REPUBLIC OF LIBERIA
MINISTRY OF HEALTH AND SOCIAL WELFARE

NATIONAL MONITORING AND EVALUATION POLICY AND STRATEGIC PLAN

FOR THE HEALTH SECTOR

2012- 2021

Foreword

The Ministry of Health and Social Welfare's (MOHSW) has the onerous responsibility of protecting and promoting health, and providing health care for all the people in Liberia. It is imperative to assess the performance, results and achievements of this obligation. Over the past two decades the only means of monitoring and assessing achievements in the sector was limited to Demographic and Health Surveys (DHS), rapid assessments and specific studies. The ushering in of a democratically elected government in 2005, coupled with the restoration of peace and stability, has set the stage for the transition from relief to development. This paradigm shift provides an opportunity to reform the sector, improve the health and well-being of Liberians by increasing access to quality and affordable health care, and address critical health problems and strengthen the health system in general through an effective and functional monitoring and evaluation system.

Implementing the National Monitoring and Evaluation Policy and Strategy Plan will be a major step in the pursuit of the National Health and Social Welfare Policy's vision statement: a nation with improved health, and equal access to health care. This vision is attainable not only through commitments from stakeholders, and provision of resources but also by initiating and implementing a robust monitoring strategy, having clearly defined bench mark indicators that will be used to evaluate the health care delivery system periodically.

The M&E strategy provides the roadmap for measuring the progress of the National Health and Social Welfare Policy and Plan and the Essential Package of Health Services (EPHS). The strategy defines data collection, management and dissemination processes. It also document means by which the health sector will be monitored, reviewed and evaluated. The strategy includes important milestones, process, output, outcome and impact indicators.

With the full implementation of this policy and strategy, gaps in the health care delivery system will be identified and necessary adjustments will be made to improve service delivery, data collection and management processes and procedures to facilitate the delivery of quality health services to all in an equitable manner.

We are grateful to all those who committed their efforts, time and resources to the preparation of national M&E Policy and Strategy. We are confident that the implementation of the national M&E Policy and Strategy is both critical and achievable. We encourage all actors and programs to join us in this drive towards the transformation and development of the health sector. This document forms the basis for monitoring and evaluation of the Liberian health and social welfare sectors.

Walter T. Gwenigale, M.D
Minister of Health and Social Welfare
Republic of Liberia

Acknowledgements

The 2012 National Monitoring and Evaluation (M&E) Framework and Strategic Plan was initiated by the Ministry of Health and Social Welfare's M&E Unit with technical support from the United Nations Development Program, the National AIDS Control Program, the National Malaria Control Program, the National Leprosy and Tuberculosis Program, and the Health Management Information System Unit. These program staff and partners also provided technical support for the development of the 2007-2011 M&E strategy and framework, which formed the basis for this document. USAID through BASICS supported the development of the Health Information System which also informed the M&E document.

The Republic of Liberia adopted a five year Health and Social Welfare Policy and Plan in 2006. This was implemented and followed with a ten year policy and plan to bring continuity to our efforts. **The National Health and Social Welfare Policy and Plan 2011-2021** represents the collective commitment of the sector to the national goal of a secure, prosperous and healthy nation. Hence the need for, and the development of **The National Monitoring and Evaluation Policy and Strategic Plan for the health sector 2012-2021**. The latter document is in alignment with and designed for the monitoring and evaluation of the plan. A participatory process was initiated to achieve this endeavor to bring on board all stakeholders. We have this document today as the result of their tireless engagement and participation in the process, giving it their best.

The Ministry of Health and Social Welfare (MOHSW) expresses its appreciation to all programs, organizations and individuals that provided assistance and support in the planning and elaboration of this new M&E Policy and Strategic (2011-2021).

For the formulation of this document we owe the following individuals special thanks and appreciation; Mr Sanford Wesseh, Assistant Minister for vital statistics, Mr. David Logan, Global Fund Project Manager, Mr. Luke Bawo, Coordinator for M&E, Research and HMIS, Mr. George P. Jacobs, Director for Monitoring and Evaluation, Dr. Eisa Hamouda, M&E Specialist, Dr Linda Birch, CHO of Bomi County, Dr Stephen , WHO and Maria Barreix of Clinton Health Access Foundation.

Once more, I am pleased to recognize and appreciate the dedicated sacrifices and commitments of partners and individuals who have contributed immensely to the finalization of the National M&E Framework and Strategic Plan. It is my fervent hope that this document is implemented to its fullest and that the M&E Unit continues to work with these individuals, programs, and organizations as we work together towards reforming and improving the health and social welfare system in Liberia.

Mrs. Yah M. Zolia (BSc. MSc)
Deputy Minister for Planning, Research and Development
Ministry of Health and Social Welfare

List of abbreviations and acronyms

CBO	Community-Based Organization
CFSNS	Country Food Security and Nutrition Survey
CHD	Community Health Department
CHSWT	County Health and Social Welfare Team
CHO	County Health Officer
CHV	Community Health Volunteer
CMR	Crude Mortality Rate
CSO	County Surveillance Officer
DHIS	District Health Information System
DHO	District Health Officer
DMHS	Deputy Minister for Health Services
DMP	Deputy Minister for Planning
DQA	Data Quality Assessment
EPHS	Essential Package of Health Services
EPHSS	Essential Package of Social Welfare Services
EPI	Expanded Program on Immunization
GAVI	Global Alliance for Vaccines and Immunisation
GFATM	Global Fund to fight AIDS, TB and Malaria
GOL	Government of Liberia
GPS	Global Positioning System
HMIS	Health Management Information System
HR	Human Resource
HRH	Human Resources for Health
HRIS	Human Resource Information System
HSE	Health Sector Evaluation
ICT	Information Communication Technology
IDP	Internally Displaced Persons
IT	Information Technology
ITN	Insecticide Treated Nets
LDHS	Liberia Demography and Health Survey
LISGIS	Liberia Statistical and Geological Institute
LSS	Life Saving Skills
M&E	Monitoring and Evaluation
MER-TWG	Monitoring & Evaluation Research Technical Working Group
MOHSW	Ministry of Health and Social Welfare
MPEA	Ministry of Planning and Economic Affairs
NACP	National AIDS Control Program
NDS	National Drugs Service
NEIDS	National Essential Indicators Dataset
NGO	Non-Governmental Organization
NHPP	National Health and Social Welfare Policy and Plan
NLTCP	National Leprosy and Tuberculosis Control Program

NMCP	National Malaria Control Program
OIC	Officer in Charge
ONCHO	Onchocerciasis
OPD	Outpatient Department
PCT	Project Coordination Team
PR	Principal Recipient
PRS	Poverty Reduction Strategy
TB	Tuberculosis
TM	Traditional Mid-wives
TTM	Trained Traditional Mid-wives
TWG	Technical Working Group
UNDP	United Nations Development Fund
UNFPA	United Nations Population Fund
UNICEF	United Nations Children Fund
USAID	United States Agency for International Development
WHO	World Health Organization

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NATIONAL MONITORING AND EVALUATION POLICY

FOR THE HEALTH SECTOR
2012 – 2021

1.0 Situational analysis of M&E Systems for Health & Welfare

Hitherto 2007, the Ministry of Health and Social Welfare (MOHSW) did not have in place a uniform data collection and reporting system. Non-Governmental Organizations (NGOs) and vertical MOHSW programs designed and implemented their own information and data collection systems. These resulted in the creation of multiple reporting systems, burdening the frontline health workers at facilities with the task of mastering numerous report formats and generating various reports collecting similar information. Expectedly, with such lack of coordination, poor quality of data, conflicting information were major concerns for decision makers. Likewise availability of trained personnel in M&E and data management also posed barriers to operating effective health information and monitoring systems.

Following the development of the 2007-2011 National Health Policy and Plan, the MOHSW and its partners supported the development of a national monitoring and evaluation system. An assessment of the M&E and HMIS systems was carried out and, with generous support from the Global Fund to fight AIDS, Tuberculosis and Malaria(GFATM) and United States Agency for International Development(USAID)-BASICS PROJECT), the Health Management Information System (HMIS) Policy and Strategy and the Monitoring and Evaluation (M&E) Policy and Strategy were developed in 2009.

The implementation of a national HMIS resulted in the creation of credible, uniform data collection and reporting systems, including the National Essential Indicators Dataset (NEIDS) collected using the District Health Information System (DHIS) software. The NEIDS has been rolled out throughout the country and is being implemented at all public health facilities, and NGO-operated and private health facilities. Significant progress has since been made in timely and complete reporting to the national HMIS.

Over the past few years the MOHSW has increased efforts to strengthen national monitoring evaluation and research activities at both central and country level. At central level, the Ministry created an M&E and Research Division. Additionally, five National M&E Officers were recruited with funding from GFATM and a head of Division with funding from USAID. At the county level, the MOHSW recruited and established M&E Units (composed of an M&E and data officers and a county registrars) in all fifteen counties. Partners, including the World Bank, Global Alliance for Vaccines and Immunisation (GAVI), World Health Organisation (WHO), Health Sector Pool Fund, USAID, GFATM, UNDP, and

United Nations Children Fund (UNICEF) provided various financial and material resources to the M&E and HMIS systems. A Technical Working Group for M&E and Research has been established; membership includes senior MOHSW managers and representatives of national programs, the aforementioned partners, academic and research institutions, NGO umbrella organization, and relevant government line ministries.

For better coordination and harmonization of the system, data managers from all vertical programs have been pooled together to work at the central level under the HMIS Unit. The DHIS system was also updated in 2010; all data collection forms were revised, integrated, and health workers and data personnel were trained in implementing the new systems.

Despite these significant gains, there are still challenges and weaknesses in the M&E and HMIS systems that must be addressed. Firstly, timely submission of HMIS reports (particularly from private facilities in Montserrado county), quality of data, and the use of information in decision-making are key challenges to address in the next plan. M&E capacities at central and most counties are still inadequate and need further strengthening. In addition, there is still some parallel reporting at the facility level to meet donor reporting requirements. Irregular facility level supervision by County Health and Social Welfare Teams (CHSWT), lack of coordination of central program resources at the county level, poor road conditions that lead frequent breakdown of vehicle and motorbikes coupled with delays in maintenance of these transportation means are all factors hindering timely data collection and analysis. To strengthen the institutional and technical capacities, the M&E and Research Unit assessed the CHSWT's M&E and Research capacities using components of the Monitoring and Evaluation System Strengthening Tool (MESST) and Performance for Routine Information System Management (PRISM) Tools. County Health Officers (CHOs), M&E Officers and Data Officers or County Registrars participated in the assessment. The MESST tool looks at systematic strength and weaknesses while the PRISM focuses on individual knowledge, skills and other system capacity issues. All fifteen CHSWTs participated in both assessments

Findings from the MESST and PRISM indicate that county teams have limited technical skills in data processing, data management and analysis, and packaging information for use.

Below is a summary of the county M&E system's strengths and weaknesses from MESST assessments:

Summary of strengths
• Documented M&E organizational structure in place in all counties with clear TORs
• Designated staff for data management are present in all counties
• All reporting entities have clear definition of data elements to report on
• Standardized definition for indicators being reporting are available
• Source documents are available at facilities for audit and verification
• There is clear timeline for the submission of report by reporting entities

Summary of weaknesses
• County M&E Units have limited data management and analysis skills
• Staff lacks experience in reporting writing
• No system in place for data quality checks or address issues of missing data
• No written back-up procedure in place to secure data entered into database
• No county-wide database to record staff trained in different program areas (in order to avoid repetition)
• Data are not use for decision making, mostly used to meet reporting requirements
• No feedbacks system in place at any level on data reported
• Logistics support for M&E activities to strengthen data quality is limited

2.0 Policy context

As the Government moves towards a long-term plan for developing the health and social welfare sectors, the Ministry has clearly articulated its commitment to fostering a culture of inquiry and evidence-based decision making as a strategic direction for planning health and social welfare service delivery.

This Policy and Strategy is built on the 2011-2021 National Health and Social Welfare Policy and Plan (NHPP), the 2008 M&E Policy and Plan and the 2009 HMIS Policy. These documents were informed by best practices and lessons learned from policy implementation. Inputs and contributions from key stakeholders were also sought through workshops, meetings of the Monitoring, Evaluation and Research Technical Working Group (ME-TWG) and working sessions involving various Ministry departments. Finally, experiences from other countries were also studied and suitable ones were reviewed and modified to the Liberian context.

While it is intended to cover the entire ten-year period, the M&E Policy will be reviewed every 3 years to reflect the changing realities and to make it responsive for the effective monitoring and evaluation of the health and social welfare sectors.

3.0 Policy priorities

Monitoring and evaluation activities will be carefully selected based on their potential to contribute to the systematic collection and analysis of information, to track changes from baseline conditions to the desired outcome and impact and to enhance our understanding of the nexus between program implementation and results. These activities will be closely linked to decision-making processes at service delivery, program and policy levels to provide consistent information to service providers, program managers and stakeholders for the improvement of the Essential Package of Health (EPHS), interventions, and strategies. As such, the M&E and information systems priorities will focus on:

- Select core health indicators, based on the National Health Policy and Plan, including their baselines and targets for effective result based monitoring;
- Provide timely and high quality information by strengthening information systems, data quality audits, and management capacities;
- Build a strong culture for monitoring and evaluation in the health sector to support inquiry and evidence based decision making;
- Strengthen evaluation and research capacities through training and hands-on skill development activities,
- Produce and disseminate information using diversified media including the MOHSW website and social media networks.

4.0 Policy Foundation

Policy goal:

The goal of the Monitoring and Evaluation System is to provide the platform for the development and implementation of a single functional national monitoring and evaluation system that will provide information for management decision making in line with the 10-Year National Health and Social Welfare Policy and Plan.

Policy objectives:

The Monitoring and Evaluation Policy and Strategy for the health and welfare sector seeks to achieve the following objectives:

1. Provide the institutional framework for the management of M&E activities across the health and social welfare sectors;
2. Establish uniform and coherent processes and procedures through which health and social welfare information can be collected, processed and used for the management of these services;
3. Serve as a reference document for the development and implementation and assessment of a single M&E strategy and plan for the health and social welfare sectors.

5.0 Guiding principals

The MOHSW is committed to the development and implementation of a comprehensive M&E system guided by the following principals:

1. One M&E system for the health and social welfare sector:

   The MOHSW being the sole authority in the executive branch of the Liberian government to formulate policies, guidelines and protocols for the health and social welfare sectors of Liberia will develop and maintain one M&E system for both sectors. This system will take into consideration the information needs of all partners and stakeholders including international and national Non-governmental organizations (NGOs), training institutions, local authorities, CHSWTs, health social and welfare facilities and the community.

2. Building strategic partnership for M&E:

   The MOHSW will build strategic partnerships with all stakeholders to consolidate efforts and resources available in the development and strengthening of the health and social welfare M&E system. This will avoid duplication, enhance value for investment in M&E, remove inconsistencies and strengthen credibility of information products.

3. Simplicity:

   Data collection, management, analysis and dissemination will follow simple processes and procedures that can easily be learned and mastered. This will involve the use of simple but sound

data collection tools, provision of clear definition for data elements and sources, and the use of straightforward but effective databases for information management.

4. Use of standardize Indicators:

   All indicators will be defined with clear definitions provided, including numerators and denominators. Frequency of data collection and or compilation for each indicator will be provided for uniformity and consistency.

5. Data quality:

   The necessary instruments will be put in place to ensure that data collected and reported through the M&E system are of sound quality. Data shall meet the six data quality standards (dimensions): accuracy, reliability, completeness, precision, timeliness and integrity. The ME&R division will put systems in place to ensure quality and periodically verify data against quality standards. Data verification and validation will take place at least once per quarter while Data Quality Audits (DQA) will be carried out annually.

6. Efficiency

   An excellent organization, with relevant competencies and skills, with capacity to produce accurate information timeously and provide results on demand are critical for a functional M&E system. Human capacity will be assessed and appropriate measures will be taken to develop skills and knowledge to strengthen human capacity for an efficient M&E system.

7. Accountability & Transparency

   Resources invested in health and social welfare including M&E, and corresponding results should correlate. The M&E system should be able to establish the existence (or absence) of this correlation in a clear and transparent manner for all health and social welfare programs. This includes the monitoring and evaluation of inputs, outputs, processes and results. M&E will be serving as an instrument for the promotion of good governance, accountability, transparency and effectively enhance our democratic values.

8. Utilization

The information generated through the M&E system must be utilized by decision makers, service providers, communities and patients/clients. Stakeholder interests shall be considered and their information needs will drive the M&E system. Information products will be packaged in line with the needs of the managers and policy makers at all levels of the health and social welfare sectors with a focus on the lowest level. Communities, facilities, districts and counties will be empowered to make use of information generated at their level.

6.0 Policy Orientation

The National Health and Social Welfare Policy and Health Plan 2011-2021 outlines the basis of health care delivery in Liberia and guides the development of the Essential Package for Health and Social Services (EPHS & EPSS). It also links health services strengthening and health systems development.

7.0 Organizational / Institutional Framework

The following section outlines the roles and responsibilities of various actors in the M&E systems at each level of the health system:

7.1 M&E and Research Technical Working Group

The Monitoring, Evaluation and Research Technical Working Group (MER-TWG) is an advisory body to the M&E and Research Division. The group shall provide advice on technical and scientific matters related to M&E and Research activities carried out by the Ministry and its partners. The MER-TWG is comprised of individuals, selected based on expertise, representing a cross section of stakeholders.

7.2 Central MOHSW Level

Central MOHSW shall provide leadership and carry out monitoring, evaluation and research for the health and social welfare programs, projects and interventions. As capacities develop at the decentralized level, the central Ministry departments shall provide guidance and coordination, build capacity, verify and audit data while decreasing its role as implementer. The subsequent departments, divisions, units and committees shall perform specific roles related to M&E and Research as follows:

7.2.1 Department of Planning, Research and Development

Monitoring and evaluation functions fall within the mandate of the Department of Planning which is responsible for all planning, research, human resource development and statistics, including birth registration, policy development and partner coordination. The Program Coordination Team (PCT) composed of all four Deputy Ministers and attended by MOHSW technical staff, is responsible for reviewing and endorsing monitoring, evaluation and research policies and guidelines.

7.2.1.1 Bureau of Vital & Health Statistics

The Bureau of Vital and Health Statistic in the Planning Department, headed by the Assistant Minister of Health and Vital Statistics, holds supervisory responsibilities over the Monitoring, Evaluation and Research Division.

7.2.1.2 Division of Monitoring, Evaluation and Research

The Division of Monitoring, Evaluation and Research is responsible for the overall coordination and implementation of the monitoring, evaluation, information systems and research policies and strategies. It shall ensure the enforcement of this M&E Policy and guide the implementation of the strategies to strengthen monitoring and evaluation and research.

The division, comprised of three units (Monitoring & Evaluation Unit, Health Management Information System Unit and Research Unit) is headed by a Division Coordinator and is responsible for coordinating monitoring, evaluation and research activities across the health and social welfare sectors. The Division Coordinator reports to the Assistant Minister for Vital Statistics.

7.2.1.3 . Monitoring and Evaluation Unit

The Central M&E, Research Unit shall coordinate and lead all monitoring, evaluation and review activities for the MOHSW. The Unit is responsible for leading the development of National M&E policies, plans and guidelines including selecting and agreeing on national level indicators. The M&E Unit in collaboration with the HMIS Unit also ensures timely collection of data, data verification, and data quality. In addition, the Unit is responsible for generating information products and disseminating data. The Unit provides capacity building and hands on support to all CHSWT M&E Teams to develop and implement their M&E Plans.

7.2.1.4 Health Management Information System Unit

The HMIS Unit is responsible for all activities related to data collection, collation, storage, and analysis. The Unit works closely with M&E, Research, and IT to ensure a coordinated data collection and management systems. The Unit operates the integrated data collection system (including the NEIDS) through the DHIS database. The HMIS Unit shall establish data quality assessment protocols in a participatory and consultative manner with all stakeholders. The unit is responsible for training of Data Officers in data management, data verification and harmonization. It unit shall put the necessary measures into place to ensure data quality.

7.2.1.5 Research Unit

The Research unit shall coordinate all the health related research and surveys including the development of a national health research agenda and drive research activities in the health and social welfare sectors, ensuring that research capacities are strengthened and mainstreamed within the MOHSW systems and services. The Unit is also responsible for the development and operation of a research database, and for registering and documenting copies of all health research studies going on in the country. The research unit shall take responsibility for the establishment and functioning of the Institutional Research Review Board (IRB) for ethical approval of research on human subjects.

7.2.1.6 Vital Registration

Vital registration provides birth and death information for health monitoring and evaluation. The M&E and Research Division shall work with the Vital Registration office to ensure data gathered from registration of births and deaths will feed into the M&E system and measures taken to safe guard and protect information generation mainly birth registration data.

7.2.1.7 Information Technology Unit

The Information Technology (IT) Unit shall play a substantial role in the management, storage, security, processing and dissemination of data. The IT Unit is responsible for all the hardware related to data management through the implementation of a comprehensive information technology infrastructure including database, server maintenance, managing the ministry website and backing-up information. The IT Units will develop web based systems that will generate automated dashboards for keys indicators to enhance information use for decision making. A written IT policy will be developed and reviewed at

regular intervals to define acceptable use of IT resources to enhance information packaging, dissemination and use.

7.2.2 Department of Health Services

The Department of Health Services, through the national vertical programs, conducts program-specific monitoring, accreditation, quality assurance, and research activities. These activities shall be closely coordinated and executed in collaboration with the Department of Planning. Within the Heath Services Department, the Epidemiology Unit shall manage the surveillance system for epidemic prone diseases. The Epidemiology Unit shall collaborate with the M&E Unit to ensure information generated feeds into the overall health and social welfare monitoring and information systems.

7.2.3 Liberia Institute of Statistics and Geo-Information Services (LISGIS)

More robust data sources like the national census, Demographic Health Survey (DHS) or Household Surveys will remain under the prevue of the Liberian Institute of Statistics and Geo-Information Services, with active support and participation from the MOHSW when necessary.

7.2.4 NGOs and Private Sector

The MOHSW shall endeavour to work with all NGOs, private health and social welfare services providers including profit and non-profit providers to build a uniformed health and social welfare information system. NGOs and private sector at the county and district levels are to collaborate with the CHSWT in the implementation of the county M&E Plan. They shall submit their service data to the CHSWTs and DHOs, and participating in M&E and Research coordination. In the spirit of partnership, NGOs shall ensure that all health facilities under their umbrellas adhere to national health and social welfare data collection and management guidelines. In collaboration with the MOHSW and other partners, NGOs shall help with mobilizing resources to support the one M&E system and provide capacity and technical assistance to ensure efficient data management at county level. All partners working in the counties shall support and use the CHT data base and shall not create a parallel system.

7.2.5 Research and Academic Institutions

Research and academic institutions such as universities and medical schools are important partners in the development and implementation of the national health research agenda. These institutions play a key role in capacity building to produce human resources for M&E and Research. These institutions will be

responsible for registering their activities with the MOHSW's M&E and Research Unit as well as with CHSWTs.

7.3 County and Service Delivery Levels

7.3.1 County Health and Social Welfare Team (CHSWT)

The county Monitoring, Evaluation and Research Teams are responsible for the overall coordination and implementation of monitoring, evaluation and research at the county level. This requires close collaboration between line managers (technical) and administrative staff at the county level. The County ME&R Team should be comprised of three staff including an ME&R Officer, a Data Officer and a County Registrar. The ME&R Officer shall head the Team and report directly to the County Health Officer (CHO).

The CHSWTs shall monitor and evaluate health programs implemented by all stakeholders present in the county including NGOs, CBOs and private entities. They shall submit health service data to the Central HMIS Unit monthly, carry out data verification and data quality assessments, and organize quarterly county review meetings. CHSWTs shall also collate and analyze data to generate information products. Each county shall have a specific M&E plan to track 2-year operational plans and performance at the county level, which shall include key health and social welfare indicators.

7.3.2 District Health and Social Welfare Team

The District Health and Social Welfare Team (DHSWT) will be responsible for monitoring activities at the health district level. The DHOs shall collect the monthly HMIS reports from the facilities and submit them to the CHSWTs. A phase approach shall be adopted to increase capacity at the district level, in order for DHSWTs to be able to collate, analyze and generate information products for district and facility level use and decision-making, and to support facilities in setting targets conducting and reviews.

7.3.3 Health & Social Welfare Facilities

All hospitals, health centers and clinics (government, NGO-supported and private facility) shall collect and submit health and social welfare statistics to the MOHSW on a monthly basis. All health facilities shall maintain ledgers in the nationally prescribed format. Health facilities shall transcribe information regularly every month from the ledgers to reporting forms and submit it to the CHSWT by the 5th of the subsequent month. Additionally, diseases under surveillance shall be reported immediately to the CHSWT using the appropriate forms. All health facilities from primary to tertiary level shall not only

forward the monthly data but shall use the same to monitor their outputs and outcomes on a monthly basis. Such monthly monitoring will help service providers detect problems at an early stage and take corrective measures so that annual program targets are met. All health facilities will be assisted by the county M&E Team to set monthly targets enabling them to monitor their own performance. Facilities shall hold internal review meetings with staff to reflect on their performances and plan for the next period.

7.3.4 Community and Community Health Volunteers

The Community health and social welfare M&E system is weak and need to be strengthened. The M&E and Research Division shall develop and integrated community health and social welfare information system that captures all communities' interventions as is with the facility based services. The development of this system shall build on what is available involving all stakeholders.

8.0 Monitoring, Evaluation and Research Framework

8.1 Health and Social Welfare Indicators

As outlined in the 10-Year National Health Policy and Plan, the Ministry, in cooperation with its partners, will select and agree upon core health indicators, their baselines and targets for effective result based monitoring. Additionally, the frequency of data collection and compilation for each indicator will be provided for uniformity and consistency.

The HMIS Unit will collect data in a manner that will allow stakeholders to analyze how resources are allocated across levels of care, between central and peripheral administrative bodies, between urban and rural areas and across counties. This will encourage informed policy discussions about equity, efficiency, decentralization and adherence to the primary health care approach. The HMIS will consist of various sub-systems specially designed for data collection, processing and reporting, namely: the Integrated Financial Management Information System, the Human Resources Information System, the Physical Assets and Management Information System, the Health Information System. These individual systems will be managed by people with the requisite expertise but be integrated where necessary and possible.

8.2 Data Collection, Management and Reporting

The MOHSW will maintain and update a register of all health care facilities and delivery points and sustain a system of supervision. All health and social welfare activities will be recorded on relevant paper and/or electronic registers at the time they occur.

All recorded health and social welfare activities will be reported in line with the existing regulations, which will be updated periodically by the M&E and Research Division.

Data within the counties will be collected, edited, entered using a standardized software as devised by M&E and Research Division in consultation with the IT Department. All CHSWTs will submit electronic versions of their data to M&E and Research Division on a monthly basis in order to update the HMIS central repository.

The M&E and Research Division shall work with partners and other stakeholders to develop data quality and management protocols and guidelines for the MOHSW.

All levels of the health and social welfare system will conduct essential analysis of their data regularly generating necessary information for their core business. The M&E and Research Division will aggregate and analyze the national health and social welfare data annually and provide a comprehensive annual report for all stakeholders.

All facilities will be responsible for safe storage and easy retrieval of all records under their purview and maintain them in line with GOL archives regulations. All records in electronic formats will be mirrored in a second server and stored in CD ROMS. Until otherwise regulated, records of patients who die in health facilities will be kept for ten years. Access to sub-system specific databases and central repository will be restricted to authorized individuals only.

The M&E and Research Division will create demand and promote use of information through the timely supply of accurate and accessible information. The Division will regularly publish health information using diversified media.

The publication of information by the MOHSW will be guided by the provision of Statistics and the Public Health Acts and any other existing regulations on privacy. In all HMIS operations, efforts will be exercised to protect the client's rights without compromising safety and knowledge development. Health workers who have access to patient's records will be accountable for maintaining confidentiality.

8.3 Routine monitoring and onsite Data Verification

Monitoring shall be a continual and systematic process to track the performance of the health sector towards the achievement of set targets including those of the National Health Plan, Poverty Reduction Strategy and Millennium Development Goals (MDG). Monitoring and data verification and

harmonization shall be coordinated by the M&E and Research Division, to ensure efficient and effective use of resources. Central level monitoring will target county and district levels with select facilities and communities. At county level monitoring and data verification and harmonization visits shall be carried out continuously at facility level and ensure all health facilities are reached at least once every quarter by county M&E team. The selection of facilities to visit shall be done either randomly or purposefully base the objectives of such monitoring activities. As part of routine monitoring, the M&E Unit shall conduct verification of implementation to monitor key health and social welfare projects and deliverables to assess the achievement of targets of all health and social welfare projects.

8.4 Health Sector Reviews

Health sector reviews shall take place at all levels of the health system. Reviews shall focus primarily on health system performance and the quality of service delivery looking at key indicators, deliverables and targets set forth in the county operational plans, in line with the National Health Policy and Plan.

CHSWTs shall conduct reviews at the end of every quarter to assess targets, achievements, and findings from monitoring and supervision reports. CHSWT shall receive technical support from the M&E and Research Unit at the central MOHSW. Facility and district management shall set the frequency of their reviews with support from the CHSWT.

The Central MOHSW shall conduct semi-annual and annual health sector reviews. The semi-annual reviews will analyze the performance towards achieving national goals and targets formulated in the National Health and Social Welfare Policy and Plan and the 2nd iteration of the Poverty Reduction Strategy (PRS-2). The MOHSW and key stakeholders will carry out annual reviews to assess adherence and implementation of the National Health and Social Welfare Policy and Plan, to identify operational best practices and lessons learned and to prepare work plans.

8.5 Evaluation

The MOHSW shall conduct program, project specific and National Health Policy and Plan evaluations, looking at implementation, process, outcome, effectiveness, and impact. The M&E and Research Unit shall conduct a mid-term and end term evaluation of the National Health Policy and Plan. Programs and division in collaboration with the M&E Unit and partners shall identify other programs and projects that need to be evaluated.

8.6 Research

The M&E and Research Division shall establish research priorities for health and social welfare. It shall coordinate, supervise and manage the conduct of health research projects. The unit shall collaborate with other stakeholders to conduct research.

9.0 Capacity Building for monitoring, Evaluation and Research

Implementation of this policy will require institutional and staff capacity building. The MOHSW through the Department of Planning shall mobilize resources to build the capacity of the M&E and Research Division at the central and county levels. In collaboration with partners, a capacity assessment and gap analysis shall be done to identify areas that need to be strengthened and appropriate interventions designed and implemented to make the M&E system functional. Based on the gaps indentified and future plans to develop skills, the Ministry and its partners should support M&E and research career development opportunities including training workshops, participation in short external courses, mentoring and coaching and scholarships for select M&E staff shall be implemented. Opportunities for collaboration with local academic institutions of higher learning for capacity building would also be explored.

NATIONAL MONITORING AND EVALUATION STRATEGIC PLAN

This document was reviewed in 2013 incorporate COIA Indicators

(COAI is the Commission on Information and Accountability)

FOR THE HEALTH SECTOR
2012 – 2021

1.0 Goal and Objectives of the M&E Strategy

1.1 Goal of the M&E strategy

The goal of the National Monitoring and Evaluation, and Research Strategy is to provide direction for monitoring and evaluating the implementation the National Health and Social Welfare Policy and Plan 2011-2021. Thus the M&E strategy is developed to facilitate the systematic collection, storage, retrieval and dissemination of information, in a manner that meets the needs of MOHSW staff (at all levels), partner organizations, and end-users.

1.2 Objectives of the M&E strategic plan

The following represent the objectives of the National Monitoring, Evaluation, and Research Strategy:

1. Harmonize, standardize and integrate data collection and review tools, and methodologies used by all actors in the health sector.
2. Institutionalize systems for continuous information sharing, decision-making and feedback.
3. Select and seek consensus on a standardized set of indicators for tracking progress towards improving access, utilization and quality of health and social welfare services.
4. Buttress the health and social welfare data management and reporting system including HIS, vital registration, surveillance, surveys and research.
5. Strengthen evaluation capacities for measuring health and social welfare outcomes, impact, effectiveness and cost-effectiveness.
6. Improve data quality by conducting regular data validation as well as periodic data quality audits at all levels.
7. Further information dissemination and advocate the use of data for planning and decision making at all levels.
8. Build the capacities of M&E and Research Unit personnel at all levels of the health system.

2.0 M&E Institutional Framework

Conforming to MOHSW's decentralization policy, the national M&E institutional framework is consistent at all levels of implementation: Central (National), County, District, Facility and Community. Likewise the M&E policy specifies the M&E related functions and activities to be carried out by each of these levels. The M&E Strategy & Plan provides a detailed description of the roles, responsibilities and human resources necessary to carry out the outlined activities. The organogram for the central level and county levels are below section.

2.1 National M&E Institutional Structures

At the national level, a Division for Monitoring, Evaluation and Research was created in 2010 and a Division Coordinator hired in 2011. The division is composed of three units: M&E, HIMS, and Research. The Division Coordinator reports to the Assistant Minister for Vital and Health Statistics within the Department of Planning (Figure 1). The M&E and Research Coordinator is tasked with harmonizing the three units' activities, leading the development of M&E policies, plans, guidelines and standards, and mobilizing resources for M&E.

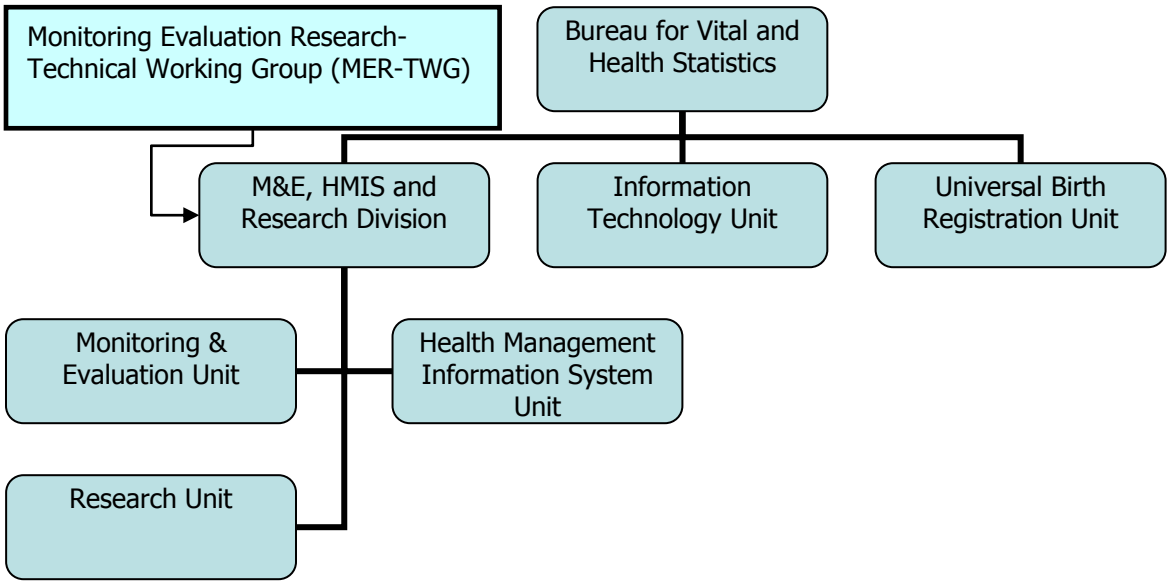


Figure 1. Monitoring, Evaluation, and Research Institutional framework

3.0 Monitoring and Evaluation Framework

3.1 National / Core Health and Social Welfare Indicators

The National M&E system focuses primarily on the generation of four types of indicators. They include the following, collected at all levels of the health system:

1. Impact indicators (to measure long-term results)
2. Outcome indicators (to measure medium term results)
3. Output indicators (to measure short term results)
4. Inputs indicators (to track resources)

The list of Core National Health and Social Welfare Indicators was developed with the participation of relevant stakeholders in order to monitor the National Health Policy and Plan. The list of indicators, their data sources, and operational definitions are presented below on page 4. In addition to the core indicators, the Ministry has identified an additional set of 137 relevant indicators, included in the HMIS strategy.

The selection of core indicators occurred after the MOHSW had already committed itself to reporting on several indicators related to donor-funded programs including performance based contracting (PBC). As a result, the Division worked to include as many of the indicators currently reported to donors, especially the 17 PBC indicators. Nonetheless, the selected core indicators will be subject to periodic reviews according to the revisions of health sector strategy and plans.

3.2 County specific indicators

In addition to the national indicators CHSWTs are encouraged to monitor any other relevant county-specific indicators based on the county's priorities and to enhance the proposed decentralized approach. All fifteen counties are expected to have County M&E plans with their set of indicators within the framework of this strategic plan.

3.3List of National Core Indicators

Indicator's ID	Indicator	Program Component	Baseline	National Target	Result Type	Frequency	Data Source	Comments
1	Percentage of deliveries conducted at health facilities by skilled birth attendants (MDs, PAs, Nurses, and Midwives)	Family Health / COIA	44% (2011)	65% (2017)	Output	Quarterly	HMIS	Baseline taken from annual report
2	Couple Years Protection (CYP)	Family Health	54414 (20120	TBD	Output	Quarterly	HMIS	
3	Percentage of pregnant women visiting health facilities for at least four antenatal care	Family Health/ COIA	TBA	TBA	Output	Quarterly	HMIS	
4	Infant mortality rate per 1000	Family Health	71 (2007	TBA	Impact	5Y	Census &DHS	
5	Under-five mortality rate per 1000	Family Health/ COIA	110 (2007)	57 (2021)	Impact	5Y	Census & DHS	MDG reporting requirement
6	Maternal mortality ratio per 100,000	Family Health/ COIA	994 (2007)	497 (2021)	Impact	5Y	Census	MDG reporting requirement
7	Antibiotic treatment for childhood pneumonia	Family Health/ COIA						
8	Total fertility rate	Family Health	5.2		Impact	5Y	Census	

Indicator's ID	Indicator	Program Component	Baseline	National Target	Result Type	Frequency	Data Source	Comments
9	Met need for contraception (percentage of women of reproductive age married or in union who have their need for family planning satisfied)	Family health/ COIA	TBA	**TBA**	Impact	Every 5 years	DHS	
10	Percentage of mothers and babies who received postnatal care visit with in two days of child birth	Family health/ COIA	TBA	**TBA**	Outcome	Quarterly & Every 5 years	HMIS& DHS	
11	Percentage of children under 1 year who received DPT3/pentavalent-3 vaccination	EPI / COIA	76% (2011)	90% (by 2021)	Output	Quarterly	DHIS & EPI Survey	
12	Percentage of children under one fully immunized(measles as proxy)	EPI	64% (2011)	90% (2017)	Output	Quarterly	HMIS	
13	Percentage of children zero to five months of age exclusively breast fed	ND/ COIA			Outcome			
14	Percentage of children under five years who are stunted (Stunting Prevalence)	ND/ COIA	TBA	TBA	Impact	Every five years	DHS	
15	Percentage of pregnant women provided with 2nd dose of IPT for malaria	Malaria	37% (2011)	80% (by 2021)	Output	Biennial	LMIS & DHIS	
16	Percentage of Children under five years with malaria receiving artesiminin-based Combination treatment (ACT)	Malaria	60% (2011)	95% (2017)	Output	Quarterly	HMIS	

Indicator's ID	Indicator	Program Component	Baseline	National Target	Result Type	Frequency	Data Source	Comments
17	Percentage of people above five years with malaria receiving artesiminin-based Combination treatment (ACT)	Malaria	71% (2011)	85%	Output	Quarterly	HMIS	
18	Percentage of children under age 5 sleeping under insecticide treated bed nets	Malaria	37% (2011)	100 % (2013)	Outcome	5Y	DHS & LMIS	
19	Percentage of HIV positive pregnant women who have received complete course of ARV prophylaxis or ART to reduce the risk of MTCT	HIV & AIDS & COIA	45% (2011)	82% (2014)	Output	Quarterly		
20	Percentage of infant born to HIV-infected mothers who are infected	HIV & AIDS	13.7% (2011)	0 % (2015)	Outcome	Annually		NACP to set baseline and target
21	Percentage of young women and men aged 15- 24 who are HIV infected	HIV & AIDS	1.1% (2007)		Impact	5Y	DHS	UNGASS reporting requirement
22	Percentage of new smear positive TB cases provided DOTs by the community among new smear positive TB cases reported	TB	4% (2010)	24%	Output	Quarterly	HMIS	
23	Treatment Success rate among smear positive TB cases (Under Directly Observed Treatment Short Course)	TB	85%	85%	Outcome	Quarterly	HMIS	
24	Smear positive TB notification rate per 100,000	TB	114 (2012)	127 (2021)	Outcome	Annually		
25	Treatment success rate among Multi-Drug Resistance-TB patients	TB	0	30%	Outcome	Annually	Quarterly Report	

Indicator's ID	Indicator	Program Component	Baseline	National Target	Result Type	Frequency	Data Source	Comments
26	Therapeutic coverage for ONCHO,	NTD	81% (2010)	100% (2020)	Output	Quarterly	Program report	
27	Therapeutic coverage for lymphatic filiariasis	NTD	N/A (2011)	100% (2012)	Outcome	Annually	Survey & Census	
28	National acute flaccid paralysis (none polio AFP) rate / 100,000	DPC	3.3 (2011)	2	outcome	Annually	Surveillance	
29	Ratio of Active Community Health Volunteer to population /1000	Community Health	N/A	NA	Outcome	Annually	CHIS	being developed
30	Public expenditure in health and social welfare as percentage of total public expenditure	Health financing	8.9% (2012)	15%	Input	Annually	MOF	External Aid Unit to set baseline and target
31	Percentage of execution of annual health and social welfare budget (budget utilization)	Health Finance	88.2% (2012)	95%	Output	Annually	FMIS	
32	Health and Social Welfare expenditure per capita	Health Financing			Input	Annually	OFM	Health Financing to set baseline and target
33	Percentage of bilateral aid that is untied (increasing predictability and decision making space)	Pool Fund	48.8% (2012)	>50% (2012)	Input	Annually	OFM	
34	Proportion of population living in 5 km from the nearest health facility	Geographical Access	72% (2012)	85%	Outcome	Annually	Annual assessment	
35	Ratio of Health professionals to 10,000 population (doctors, PAs, RNs & CMs	Quality Assurance	0.6 (2009)	N/A	Outcome	Annually	HRIS	being developed

Indicator's ID	Indicator	Program Component	Baseline	National Target	Result Type	Frequency	Data Source	Comments
36	Percentage of children with disabilities (physical and or mental disabilities) receiving social assistance	Social Welfare	18, 000-children,	30%-children,	Output	Quarterly	LISGIS	Disaggregate by sex
37	Percentage adults with disabilities (physical and or mental) receiving social assistance	Social Welfare	3,582-adult (2010)	50%-adult		Quarterly		
38	Percentage of confirmed orphans in institutions	Social Welfare	4,300 (2010)		Output	Quarterly	MOHSW	
39	OPD consultation per inhabitants per year	Utilization	0.94 (2011/12)	2 (2021)	Outcome	Annually	HMIS	
40	Percentage of households with improved sanitation(toilets)	WASH	12% (2008)	56% (2017)	Outcome	Annually	Survey & Census	
41	Percentage of population with access to improve or equivalent safe drinking water	WASH	66% (2008)	77% (2017	Outcome	Annually	Survey & Census	
42	Percentage of facility with no stock out of tracer drugs (amoxicillin, cotrimoxazole, paracetamol, ORS, iron folate, ACT, FP commodities)	Supply chain	62.3% (2012)	95% (2021)	Output	Quarterly	Health Facility survey	
43	Percentage of facilities submitting timely report	HMIS	62 % (2011)	90% (2017)	Output	Quarterly	HMIS Database	
44	Equity index	Equity	1.81 (2011/12)	1.5% (2021)	Outcome	Annually	HMIS	

Note: DPC= Disease Prevention and Control; EPII = expanded Program on Immunization; ND= Nutrition Division; NTD= neglected Tropical Diseases; HMIS= Health Management information system; WASH= Water Sanitation and Hygiene; TBD = To be determined

4.0 Data collection and management strategy

4.1 Data Sources

In order for the national M&E system to function, core data sources that feed into the HMIS have been identified There are two major categories of data sources:

- Data source for input, process and output indicators, including: routine data and reports from all health facilities, social welfare institutions and communities,
- Data sources for outcome and impact indicators, including: periodic population based national surveys like Liberia Demographic and Health Survey (LDHS), population census, special studies (e.g. KAPC, etc.), and health facility surveys (e.g. Accreditation).

For health care delivery, the MOHSW will follow the World Health Organization (WHO) proposed multiple data sources on a wide range of indicators related to availability, access, quality, safety, efficiency and equity of services. The table below lists the current sources of data collected by MOHSW.

Table 1. List of specific data sources

Data collection methods	Descriptions
Facility HMIS (NEIDS) Reports	**Regular facility data reported to County and National levels by service providers every month.**
Integrated Disease Surveillance and Response (IDSR)	**WHO standard tools for early detection and effective response to priority communicable diseases reported immediately and compiled weekly**
Active Maternal Mortality Surveillance	**Events linked to every maternal death is investigated to examine its determinants, causes and effects, failures in the health delivery system, family support and referral systems, etc. and is done whenever a maternal death is reported**
Health Facility census	**Periodic census of all public and private health care facilities within the country.**
Health Facility survey	**Periodic survey of a representative sample of public and private health care facilities within the country.**
Health Training Institutions Assessment	**Periodic assessment done at health training institutions to determine number of health personnel**

Health facility assessment	**Periodic assessment of public and private health care facilities within the country**
MOH Payroll	**Payroll listing provides list of personnel currently on payroll and therefore in active employment**
Labor Force Survey	**Survey that provides list of personnel currently employed**
Registry of professional bodies and regulatory boards	**Registry usually contains information on health professionals and regulatory boards**
Registry of professional regulatory entities	**Registry usually contains information on health facilities that are registered and functional**
LMIS	**Liberia malaria indicators Survey**
National Health Account study	**National health account study**

4.2 Data Collection and Recording

The MOHSW has developed and several tools for recording health and social welfare services. All information on services provided to clients will be recorded on relevant registers (paper-based and/or electronic) at the time of service delivery, in line with existing professional practice and regulations. In 2011, the Division developed and rolled out the comprehensive data collection strategy for the routine national essential indicators and dataset (NEIDS) at facility and outreach level. This strategy includes data collection from the health facility (public and private), district, and county levels. It involves the use of a single integrated reporting form recorded at health facilities and outreach services (DHS 2) submitted every month to the CHSWTs.

Facility reporting forms shall be submitted by the 5th of the subsequent month to the CHSWT through the DHOs. Disease outbreak and condition under the IDSR will be submitted in accordance with IDSR guidelines using the appropriate case based form.

All hospitals, health centers and clinics (Government, NGO supported and private) shall collect and submit health and social welfare statistics to the MOHSW on a monthly basis.

4.3 Data Validation, Storage and Transmission

At the facility level, the source documents of activities undertaken in the provision of services shall be kept in god state , at a safe place, and protected from unauthorized access. They are property of the facility, and valued as assets. They shall be made available for the purpose of data validation and verification.

CHSWTs will maintain an efficient and up-to-date database for all health and social welfare data and indicators using standardized software as devised by the M&E and Research Division in consultation with the IT Department.

CHSWTs shall carry out monthly data verification and data quality assessments before submitting health services data to the Central HMIS Unit. **All CHSWTs will submit their electronic data to the M&E and Research Division in order to update the HMIS central repository on the 15th of every subsequent month**. Both the central Division and the CHSWT's M&E Unit are responsible for sharing the data with local partners.

At a central level, all data are stored in the HMIS Data repository. The central M&E and HMIS Units, in collaboration with the Health Services Department and CHSWTs, shall implement quarterly data verification and data quality assessment visits to all counties and randomly selected health facilities. All data from the health and social welfare systems will be shared with all stakeholders at a predefined frequency and on an ad-hoc basis when needed.

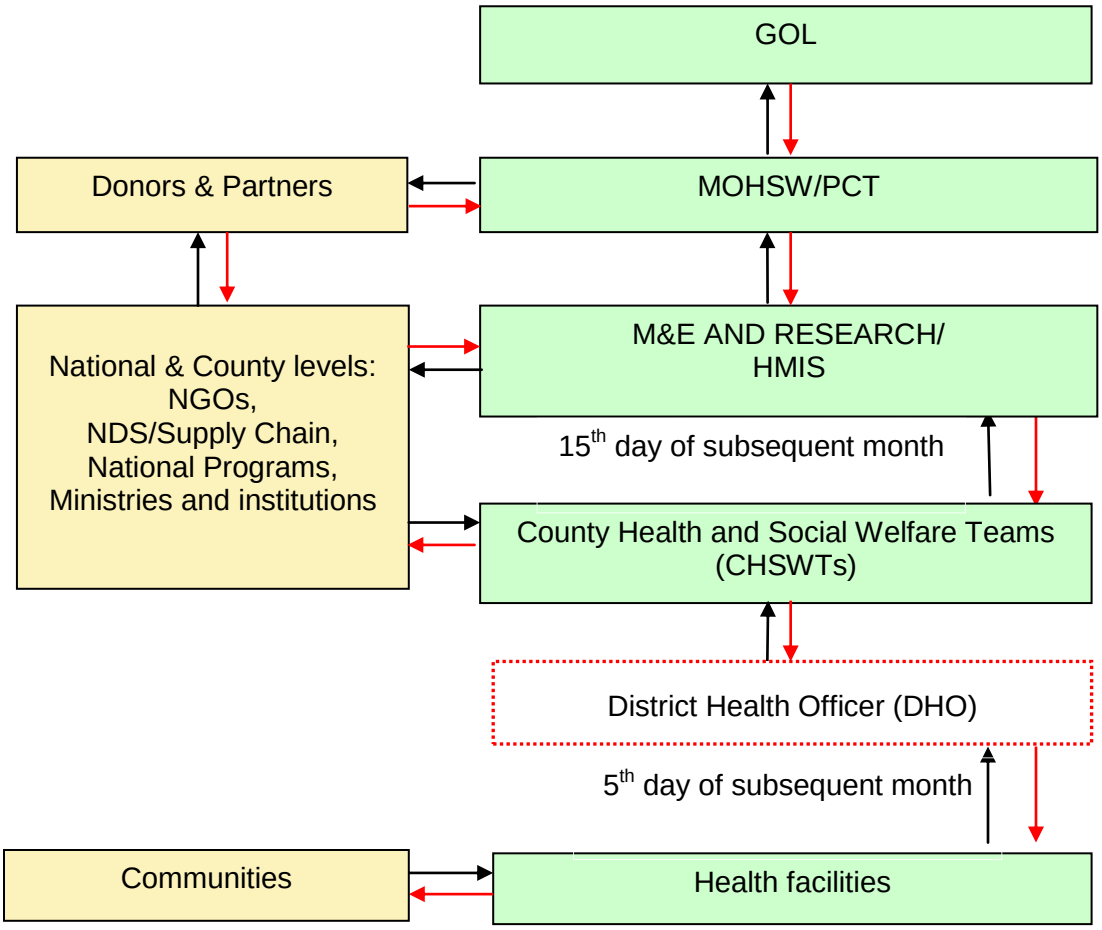
4.4 Data Analysis and Feedback

All levels of the health and social welfare system will conduct data analysis on a monthly and quarterly basis, generating necessary information for decision-making and resource allocation. The Division will develop and publish guidelines with templates for essential data analysis and feedbacks at all levels and conduct training to strengthen county and district analysis and data use.

At the central level, the M&E and Research Division will aggregate and analyze data on quarterly and annual basis to generate and provide comprehensive reports for all stakeholders. Systematic feedback will be provided regularly, including reviewing completeness of information, identifying additional information needs, planning in accordance with health services utilization levels and assessing high and low performing health facilities.

4.5 Data Flow and Reporting

This section presents the reporting linkages and bi-directional data flow channels from the community up to the central level (See Figure 2).



* Note: Red Arrow = Feedback; Black Arrows = Data Flow

Figure 2. MOHSW Routine Data Flow Chart

An effective national M&E and Research system requires that data flow structures and reporting mechanisms are clearly defined to avoid double counting and to ensure continuous communication.

4.5.1 **Reporting from the community to health facilities**

All community health volunteers including, general Community Health Volunteers (gCHVs), Trained Traditional Midwives (TTMs), Household Health Promoters (HHPs), and all other community health workers within the catchment area of a health facility are to report community based health data to the certified midwife and/or the Community Health Services Supervisor based at that health facility every month. The OICs will submit copy of the report to the County Health and Social Welfare Team through the DHOs.

4.5.2 **Reporting from health facilities to District Health Officer**

All OICs within a given district are to report to the District Health Officer (DHO) on a monthly basis. In instances where the DHO post is not filled, all health facilities are to report directly to the CHSWT on a monthly basis. Additionally, health facilities are responsible for reporting disease outbreaks and priority surveillance areas such as maternal mortality.

4.5.3 **Reporting from District Health Officer to CHSWT**

All DHOs within a given County are to collect reports from all health facilities within their respective districts and submit them to the CHSWT on a monthly basis. Additionally DHOs are responsible for reporting disease outbreaks and priority case areas such as maternal mortality.

4.5.4 **Reporting from NGOs and the Private Sector to CHSWT**

All NGOs, private and faith-based health facilities operating in the Liberia are to submit copies of their health data to the CHSWT on a monthly basis using the MOHSW standardized reporting tool.

4.5.6 **Report from CHSWT to central HMIS Data Repository**

All county M&E Officers are to submit health data and reports (after they have been reviewed and certified by the CHO), to the central HMIS on a monthly basis in the designated electronic DHIS database format.

4.5.7 **Reporting from Other Government Ministries and Institutions**

Government ministries and institutions shall report and receive feedback on health and social welfare related matters, through their focal points, to the relevant units/program at the MOHSW (e.g. Gender Ministry to the Department of Family Health on sexual assault data, etc.). Where appropriate, these institutions may report directly to M&E and Research Division.

4.5.8 **Reporting from M&E, Research Division to MOHSW Departments and Partners**

The M&E and Research Division, through the HMIS unit will share all data with relevant Ministry program and units as well as partners, donors, and the public. In addition, the Division will prepare periodic information products such Dashboards, Health and Social Welfare Quarterly Reports, Statistical Bulletins, and Newsletters.

5. Data Quality Assurance

5.1 Data quality audit

The leadership and management of the MOHSW recognize the value of premium quality information and would like to underscore efforts to assure the quality of the data generated through the health and social welfare system. As part of the implementation of this M&E plan, an integrated Data Quality Audit (DQA) tool will be developed to assess and verify the quality of routine data at all levels. Data quality audit shall be carried out at least once per year by the central M&E, Research Division, and twice a year by the County M&E Unit, and quarterly at the Facility level.

Additionally, the Central M&E unit in collaboration with CHSWTs, national programs and partners will work to enhance and address challenges and factors that influence data including behavioral and motivational factors. This will be achieved through integrated DQAs, joint Verification of Implementation (VOI), and supervision and mentoring of county M&E teams to be done in conjunction with county monitoring. The table below outlines the dimensions of data quality

Table 2. Data Quality Standards

Dimension	Description
Completeness	Data exhibits completeness if nothing needs to be added, e.g. no blank space is left
Accuracy	The degree to which data correctly reflect the real world of an event being described
Reliability	The degree to which the same result can be obtained by repeating the same data capture process
Timeliness	Data are current and information is on time as scheduled
Confidentiality	Interviewees/clients are assured that whatever data collected are kept private or secret according to national and international standards
Integrity	This dimension protects data from deliberate bias or manipulation for political or personal reason(s)
Precision	Data have sufficient detail (e.g. disaggregated by age, sex, etc.)

Table 3. Data Verification Principles and Methodology

Methodology	Activities
Determine the level of effort	✓ Based on the extent of the program's activities the following could be done: ✓ Select a larger sample size in terms of sites and source documents
Select indicators for results	✓ A set of indicators to verified, be it national or program-related, e.g. people tested for TB
Select sites	✓ Focus on most important service delivery areas, keeping in mind areas that previously had problems. It is more convenient but not restricted, to do a random sample of service delivery areas if the process is an annual one.
Select source of documents	Primary Records: ✓ Registers, tally sheets, medical records of people reached, distribution log sheets, inventory statements, commodities distributed (e.g. drugs requisition forms, per diem sign-up sheets for people trained, etc.) ✓ Check summary reports at relevant administrative levels (service delivery points, county and national)
Perform the verification	✓ Bottom-up audit trail – from primary source to summary report ✓ Cross verification – cross verification of programmatic results with other data sources ✓ Spot-checks of actual service delivery
Produce report	✓ Production of reports will be done by M&E and Research/HMIS Unit and submitted to PCT/MOHSW and the vertical M&E Units for their programs.

5.2 Use of Information Technology

Facilities will be responsible for the safe storage and easy retrieval of all records under their purview in line with GOL archives regulations. All records in electronic format will be mirrored in a second server, stored in CD-ROMS, and other backup gadgets and safe guarded. Until otherwise regulated, records of patients who die in health facilities will be kept for ten years. All other patient records and registers will be disposed of every five years.

The Information Technology Division shall support the following:

5.2.1 Health and social welfare information storage

Appropriate technology will be put in place for the secure storage of health and social welfare-related data. Storage devices that contain sensitive information will be protected from unauthorized access.

5.2.2 Health and social welfare information availability

Appropriate technology will be in place to ensure the IT system (computers, servers, and internet connection) is on-line and ready for access at all times. This will involve the use of the following backup systems:

- **Power backups** – the use of uninterruptible power supply (UPS) units to ensure that IT systems that hold data are available at all times, especially in case of power outages.
- **Data Backup** – the use of external backup drives to store daily systems and backup files, which will be stored at an off-site location as part of the disaster recovery plans and for systems' restoration.
- **Equipment backup** – purchase of additional spare parts of IT equipment for replacement, when it becomes faulty.
- **Health Information transmission (*Data transfer*) –** electronic connectivity (via the Internet and other networks) for the transfer of data, through the use of CD-ROMs, memory sticks, encrypted email, and secured file transfer protocol (ftp), or secured web services that permit electronic communication among health workers will be secured in order to safeguard the information from unauthorized access, use, and disclosure.
- **Information Security:** The appropriate technology that will preserve the confidentiality, integrity and availability of data will be established through:
    - **Electronic security -** Depending on the location (county or central level) of the data to be stored, access to personal computers, laptops, and servers will be secured through the use of passwords, or other means of securing (encryption) access to the stored information. Data stored on local or wide area networks with large numbers of computers or internet access (county and central levels) will use technologies such as firewalls and routers to limit access to those entitled to the data. Different levels of access will be created depending on different purposes for the information, known as "role-based" access.
    - **Physical Security** – Data and information stored in electronic format, that is data stored on personal computers, laptops, servers, backup and other storage devices both at the county and central levels will be physically secured, such as by being stored in a locked cabinet, within a locked room, and within a secured building to protect against unauthorized person having physical access to them.
    - **Data Security** – Access to sub-system specific databases and central repository will be restricted to authorized individuals only.

5.3 Routine Monitoring, M&E Supervision, and Mentoring

While monitoring and supervision may require distinct personnel, expertise and tools, both processes share five goals. First is to incorporate a system of analysis and review, leading to remedial action to improve performance. Second, to provide continuous on the job training at all levels of the health and social welfare system; third, to increase the

involvement and commitment of staff at both the county and district levels. Fourth, to ensure that private and NGO-supported health facilities are participating and implementing service in line with the National Health Policy and Plan; and lastly, to ensure the equitable provision of services to all sectors of the community, including remote, hard-to-reach areas.

Monitoring and supervision of programs and interventions will be done on a continuous basis to identify weaknesses for planning improvements, strengths for identifying best practices. Table 4 highlights general guidelines for conducting routine monitoring visits

Table 4: Routine monitoring visit

Objective	To track changes from baseline conditions to desired outputs. Tracks and assesses performance (progress towards outcomes) through analysis and comparison of indicators over time and specific programs deliverables.
Focus	Focuses on the inputs and outputs of operational plans.
Methodology	Standardized checklists
Information Sources	Interviews, HMIS Data, Supervision reports, MOHSW program & Units and CHTs activity reports
Use	Alerts managers to problems in performance and provides options for corrective actions and as well identify best practices for replication
Main users	Service providers, programme managers (public, private), all health workers involved in planning activities

To conduct effective monitoring, the MOHSW and its partners will establish and design mechanisms to follow up on findings and recommendation from field visits. These shall include planned actions, such as feedback provision, supervision by senior managers, stakeholder meetings, and systematic analysis or reports. The M&E activities will be conducted in the following sequence:

5.3.1 Monthly Monitoring at all Service Delivery Points

All health facilities will monitor their outputs on a monthly basis. Such monthly monitoring will help service providers detect the problems at an early stage and take corrective measures so that the annual program targets are met.

5.3.2 Quarterly monitoring at all Management Levels

County and the Central MOHSW M&E Unit will carry out quarterly monitoring at their respective levels to ensure that programme results are produced as planned. Such monitoring will trigger supportive supervision and follow-up visits at the lower level of the health system.

6.0 Health Sector Review and Evaluation

The tables below summarizes the main distinction between the Health Review and Evaluation

Table 5: Health review and Evaluation

	Review (Annual and Quarter)	**Evaluation (Mid-Term, End)**
Objective	To track and validate outputs and outcomes to some extent.	To validate what results were achieved, and how and why they were or were not achieved.
Focus	Focus on the annual/operational plan targets.	Focuses on how and why outputs and strategies contributed to achievement of outcomes. Focuses on questions of relevance, effectiveness, sustainability and change.
Methodology	Evaluates annual performance by comparing indicators before and after. Relies on monitoring data from routine HMIS.	Evaluates achievement of outcomes by comparing indicators before and after. Relies on monitoring data and on information from external sources.
Information Sources	HMIS, Annual Rapid Assessment for Annual Conference	Surveys, Research report, Annual Conference reports, Observations
Conduct	Annually by key partners with or without the help of external facilitators	Mid-term and at the End of Plan External evaluators & partners.
Use	Provides input to the planning of the next annual plan.	Provides managers with strategy and policy options.
Main users	Program managers, Development partners	Policy and strategic planners, Development partners

6.1 Health Sector Review

Conducting periodic reviews of progress towards achieving the National Health and Social Welfare Plan is essential to the planning process. The health reviews allow identification of implementation and operational challenges, best practices, lessons learned, and lead to preparation of annual/quarterly plans for the subsequent period.

The MOHSW health sector review will be done at two levels: national and county. The county level reviews will be conducted on a quarterly basis while the central level ones to held bi-annually.

6.1.1 What to review

The National Health Policy and Plan sets forward a framework for shifting to long-term development of the health and social welfare sector. The review meetings should use the component of the NHPP and the county 2-Year Operational Plans as a basis. Specifically, the review should assess the implementation and progress made in:

1. Essential Package of Health and Social Welfare Services (EPHS and EPSS)
2. Human Resources for Health
3. Infrastructure Development
4. Support Systems
5. Health Financing and Partnership

6.1.2 Preparation and for Review

The Chief Medical Officer (CMO), in consultation with the Deputy Minister for Planning, Research and Development, should establish a Review Committee. The committee should include representation from all Ministry departments and programs. The establishment of such a committee will lead to a more efficient, and effective review. The committee will also create a more coordinated feedback loop among departments, programs, CHSWT, and partners.

6.1.3 Roles and responsibilities of the Review Committee

The Review Committee shall be the body responsible for organizing and implementing the quarterly or annual review meetings depending on whether it is a central or county level committee. The committee will be responsible for coordinating all meetings, implementing strategies designed for the reviews; documentation of the review process, and ensuring the feedback system is established between all levels of the system as well as with partners. The committee will also establish the costs of the review.

Membership shall include, but will not limited to, representatives from the following: Departments of Health Services, Planning, and Administration, and health sectors partners, with M&E Unit serving as secretariat.

6.1.4 Follow up mechanism for health sector review

The Review Committee will be responsible for following up on the implementation of the recommendations from the review. Findings and recommendations of the review meetings will be handled as follows:

By a small technical group: In this approach several working groups or task forces will look at the results of the review and endorse what they see as the main findings and recommendations.

MOHSW at central and county level: will develop an action plan with a timeline for the implementation of recommendations. A final report will be presented in the next review meeting on the implementation of recommendations that came out of the previous review.

*6.*2 The National Health Policy and Plan Evaluation

The Ministry shall conduct mid-term and end evaluations of the progress made in accomplishing the National Health and Social Welfare Policy and Plan. Program-specific implementation, outcome and impact evaluation will be conducted based on the needs of program managers, MOHSW senior management, and or the donor.

The evaluations will be conducted to:

- Determine level of implementation and progress toward reaching key objectives
- Determine the effectiveness of programs and interventions
- Assess the impact of health and social welfare programs in target populations
- Investigate portions of the NHPP that are performing optimally so that they can be replicated
- Help inform the processes for equitable redistribution of resources for access to health services

The MOHSW and partners will agree on the organization and process of the NHPP Evaluation. Once agreed upon, the MOHSW shall contract individual(s)/firm(s) to develop the national evaluation plan for the health sector. This plan will serve as the framework for the sector evaluations. The plan will specify the evaluation scope, the implementation and data collection methodology, and the TOR for the evaluators and the advisory board. Integrating the principles of the evaluation framework into all health system operations will allow the MOHSW to detect Health Plan effects. More efficient and timely detection of these effects will enhance our ability to translate findings into practice.

The health sector evaluation will be guided by the National Health Policy and Plan framework (including policies on: EPHS, EPSS, HR, Infrastructure, Health Financing and Partnership and Support Systems). The evaluation shall be organized to cover the following proposed (thematic) areas:

- Area I: Inputs and processes involved in National Health Policy and Plan implementation.
- Area II: Health system strengthening (governance, HR, medical products, information) and service delivery (access, safety, quality, efficiency).
- Area III: Health impact (improved survival such as reduction in child mortality, maternal mortality, mortality due to infectious disease, improved child and maternal nutrition, reduced morbidity to diseases such as HIV, TB, Malaria and ARI, improved equity and poverty reduction)

7.0 Information products, Dissemination and Use of information

7.1 Information Products

The County and Central M&E systems will produce the following periodic information products:

7.1.1 Quarterly Service Coverage Report: This report provides information on coverage statistics per EPHS area and is essentially based on the main interventions delineated in the National Health Plan. It therefore depends largely on the information that the CHSWTs submit and subsequent analysis reports produced by the M&E Unit at the MOHSW.

7.1.2 MOHSW Annual Report: This report provides a comprehensive overview of the health and social welfare sector over a one-year period. The report should contain progress on national level core indicators. Key indicators from survey and research findings conducted over the course of the year should also be included in the report. The annual report should be finalized in the first month of the subsequent year. Additionally, it should provide key observations and guidance for future implementation. Its national dissemination will be done at least one month prior to the Annual Review Meeting, during which time the report will be discussed.

7.1.3 Ad hoc reports: In addition to the specific information products listed above, some stakeholders and partners might have specific information needs. Although the MOHSW encourages the use of existing information products, ad hoc information needs that are not covered in the above information products requests for the information can be made in writing to the MOHSW M&E, Research Division.

7.1.4 **Compendium of health and welfare research** : This report provides information on all research undertaken pertaining to health over the reporting period. The abstracts will be presented and grouped in themes that would facilitate dissemination of key findings and getting results into policy and programmes.

7.2 Dissemination and use of information

The reports produced by the M&E and Research Unit shall be disseminated periodically to stakeholders as shown in table 6. The national level M&E and Research Unit's findings will also be disseminated in various format and media such as reports, electronic and print media, and through special scheduled communication fora.

In addition, the MOHSW shall post program reports and other information products on the Ministry website (www.moh.gov.lr), which is accessible to general public. The following key mechanisms for information sharing will be implemented by the MOHSW in collaboration with its stakeholder.

1. MOHSW will produce monthly dashboards on the implementation status of national plan activities. These dashboards will be shared with all stakeholders.

2. MOHSW will disseminate a quarterly summary report, entailing programmatic and financial information, to the abovementioned stakeholders during usual quarterly meetings.
3. MOHSW will submit the period programmatic and financial updates to relevant donors on established reporting dates.
4. Joint review meetings will be hosted by MOHSW with all implementing entities contracted by the Ministry and stakeholders to present the current PBC implementation status sharing best practices and discussing constraints, challenges, and recommend actions for concerned parties.
5. Annual health sector review will be held at the end of each year to ensure that all project stakeholders are informed of project progress (achievements, issues, and lessons learned) and provide inputs for the following year's work plans.

Table 6. Information Dissemination Schedules

Actors who will receive reports	Monthly Monitoring	Dashboard / Bulletin	Quarterly Monitoring	Annual Conference	5-yearly Evaluation
OICs					
County Health Team and Stakeholders					
Program Managers					
Central MOHSW and Partners					
Other stakeholders (incl. FBOs and CSOs)					
Development partners / donors					
GOL / Parliamentarians					

The CHSWTs will undertake the dissemination of M&E and Research findings in their respective counties to all levels of the health system and to implementing partners including NGOs, Private, Faith-based and Concession organizations through organized meetings with county development committee.

8.0 Operational Plan

8.1 Capacity Building and M&E Systems Strengthening

Efforts will be directed in strengthening the M&E System at county level and prioritized in the operational plan. Each CHSWT developed a draft Monitoring and Evaluation Plan in line with its 2-Year Operational Plan. This followed the county M&E system assessment described in section 1.1. Based on that assessment, the following recommendations were made to develop a tailored M&E Research curriculum based on basic essential knowledge and skill development for the county M&E Teams,

- Create in-service training database to track staff trained in various interventions to avoid repetition,
- Train all County M&E Teams in the use of the new District Health Information Software 2.0 (DHIS-2),
- Conduct M&E training for all CHSWT (including CHOs) focusing on basic skills development in data management and analysis, information packaging, the use of data for decision-making and report writing,
- Carry out on-site mentoring of county M&E teams to reinforce knowledge gained through training, working with each county M&E team to produce, package and disseminate information for use in decision-making including feedback to DHOs and health facilities,
- Provide logistical support to all County M&E teams to facilitate the implementation of M&E activities including carrying out data verification, developing monitoring plan for all health facilities, and monitoring program implementation,
- Train all county M&E and Research Officers in basic health research planning and implementation and include health research activities in county level M&E plans,
- Establish a system to track and record all health research conducted at county level.

8.2 Costed three year operational plan for M&E

A three year operational plan covers essential interventions and activities necessary to create, support, and strengthen a functional M&E system as envisaged in the strategic plan is summarized in the matrix below.

Areas for interventions	2011/2012				2012/2013				2013/2014				Indicative Budget (3 years)	Source of funding
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
A. Strengthen Capacity for M&E and Research at national and sub-national levels														
1. Conduct M&E and research capacity assessments for all counties			X										16000	Pool Fund
2. Develop and cost M&E Plan for counties (including capacity building plan)			X										11000	Pool Fund
3. Develop customized training curriculum and training materials based on needs identified through assessment				X	X								7000	
4. Conduct M&E training for county M&E and key program staff					X	X							38,700	
5. Mobilize resources to send M&E & Research staff at county and central levels for short M&E courses in and out of country for professional exposure and morale building	X	X	X	X	X	X	X	X	X	X	X	X	150000	
6. Conduct on-site mentoring in all counties to transfer skills and build M&E staff confidence in handling day-to-day M&E functions				X	X	X	X	X	X	X	X	X	97,200	
7. Train M&E and key program staff in the use of PDAs for data collection and routine monitoring						X	X		X	X			56,680	
8. Hold annual M&E review meeting to share experiences, best practices, discuss M&E challenges and recommendations						X				X			93,000	
9. Provide equipment and logistical support for effective Monitoring at all levels of the health sector				X	X	X	X	X	X	X	X	X	698,000	
10. Procure one vehicle and provide insurance, fuel and maintenance for M&E Unit							X						85000	

11. Provide salaries for 15 M&E based in the counties	X	X	X	X	X	X	X	X	X	X	X	X	22,500	GFATM
B. Strengthen & operationalize monitoring of health and social welfare programs and interventions														
12. Develop, build consensus on, and prioritize national indicators & validate M&E Policy and Strategy		X	X										63,000.00	GFATM
13. Establish baselines and set targets for all core indicators			X	X									0.00	
14. Conduct monitoring and verification of implementation with CHSWTs, and other implementing partners of Global Fund projects	X	X	X	X	X	X	X	X	X	X	X	X	302,400.00	
15. Conduct data quality audits at selected facilities in all counties								X				X	41,000.00	
16. Conduct annual health and social welfare facility survey to examine detailed input and output indicators on an annual basis							X				X		205,000.00	
17. Conduct biannual health facility census to assess availability and geographic distribution of health services							X						450,000.00	
18. Conducted National Health Account study annually to assess health spending and contributors				X				X				X	589,000.00	
19. Print and disseminate 100 copies of the revised M&E Policy and Strategy				X									1800.00	Pool Fund & GOL
20. Organize and conduct monthly M&E Officers' Coordination Meeting with central & Program M&E staff				X	X	X	X	X	X	X	X	X	0.00	
21. Collaborate with CHSWTs in organizing the county quarterly review meetings				X	X	X	X	X	X	X	X	X	32,400.00	GoL
22. Organize Annual National Health and Social Welfare review						X						X	210,000.00	GoL & Partners
23. Assist the national programs and counties on M&E, Research and HMIS	X	X	X	X	X	X	X	X	X	X	X	X	13050.00	Pool Fund

24. Conduct quarterly on-site data verification and monitoring visits (in randomly selected health facilities)	X	X	X	X	X	X	X	X	X	X	X	X	194,400.00	Pool Fund & GoL
C. Strengthen Health Management Information System														
26. Print & disseminate protocols and guidelines on data collection, management, storage and reporting at central, county, health facility levels			X	X									$30,000.00	GOL
27. Provide GPRS edge with monthly subscription to central HMIS staff to facilitate reporting and communication with county staff	X	X	X	X	X	X	X	X	X	X	X	X	$12,960.00	GOL
28. Provide training for HMIS staff in-country (local costs) and overseas (fellowships), as needed, in health informatics, epidemiological, surveillance, health statistics, medical records, ICD-10, and computer networking and system administration				X	X	X	X	X	X	X	X	X	$20,000.00	GOL
29. Conduct workshops for key data users within the MOHSW to demonstrate the interpretation and use of data for decision-making				X	X		X						$2,400.00	GOL
30. Carry out Annual GIS database update exercise				X		X			X				$1,500.00	GOL
31. Revised data quality assurance tools and guidelines					X				X				$500.00	GOL
32. Update HMIS strategy and develop 5-year implementation plan for strengthening information management system and use.					X	X							$10,000.00	GOL
33. Develop the Human Resources Information System for health				X			X			X			$15,000.00	GOL
34.Developed Social Welfare Information System				X	X	X							$15,000.00	GOL
D. Strengthen coordination and clarify stakeholders' role in M&E to avoid duplication of efforts and optimize the use of resources for M&E and Research														
35.Provide water and snack for Monitoring, Evaluation and Research Technical Working Group meetings to support M&E and research	X	X	X	X	X	X	X	X	X	X	X	X	3600.00	

36. Strengthen M&E Coordination Meeting to address common technical challenges, reporting and data quality issues	X	X	X	X	X	X	X	X	X	X	X	X		
E. Improve documentation and reporting of health sector statistics from all sources including HIS, Vital registration, surveillance, survey and research, evaluation and review through the production of ad hoc and periodic reports.														
37. Produce quality reports (quarterly and annual) to present progress made, challenges and problems encountered in the implementation of health and social welfare programs					X				X				65,000.00	
38. Produce health and social welfare information bulleting or newsletters, and flyers considering key indicators	X	X	X	X	X	X	X	X	X	X	X	X	30,000.00	
39. Provide feedbacks to counties on their performance comparing counties performance	X	X	X	X	X	X	X	X	X	X	X	X	0.00	
Sub-total													**95,000.00**	
F. Strengthen evaluation and research to assess implementation, health and social welfare outcome, impact, effectiveness and cost-effectiveness of the EPHS & EPSS components and key interventions														
40. Work with programs and divisions to identify priority programs and interventions to evaluate													498,000.00	
41. Evaluate the implementation of the EPHS components of the National Health and Social Welfare Plan;												X	187,000.00	
43.Agree on National Research Agenda and priorities for research for the period 2011-2021(ten year plan)		X	X										$2,500.00	GoL
43. Collaborate with programs in the development of protocol for priority research for health					X	X	X						$0.00	
44. Participate in the implementation of priority research for health	X	X	X	X	X	X	X	X	X	X	X	X	$100,000.00	GoL
45. Identify and archive all health and social welfare research conducted since 2005	X	X	X	X	X	X	X	X	X	X	X	X	$500.00	GoL

46. Develop capacity for research at central and county levels	X	X	X	X	X	X	X	X	X	X	X	X	$100,000.00	GoL
47. Provide administrative support (laptops, data storage capacities, stationary, printer and printer ink, etc) for the Research Unit	X	X	X	X	X	X	X	X	X	X	X	X	$20,000.00	GoL
48. Support the planning and implementation of the Liberia Demographic Health Survey 2012	X	X	X	X	X	X	X	X	X	X	X	X	$0.00	
49. Support the Malaria Indicator Survey in 2011 (Use this planned survey to add questions on BPHS intervention areas to collect data on NHPP impact indicators)	X	X	X	X	X	X	X	X	X	X	X	X	$0.00	
50. Collaborate with IRBs, Universities, Research institutions and other organizations in the reorganization and strengthening of a National Ethics Committee	X	X	X	X	X	X	X	X	X	X	X	X	$0.00	
51. Liaise with the National Ethics Committee in the vetting of research for health	X	X	X	X	X	X	X	X	X	X	X	X	$0.00	
52. Agree on National Research Agenda and priorities for research for the period 2011-2021 (10-year plan)	X	X	X	X	X	X	X	X	X	X	X	X	$2,500.00	GoL
53.Collaborate with programs in the development of protocol for priority research for health	X	X	X	X	X	X	X	X	X	X	X	X	$0.00	
54. Identify and archive all health and social welfare research conducted since 2005 going forward	X	X	X	X	X	X	X	X	X	X	X	X	$500.00	GoL
56.Develop capacity for research at central and county levels	X	X	X	X	X	X	X	X	X	X	X	X	$100,000.00	GoL
Sub-total													**1,011,000.00**	
Total													**4,689,090.00**	

9 Bibliography

1. LISGIS. (2007). *Liberia Demographic and Health Survey.* Monrovia: Liberia Institute of Statistics and Geo-Information Service (LISGIS), Statistics House.
2. NACP. (2008). *ANC, HIV/AIDS' sero-survey.* Monrovia: National AIDS Control Program.
3. Economist Intelligence Unit Liberia Country Report. September 2006.
4. Government of Liberia, USAID, WHO. Liberia Sector Rapid Assessment Validation and Strategy Design Workshop 2006.
5. Government of Liberia and UN Republic of Liberia: Comprehensive Food Security and Nutrition Survey. 2006.
6. Government of Liberia and UNDP Liberia: National Human Development Report. 2006.
7. Government of Liberia. Interim Poverty Reduction Strategy. Final Draft. 2006.
8. International Monetary Fund. Liberia. First Review of Performance under the Staff-Monitored Program. September 2006.
9. Msuya C. and Sondorp E. Interagency Health Evaluation Liberia. Final Report. September 2005.
10. Republic of Liberia. Comprehensive Food Security and Nutrition Survey (CFSNS). 2006.
11. Republic of Liberia. Ministry of Health and Social Welfare. Rapid Assessment of the Health Situation in Liberia. June 2006.
12. UNDP Liberia Common Country Assessment. 2006.
13. UNICEF The Official Summary of the State of the World's Children 2006.
14. United Nations and World Bank. Liberia Joint Needs Assessment. Sector Working Paper. Health and Nutrition. February 2004.
15. World Health Organization. World Health Statistics 2006.
16. Ministry of Health and Social Welfare (2009), HMIS Policy
17. Ministry of Health and Social Welfare (2009), HMIS Strategy
18. Republic of Liberia. Ministry of Health and Social Welfare. National Health Policy and Plan 2012-2021 , 2011