a small amount is left to operate with until the budget is approved. This reduces the ability of the health sector to efficiently use government funds.
- National budget appropriations are made based on past spending and not based on need, and are often delayed by several months. The final appropriation is not secure as the MFDP adjusts the budget allotment as the year progresses, depending on how revenue generation is progressing relative to planned revenue.
- Due to the fact that OFM is seen as the link between donor funding and expenditure reporting, requirements are frequently passed onto them. With the broad donor landscape in Liberia, this adds a fair amount of work as each donor may have different reporting requirements, which OFM are required to comply with.
- The process for procurement is lengthy due to the number of people, which have to review prior to approval. For large contracts, after the competitive procurement process has been completed by the spending entity, it is then required to go to the MFDP for endorsement that there is budgetary allocation and then to the Justice Ministry to ensure that the contract is fair and legal.

Section Nine: Epidemic Preparedness and Response

Epidemic preparedness, epidemiological Surveillance and response are important features of a resilient health system marshal to prevent, detect and respond to public health events. Following the EVD crisis, the GOL assessed its health system and launched a 5 years (2015-2021) investment plan as a continuum of the national health policy and plan (2010-2021). Strategic objective 2 aimed at establishing a robust Health Emergency Risk Management System through building public health capacity for prevention, preparedness, alert and response for disease outbreaks and other health threats. To address this objective, six priority interventions were targeted:

1. Establish a National Public Health Institute to conduct comprehensive disaster risk mapping and develop national strategic plans to mitigate and respond to disasters, and disease of epidemic potential;
2. Lead emergency operations by activating and deactivating the Emergency Operations Center (EOC) and Incident Management System (IMS) at national, county, district and community levels;
3. Establish Integrated Disease Surveillance and Response (IDSR) and Early Warning and Alert Response Network (EWARN) structures at national, county, district, Health Facility and community levels;
4. Set up comprehensive surveillance integrated data reporting and action frameworks;
5. Build a National Reference Laboratory and 4 Regional Laboratories, upgrading 1 Laboratory at Phebe to Regional Laboratory standards; and
6. Build a National Bio-bank

FY 2015/16 Operational Plan Achievements

Target 1. **Establish a National Public Health Institute (NPHI) to conduct comprehensive disaster risk mapping and develop national strategic plans to mitigate and respond to disasters, and disease of epidemic potential;**

Progress: The act establishing the NPHI has being developed, reviewed, legislative public hearing held and bill submitted to the National Legislature for passage into law. A costed strategic plan developed and validated including the institute's research agenda. On-going efforts are centered on human resource and infrastructure alignment.

Target 2: **Lead emergency operations by activating and deactivating the Emergency Operations Center (EOC) and Incident Management System (IMS) at national, county, district and community levels;**

A public health emergency operation center (EOC) is a central location for coordinating operational information and resources for strategic management of public health emergencies and emergency exercises. EOCs provide communication and information tools and services and a management system during a response to an emergency or emergency exercise. They also provide other essential functions to support decision-making and implementation, coordination, and collaboration.

Progress: National and County Emergency Operation Centres (EOC) are established. The EOCs are furnished with office furniture, computers, TV monitors, internet, generators and telephones. Currently, the EOC convenes meetings, which include line ministries, national, and multinational partners occasionally

host video conferences with the counties. The National EOC house the national Emergency Medical Services (EMS) 24-hour call centre, DPC, the Center for Disease Control and Prevention (USA), African Field Epidemiology and Laboratory Training Network (AFENET), HMIS, CBI, etc. About 144 EMS personnel were trained in the following categories: 4 in Emergency Medical Service Instructors (EMSI); 89 in Emergency Medical Technician (EMT); 12 Emergency Medical Dispatchers (EMD) and 39 Emergency Vehicle Operator Course (EVOC). During the reporting period 1426 emergency calls were received, 1278 referred. Labor (314) and road traffic accidents (123) accounted for the highest referrals.

To operationalize the EOC there is an established Incident Management System, Emergency Operations Plan, EOC Operational Plan, and Emergency Operations Centre Standard Operating Procedure (SOP). There is also enhanced capacity as demonstrated by the establishment and training of 15 County and 91 District Rapid Response Teams and simulations being conducted.

Similarly, a national and county specific Epidemic Preparedness and Response (EPR) plan exists which focuses on the IDSR epidemic prone diseases. Risk and resource mapping was conducted – to address IHR relevant hazards and priority risks. Emergency stockpiles (Anti-Rabies vaccine, Ribavirin, Diarrhea kits including reagents) were procured and prepositioned. However, stockpiles do not include provisions for response to other IHR-related hazards (chemical spillage, radiation, zoonotic and plant derived diseases).

Target 3: **Establish Integrated Disease Surveillance and Response (IDSR) and Early Warning and Alert Response Network (EWARN) structures at national, county, district and community levels;**

Progress: Following lessons learnt during the EVD outbreak, Liberia adopted the 2nd edition of IDSR, developed IDSR strategic plan and build capacity among frontline health workers through training of over 1,500 health workers. Ninety-two DSOs and 22 Zonal Surveillance Officers recruited, equipped with motorbikes, computers and office accessories. The list of priority diseases, conditions and events for surveillance was also revised to include:

- 14 immediately reportable epidemic prone diseases & events, including those notifiable under the IHR 2005
- 14 weekly reportable diseases, conditions and events
- 26 monthly reportable diseases, conditions and events of public health importance

During the period under review, 11 out of the 15 counties (excluding Grand Bassa, Sinoe, Grand Kru and Rivercess) are implementing Community Events-Based surveillance (CEBS**)**. A total of 3,633 community health volunteers (CHVs) were trained in community case definition of priority diseases referred to as "triggers" representing 51% of 7,156 communities targeted. Job Aides and SOP were developed.

With support from CDC, FETP frontline training (4 months) was introduced to further strengthen real-time surveillance. A total of 97 were trained across the country. There is planned scale-up to intermediate while 6 (4 completed) have been enrolled into the advanced degree training in Ghana. There is also collaborative arrangement that allows personnel from Liberia to undertake advanced training in Ghana.

In compliance to IHR core capacity requirements, Core capacity assessments for designated ports of entry (PoEs) was conducted in Roberts International Airport, spring fields Airport, Buchanan and the Freeport of Monrovia. The Department developed and validated SOPs, Contingency plan and training manual for the sea and air ports of entry and revised action plan for 8 ground crossing bordering counties. National IHR

self-assessment was conducted considering the 19 action packed areas followed by the Joint External Evaluation commissioned by WHO.

In an effort to build Liberia's capacity to prevent, protect, control and provide public health response to international spread of diseases globally, Liberia has conducted and established the following:

1. Integrated risk assessment of public health treats
2. IHR self-assessment
3. Joint External Evaluation (JEE) of IHR implementation
4. One health committee as a coordinated approach/platform to address public health events such as high impact infectious diseases arising at the intersection of human, animal (domestic and wildlife) and environmental interface
5. Established Rapid Response Teams in all counties and health districts and support simulation activities
6. Procured and prepositioned emergency stock supplies to 15 counties to support outbreak response efforts

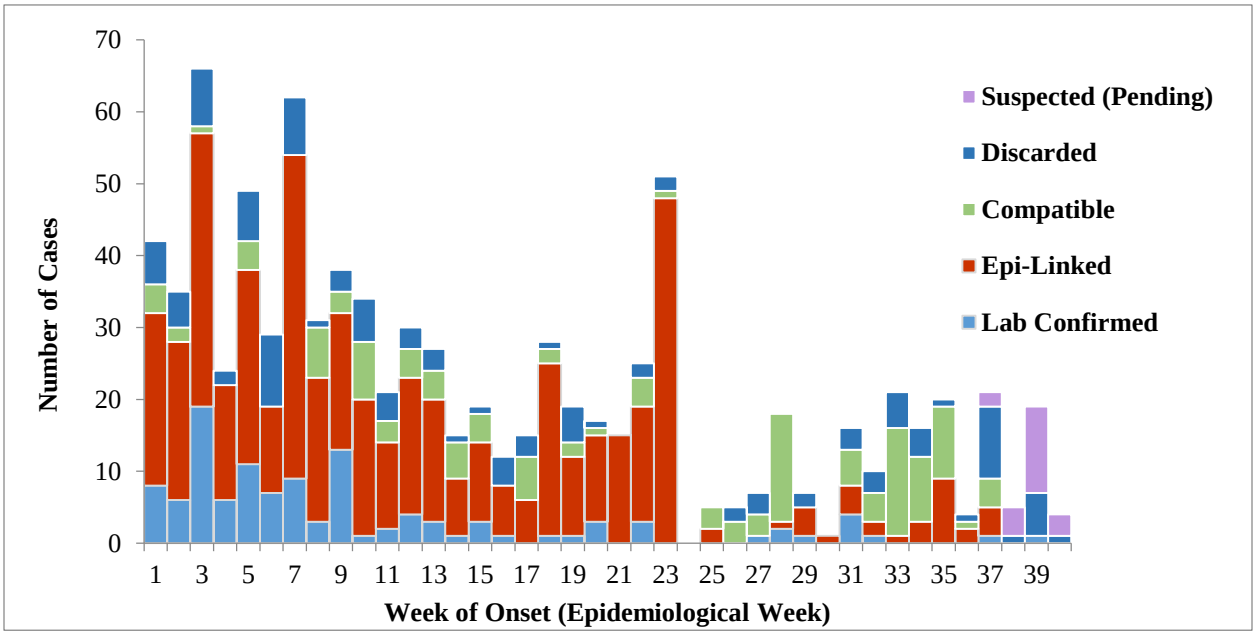
Table 13: Summary of epidemiological performance from Jan 1 - 9th October 2016

		Laboratory Confirmed Cases		***Case Fatality Rate**	
Priority Diseases	**Suspected Cases**	*Positive*	*Epi-linked/clinically confirmed*	*Number*	*Percentage*
Acute Flaccid Paralysis	48	0	0	0	0
Measles	877	117	735	5	0.6
Neonatal Tetanus	13	0	0	3	23
Lassa Fever	64	12	0	4	33
Yellow Fever	31	0	0	0	0
Meningitis	26	0	0	0	0
Cholera	145	0	0	0	0
Bloody Diarrhea	299	0	0	0	0
Human Rabies	810	0	0	0	0
Ebola	28445	3	N/A	1	33.3
Maternal Death	235				
Neonatal Death	403				

**CFR is from the laboratory confirmed cases*

Notable public health events were recorded. Cumulative total of 877 cases of measles: lab-confirmed (117); Epi-linked (481); compatible (137), suspected (14) and discarded (128) (see Figure 1). CFR is 0.8% (n-8). The annualized non-measles febrile rash illness rate stands at 4.1 per 100,000. River Gee, Grand Cape Mount, Rivercess and Nimba counties are below the target of 2/100,000. Appropriate interventions were commissioned by the CHT with support from the EPI program.

Figure 28: Distribution of Reported Measles Cases by Week of Symptom Onset and Epi-classification, Liberia, Epi Week 1 - 40, 2016



Non-polio AFP rate/100,000 <15yrs, Liberia, Epi week 1-40, 2016

The program also confirmed 12 Lassa fever and 3 EVD cases
Other Response activities conducted include:

- Developed survivor policy and strategic framework documents.
- Establish a functional EVD survivor secretariat
- Additional infectious disease units to be constructed by GIZ at JFK Medical Center, Redemption Hospital, Foya and Ganta. Agreement signed with implementation to begin in November

Target 4: **Set up comprehensive surveillance integrated data reporting and action frameworks;**

A reporting structure exists at all levels of public health system. An Excel based system is being utilized at national and county level for priority disease weekly reporting. However, the most notable achievement is the introduction of an electronic early warning system (eDEWS) pilot in 4 out of 15 counties (Montserrado, Grand Bassa, Cape Mount and Gbarpolu) covering 75 health facilities

Targets 5 & 6: **Build a National Reference Laboratory and 4 Regional Laboratories, upgrading 1 Laboratory at Phebe to Regional Laboratory standards; and Build a National Biobank**

Significant progress was made in Ebola Virus Disease laboratory testing during this period following the EVD outbreaks (2014-2015) and three (3) subsequent flares ups (2015-2016) where there was a significant influx of foreign medical teams and trainers during the Ebola Virus Disease (EVD). Since the containment of the EVD outbreak, the Ministry has improved diagnostic capacity to confirm EVD (National Reference Lab, Bong EVD Lab., and Jackson F. Doe Hospital, ELWA-3 and Redemption Hospital), Cholera, Shigellosis, Yellow Fever, and partially Lassa fever (RDT).

The National Reference Laboratory have developed 5-year strategic plan that calls for: Human resource upgrade and training; establishment of five regional laboratories; Building capability to test for Lassa fever, polio, meningitis and rabies; and the establishment of workshop to repair lab equipment. The IDSR laboratory training module and standard operating procedure developed.

To improve surveillance and the response to disease outbreak, 97 surveillance officers received in-service training for 3 months in frontline Field Epidemiology Training Program (FETP), 3 graduated with advanced degrees (MPhil) in FETP, and 3 staff are enrolled in the Ghana FETP this 2016/17 academic year.

Section Ten: Health Information Systems, M&E and Research

The Ministry of Health has continuously emphasized evidence-based decision-making and results driven management in the provision of health services. These are visible in the National Health Policy and Plan (2011-2021) and the Investment Plan for Building a resilient health system (2016-2021). This is driven by the Ministry's commitment to provide quality services, invest into effective interventions, to ensure value-for-money, and results accountability.

Evidence-based management is based on a robust monitoring and Evaluation System with a strong Information system as its foundation. Being cognizant of these facts, the MOH had invested into the development of a functional Health Information system that will provide quality data to support the commitment to evidence-based decision-making. These investments have yielded some fruitful results; demonstrating that with continuous investment more can be achieved. While it is true that much has been achieved, the Liberia Health Information System is underdeveloped considering all of the sub-systems that need to be functional to make it complete. Only the Health Management Information System, which is the flagship system of the Liberia's HIS, is fully functional. This is followed by the Human Resource Information System (HRIS), which is being rolled out and yet to be fully functional.

10.1 Health Information System

The National Health Information System of Liberia produces quality data and information that is used in support of the health system functions at all levels, with a solid governance and management structure, using appropriate information and communication technology, including data confidentiality and security, and at an affordable cost to the Government of Liberia.

Achievements

- Efforts leading to the development of these sub-systems are being implemented in phases as outlined in the HIS Strategic Plan[7] 2016-2021. The Strategic plan outlined seven (7) Sub-systems to include the following:

1. Health Management Information System (HMIS
2. Community Based Information System (CBIS)
3. Human Resource Information System (HRIS)
4. Disease Surveillance Information System (DSIS)
5. Logistics Management Information System (LIS)
6. Laboratory Information System (LIS)
7. Financial Management Information System (FMIS)

- A separate technical core team is setup to design/develop Interoperability roadmap for the various sub-systems and to deal with technical issues surrounding interoperability.
- A road map has been developed that layout a solid foundation for HIS sub-system interoperability.
- The issues of master facility registry, unique IDs, standards for coding, computer language and communications as well as hardware and software requirements are being thought through by the

[7] The Health Information System Strategic Plan was developed to guide the development of an integrated information system for health 2016-2021.

core team keeping affordability, sustainability and the capability of gradual or phased development and implementation possibilities in mind.

10.2 Monitoring and Evaluation

The MOH developed its first Monitoring and Evaluation Policy and Strategy in 2009 based on the first five-year National Health Policy and Plan, and the Basic Package of Health Services (BPHS). Following the development of the Ten Year Health Policy Plan 2011-2021, and the Essential Package for Health Services (EPHS) in 2011, the M&E Strategy was revised and aligned with the EPHS. With the development of the Investment Plan for Building a Resilient Health System in the aftermath of the Ebola and the coming into play of the Sustainable Development Goals following the end of the Millennium Development Goals in 2015/16, it became necessary to review and revised the MOH M&E Strategy once again to reflect these changes and effectively track the implementation of the new interventions and monitor the performance of the health system.

- This review is ongoing and started with a comprehensive assessment of the M&E System from a decentralized perspective. The assessment uses the Monitoring and Evaluation Strengthening Tools (MESST)[8] together wit the Organization and Behavior Assessment Tool (OBAT), a module of the Performance of Routine Information System Management (PRISM) Tool[9]. This M&E System assessment compliment the HIS assessment done in 2015/16 to informed the development of the HIS Strategic Plan mentioned above.

Indicators

- As part of the review, the MOH core list of indicators was updated looking at the core indicators list for the NHPP. The basis is the provisional Performance Framework in the Investment Plan for Building a resilient health system, and the Global list of 100 Core Health Indicators (WHO 2015/16).
- Fifty-five indicators are listed in the draft core list of indicators pending validation by senior management and partners of the MOH.

Data Use

A good M&E system means nothing unless the data that the system produce is used to improve the system it monitors. The use of data in the health system was one of the weakest limbs in the M&E system but has began to register some improvements compare to when we started. The 2014 PRISM assessment showed performance on the use of data at health facility level was 58 percent and 65 percent at county level. Data use for decision making at facility level move from 38 percent in 2012 to 58 percent in 2014 and (RBHS 2014).

- The MOH had put in place a number of measures to improve data use for decision. These measure include training county M&E in data analysis to make data available to health managers in format usable to them.

[8] The MESS Toll is an M&E system assessment tool based on the 12 components of a functional M&E System framework developed jointly by key multilateral agencies. It was made popular first applied in Liberia by the Global Fund for AIDS, Tuberculosis and Malaria

[9] OBAT is a sub-set of the PRISM Framework developed by MEASURED Evaluation to guide Routine Health Information System Assessment and strengthening. This tool has been applied in 23 countries by 2012 (Belay and Lippeveld, 2013)

- Additionally, data use workshop was conducted for county health team supervisors to drive data demand. The new planning process has enable County to assign target to each facility. This drives the facility staffers to look at their own data and assess their own performance.
- Counties have conducted review meetings to assess facilities performance against set targets. This new planning model and the demand for performances reports from CHT is another impetus that is pushing CHT manager to look at their own data and performances at the lower level.
- At the central levels couple of management decision tools are being implemented to facilitate data use.
- Live dashboards have been developed in the DSHI-2 to make real time data on key indicators available at the fingers tips of managers.
- Program Managers and key program staff have been given access right to the DHIS-2, the MOH's official data base to enable them get access to data to inform decision making. This dashboard can be accessed at http://liberia.dhis2.org/dhis
- The African Leaders Malaria Alliance (ALMA) supported the development of a web-based malaria scorecard for Liberia. The malaria scorecard is up and running and can be accessed at http://www.malariascorecard.org/. Prior to that a reproductive Health Scorecard had been developed and is currently being used by the Family Health Division.
- Quarterly, the MOH developed dashboard and scorecard for the Performance base-financing scheme for participating counties and partners on key indicators. Quarterly dashboard is being developed to capture snapshot of key indicator to monitor the Investment Plan and the National Health Plan.

10.3 Research

The health sector completed the national health workforce census that mapped and documented 16,672 health workers of which 5,165 were clinical staff (ie; Nurses, Midwives, Doctors, Pharmacists, etc) and commissioned the Service Available and Readiness Assessment (SARA) that informed the Ministry on health facilities availability and readiness to provide services (ie: childhood immunization, family planning, maternal and child health, etc). A national Malaria survey is ongoing and will provide Malaria prevalence rate in the country, bed nets ownership and utilization.

The World Health Organization also introduce the SORT IT that trained six MOH employees in operational research and facilitated their manuscripts on Malaria, Immunization, Performance Based Financing, HIV, TB and maternal health to be submitted for publication on the Public Health Action (PHA) journal.

Recommendations

I. Mobilize resources to develop the remaining HIS sub-system to ensure complete supply of data for effective monitoring and evaluation
II. Hasten the rollout of the revised HMIS tools to advert the potential threats to data quality in the health sector.
III. Provide logistics and empower M&E teams especially those at the County level to monitor service delivery and data quality
IV. Continue to build capacity for HIS, M&E and Research at all levels especially in the face of the HIS expansion.

Section Eleven: Community Engagement

Efforts were made in strengthening community engagement through development and endorsement of a community health policy and strategic plan. National guides and Master Trainers were prepared to roll out training to the CHAs and CHVs in the communities. Some of the key activities that were conducted are outlined below:

CAPACITY STRENGTHENING

1. RISK Communication

As part of efforts to strengthen partnership with the media, the National Health Promotion Division, with support from its key partners, trained Journalists from various radio stations and newspapers, community radio stations, as well as central and county level health promotion Focal persons in Risk communication so that they are better prepared to disseminate accurate information to the public before, during, and after an emergency.

2. Education through Listening (ETL)

Master TOT training for 21 Health Promotion and Community Health Focal persons from the counties was conducted to build their skills in community entry and dialoguing with community members in community engagement. ETL is an interactive way of engaging community members to discuss a health problem and to find a solution to the health problems that affect them as a community. ETL training is being rolled out to the CHAs and CHVs. So far, 126 CHVs have been trained in ETL skills and BCC messaging.

3. Bridges of Hope

Bridges of Hope training was also conducted for 480 gCHVs, 234 vaccinators, and 231 OICs in nine counties (Margibi, Grand Cape Mount, Gbarpolu, Grand Bassa, Montserrado, Bong, Lofa, Nimba, and Bomi). The master trainers also rolled down the training to 4,852 people in their respective communities. Bridges of Hope enables health promoters and community to dialogue in finding a way out for a health problem affecting their community.

BCC Messaging and Materials

Media tool kit and Key BCC messages and materials including the 14 priority diseases, HPV and ROTA Vaccines, HIV and malaria were developed. Journalists will use the Media Tool kit in disseminating accurate information to the public about case definition of priority diseases, and ways to prevent those diseases. Other messages and materials will be used by CHAs and CHVs to conduct health education in the community.

Section Twelve: Conclusion

12.0 Conclusion

The 10-year National Health Policy and Plan developed in 2011 sets the health sector development agenda. However, the Ebola Virus Disease crisis exposed vulnerabilities in the health sector and gaps in the ten years plan thereby leading to the formulation of a health sector recovery and investment plan that will drive the resiliency of the health sector. The health sector resilient plan identified nine investment areas (fit for purpose health workforce, community engagement, leadership and governance, health information system, quality health service delivery, medicines and technology, emergency preparedness and response, health financing and health infrastructure) that when implemented will strengthen the sector, to become more responsive, effective, efficient and capable of dealing with future shocks and health emergencies.

This report gives an overview of the outputs, achievements, and challenges as well as recommendations based on implementation of the annual plan for fiscal year 2015/16. For performance monitoring and accountability purposes, different data sources, including population-based and facility-based data sources, have been employed; key indicators have been selected to provide a comprehensive picture of sectoral performance against the priority investment areas, with an explicit statement on planned targets and measurement of actual achievements.

The Ministry of Health made significant progress in all of the nine pillars of the health sector investment plan for building a resilient health system. Patients screening for infectious diseases has improved by the completion of 13 triages and 6 near completion in public hospitals and health centers. National diagnostics for public health diseases has improved by enhanced capacity to diagnose six priority diseases; Lassa Fever, Rabies, Measles, Cholera, Ebola, and Yellow Fever as well as the disease surveillance infrastructure establishment in all health districts (91). There were gains made in human resources development with the employment of additional 1,704 contract workers mostly professional staff. This increased the number of health workers on payroll from 5,821 in 2015 to over 7,000. Six staff acquired master degree in advance field epidemiology in Ghana, 15 staffers were trained in medical equipment maintenance and repair in Nairobi Kenya and three additional trained at the Harvard University, in the United States of America. Ten MOH staffers were trained in Laboratory Biosafety in Morocco, and 351 students were provided scholarships in health training institutions (ie: Mother Patern College of Health Sciences, Cuttington University, Phebe School of Nursing, SMYTHE Institute, Esther Bacon Midwifery School, and South Eastern School of Midwifery). Furthermore, 97 surveillance officers received in-service training for 3 months in frontline Field Epidemiology Training Program (FETP), 3 graduated with advanced degrees (MPhil) in FETP, and 3 staff are enrolled in the Ghana FETP this 2016/17 academic year. Access to health services increased during the year with the construction of additional clinics. A total of 10 clinics were constructed across Liberia, while arrangement with partners (IFC) to organize and conduct a one-day Stakeholder's Consultative Workshop in Monrovia to validate the Prefeasibility Study for the construction of the National Laboratory Diagnostic and Imaging Center at John F. Kennedy Medical Center Compound has been concluded. The MOH hired contractors to construct 20 housing units for health workers in the Southeast and conducted engineering assessment of the existing medical school dormitory and soil testing for renovation. To improve the management and distribution of drugs and medical supplies, the Ministry concluded arrangement and procurement process for the construction of the National Drug Warehouse in

Caldwell.

Concerning maternal health, 2013 LDHS estimated MMR at 1072 deaths per 100,000 live births has warranted the urgent need to accelerate interventions to decrease the huge burden of maternal mortality in Liberia. To address these challenges, the GFF investment case for RMNCAH is an opportunity to promote the demand as well as to increase the coverage of safe motherhood services, with a strategy of combining prenatal care (focusing on maternal risks and the prevention and treatment of complications) and improved access to emergency obstetrical care, ensuring a continuum of care during pregnancy and delivery and after birth. In particular, an increase in coverage for antenatal and postnatal care as well as for skilled care at birth was observed in 2015/16. However, although increasing, the percentage of deliveries assisted by skilled birth attendants (which is considered as the single most important intervention for reducing maternal mortality) is still very low (47.6%).

Concerning child health, Immunization service coverage showed disparities among the counties, with 97% in Bong to 36.1% in River Gee.

The 2015/16 achievements reaffirm the need to enhance efforts against communicable and non-communicable disease prevention and control. HIV, TB, and Malaria remain a major public health concerns in the country.

Post Ebola crisis, the country has fully and safely revitalized health services delivery in all the counties. According to the national censed based health facility assessment, all health facilities in the country, 701 were fully functional. However, the assessment revealed certain gaps that needed future attention. Such included, availability of general services readiness requirements (79%), specific services readiness requirements stood at 59%. This entails the need to enhance inputs, their organization and management at the operational levels.

Progress has been made in developing partnership and increasing resource mobilization and utilization towards the achievement of post Ebola health services recovery targets. Health has moved in recent years from underinvestment and single disease focus, to increased funding, harmonization between MOH and partners, and a systemic approach has shown remarkable improvement. A critical step towards the three ones approach has been the development of the country compact in line with the IHP+ principles of effective development cooperation. International assistance and global initiatives are now addressing communicable disease control priorities in ways that are consistent with the national strategic plan, therefore contributing to strengthening national health systems. The GF and GAVI health system strengthening windows have laid good examples of a comprehensive priority program and health system strengthening approaches.

However, Liberia is still facing multiple challenges, derived from the weak health system and impacts of the latest Ebola outbreak crisis. Inadequate human resources, lack of a well-developed infrastructure, and insufficient funding are among the key challenges. Evidence informed decision-making remains a challenge.

While struggling for development and better health, Liberia is an example that low-income countries can achieve better health and improved service coverage if policies, programs and strategies are supported by political will, community involvement, and commitment at all levels with better coordinated efforts from all stakeholders and along the newly developed country compact.

Building the capacity to benefit along the hierarchy of the health system and implementing its decentralization policy, is however, critical to concrete and sustained development in health.

Furthermore, Liberia envisages that all citizens have access to equitable quality and safe health services. Integration, prioritization and rationalization deserve attention. Moreover, partnership for better results, strong community communication and participation and evidence based decision making through establishment and utilization of information system to improve health policies and to increase the prioritization and impact of programs is the mainstay to its success.

The participants at the annual review meeting, 2016, are invited to examine this report in depth and come up with recommendations that will enhance implementation of the strategic investment plan priorities.

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