



# **National Research for Health Policy and Strategy**

**2018-2023**

# Preface

The development of the Liberia Research for Health Policy and Strategy was driven by the need for a document to guide and strengthen the Health systems and support the production, identification, and use of health research for health findings. It is critical that we act and capitalize on opportunities such as the growing appreciation of the importance of evidence based on decision making by Liberian policy makers, program managers and healthcare providers. Indeed, most health professionals now know that research play a critical role in finding solutions to the challenges faced including how to increase the efficiency of the utilization of the limited resources available to the health sector and the effectiveness of the programs.

Additionally, Liberia is well poised to join other regions in the promotion of ‘research-for-health’. This initiative recognizes the need to embrace a more holistic approach to health research and for closer collaboration with areas not traditionally recognized as producers of ‘health research’. The impact of the recent international project on the social determinants of health has emphasized the importance of working closely with and accessing the expertise and findings of researchers from other sectors such as education, agriculture, science and technology. However, a progressive strategy is urgently needed to facilitate this process in Liberia.

Liberia is faced with challenges relating to the underdevelopment of its health research systems. Conquering these challenges requires adequate facilities for health research governance, capacity development and retention, the conduct of essential research for health, as well as for the transformation of research findings into policy and practice. The Research for Health Policy and Strategy for Liberia was crafted using an inclusive approach in which inputs were sought and received from the producers and users of health research.

Furthermore, critical inputs were received from the Ministry of Health, research institutions, researchers and civil society. This approach was used to ensure that the policy reflects their views, addresses their concerns and recommends strategies for improvement. The final product is therefore specific to Liberia and is suited to its many challenges – economic, health systems, health research systems and culture, and capacity. The key elements of this framework include the proposed structure and functions of Liberia’s health research systems at the national and regional levels, the key strategies to establish and strengthen the systems, and a plan for its monitoring and evaluation.

The development of this Policy is timely as it complements and supports other initiatives such as the recent finalization of the National Research Agenda Setting, and the National Research for Health Symposium. It must, however, be emphasized that the primary value of this policy is in its use to strengthen Liberia's health research systems at the national and regional levels. It is therefore hoped that the document would be endorsed by the Minister of Health and adopted (or adapted, where necessary) and used by the Liberian government as well as by national and regional health and research institutions.

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With this background, the Ministry of Health would like to recognize, acknowledge and commend all experts within the Government and other partners:

## **Ministry of Health**

Health Management Information Systems; Monitoring and Evaluation; Research Units (HMER)  
Planning and Policy Unit  
Mental Health and Substance Abuse Unit  
National Malaria Control Program  
National AIDS/HIV Control Program

## **County Health Teams**

Bong  
Nimba  
Lofa

## **National Public Health Institute of Liberia**

Monitoring and Evaluation Department  
Research Department

## **Liberia Institute of Statistics and Geo-Information Services**

## **Key Partners**

- **World Health Organization—Liberia**
- **United States Aid for International Development**
- **World Bank- Liberia**
- **US Centers for Disease Control and Prevention—Liberia**
- **Global Alliance for Vaccines and Immunization**
- **Last Mile Health**
- **Partners in Health**
- **National Review and Ethics Board (NREB)**
- **Liberia Medical and Dental Council**
- **GAVI**

- **CRS**
- **LICORMAH**
- **Carter Center**

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# Acronyms

<b>ADPs</b>	<b>=</b>	<b>Aid Development Partners</b>
<b>CARI</b>	<b>=</b>	<b>Central Agricultural Research Institute</b>
<b>CDC</b>	<b>=</b>	<b>Centers for Disease Control</b>
<b>CMO</b>	<b>=</b>	<b>Chief Medical Officer</b>
<b>DQA</b>	<b>=</b>	<b>Data, Quality, and Assurance</b>
<b>GAVI</b>	<b>=</b>	<b>Global Alliance for Vaccines and Immunizations</b>
<b>EVD</b>	<b>=</b>	<b>Ebola Virus Disease</b>
<b>FDA</b>	<b>=</b>	<b>Food and Drug Administration</b>
<b>GoL</b>	<b>=</b>	<b>Government of Liberia</b>
<b>HIS</b>	<b>=</b>	<b>Health Information System</b>
<b>HMER</b>	<b>=</b>	<b>Health Information System, Monitoring &amp; Evaluation, and Research</b>
<b>HR</b>	<b>=</b>	<b>Human Resource</b>
<b>ICT</b>	<b>=</b>	<b>Information Communication and Technology</b>
<b>IRB</b>	<b>=</b>	<b>Institutional Review Board</b>
<b>KAPs</b>	<b>=</b>	<b>Knowledge Attitude Practices</b>
<b>LIBR</b>	<b>=</b>	<b>Liberian Institute for Biomedical Research</b>
<b>LISGIS</b>	<b>=</b>	<b>Liberia Institute of Statistics and Geo-Information Services</b>
<b>LMDC</b>	<b>=</b>	<b>Liberia Medical and Dental Council</b>
<b>LMH</b>	<b>=</b>	<b>Last Mile Health</b>
<b>M&amp;E</b>	<b>=</b>	<b>Monitoring Evaluation</b>
<b>MOA</b>	<b>=</b>	<b>Ministry of Agriculture</b>
<b>NGOs</b>	<b>=</b>	<b>Non- Governmental Organizations</b>
<b>MOH</b>	<b>=</b>	<b>Ministry of Health</b>
<b>NHSWPP</b>	<b>=</b>	<b>National Health and Social Welfare Policy and Plan</b>
<b>NPHIL</b>	<b>=</b>	<b>National Public Health Institute of Liberia</b>
<b>NREB</b>	<b>=</b>	<b>National Review Ethics Board</b>
<b>PIH</b>	<b>=</b>	<b>Partners in Health</b>
<b>PREVAIL</b>	<b>=</b>	<b>Partnership for Research on Ebola Virus in Liberia</b>
<b>REC</b>	<b>=</b>	<b>Research Ethics Committee</b>
<b>R4H</b>	<b>=</b>	<b>Research for Health</b>
<b>SARA</b>	<b>=</b>	<b>Service, Availability, Readiness, and Assessment</b>
<b>TOR</b>	<b>=</b>	<b>Term of Reference</b>
<b>UNFPA</b>	<b>=</b>	<b>United Nations Population Fund</b>
<b>TWG</b>	<b>=</b>	<b>Technical Working Group</b>
<b>UL-PIRE</b>	<b>=</b>	<b>University of Liberia Pacific Institute for Research and Evaluation</b>

**UNICEF** = **United Nations Children's Fund**  
**USAID** = **U.S. Agency for International Development**  
**WHO** = **World Health Organization**

# Table of Contents

Preface	2
Acknowledgements	4
Acronyms	6
1. Introduction	10
1.1 Background	10
1.2 National Research for Health Policy and Strategy	11
1.3 Policy Context and Scope	12
1.4 Policy Development Process	13
1.5 Alignment with Related Policies	13
2. Current Research for Health Situation	14
2.1 Research Coordination and Governance	14
2.1.2 Collaboration and Partnership	14
2.1.3 Governance	15
2.2 Financing for Health Research in Liberia	15
2.3 Research Capacity	15
2.4 Information Production, Sharing and Publication	16
2.4.1 Research findings translation and communication	16
2.4.2 Research findings publication	17
2.5 Research Protocol and Ethical Standards	17
3. Policy Foundations	19
3.1 Goal, Mission, and Vision	19
3.2 Guiding Principles of the Policy	19
4. Policy Orientations	21
This policy is to guide and create enabling environment for the conduct of research for health in Liberia among stakeholders	21
4.1 Coordination and Governance	21
4.2 Resource Mobilization & Financing	21
4.3 Capacity Building	22
4.4 Dissemination and Use	22
5. Roles and Responsibilities	24
5.1 Governing Bodies	24



6. Enabling Environment	27
6.1 Legal Framework	27
6.1 Regulation	27
6.2 Enforcement	27
6.3 Critical Assumptions and Risks	27
6.3.1 External funding and sustainability:	28
6.3.2 Partnership commitment and capacity:	28
7. Monitoring and Evaluation	29
Annexes	30
Annex 1: Monitoring Framework with Specific Policy Benchmark	30
Annex 2: Structure of Research Protocol	33
Annex 3: Active IRBs	36
Annex 4: Definitions	37
Annex 5: Research for Health Guidelines	38
Annex 6: R4H Prioritized Topics (2017-2021)	39

# 1. Introduction

## 1.1 Background

In the last decade, research for health has evolved with scientific and technological advancement with countries and organizations striving to enhance their research skills and findings. The 59th WHO Regional Committee resolution obligated African states to strengthen their national health research systems to improve the health of their population. The 2008 Algiers Declaration on Research for Health in the African Region also urged member countries to develop health research policies and strategic frameworks to guide the coordination and harmonization of health research activities. The Bamako Declaration on Research for Health encouraged countries to develop policies for health research and take ownership and control of their research for health agendas. The African Union has also highlighted the use of evidence as the basis for comprehensive public health policy and practice, thus challenging members to strengthen their health research capacity.

In Liberia, Research for Health (R4H) conducted in past decades has contributed to the improvement in health and health system decision-making. However, previous research conducted were focused on epidemiology of diseases and ways to improve health services with little emphasis on management tool for policy development, assessing new approach to interventions and making informed decision across all levels of the health system.

Hospitals and medical institutions, to some extent, are involved in medical and clinical research; however, most of these researches are for academic reasons rather than addressing policy issues or prioritizing health problems.

The Liberian Institute for Biomedical Research was established in 1970 as a premier research facility to develop scientific breakthroughs for a variety of viral infections-including hepatitis and to manage, coordinate and conduct biomedical research in the country. However, the institute; in the past decade, has focused more on epidemiological investigations and disease outbreaks.

The National Health and Social Welfare 10 –Year Policy and Plan states, “Ministry will promote a culture of inquiry into best methods of delivering health care. As part of the effort, the MOHSW will encourage its staff to acquire relevant research skills and will provide funds for research targeting National Health Plan and Social Welfare priorities”. After two decades of dormancy, the Research Unit of the Ministry of Health was re-established in 2011, with the mandate to implement the National Health and Social

Welfare Policy and Plan (NHSWPP) (2011-2021) which is to govern, coordinate and manage R4H in Liberia. To achieve the National Health and Social Welfare 10 –Year Policy and Plan, the Research Unit is to promote a culture of inquiry into best practices and methods for delivering health and social welfare services and identify major research priorities for the Country. In furtherance of its mandate and with support from health-related training institutions, private health sector and health partner institutions, the Ministry should also ensure adherence to standards and public health norms and ethics. Currently, this is not the case for the conduct of research in the country due to inadequate coordination, governance and management. The need to avert the current situation of the lack of governance, coordination, and management is paramount and will require the collective efforts of all stakeholders, development partners and other government ministries and agencies. The weak coordination mechanism existing amongst researchers/research institutions and the Ministry of Health remains a challenge. Despite this recognition, support for research system strengthening at the MoH remains fragmented and underfunded.

In recent time, the 2014 West African Ebola Outbreak resulted in research being conducted in an uncoordinated manner. The Ebola outbreak led to the establishment of the Partnership for Research on Ebola Virus in Liberia (PREVAIL) for the conduct of clinical trials on Ebola virus survivors. The National Public Health Institute of Liberia (NPHIL) was also established in 2017 with the mission to prevent and control public health threats by promoting healthy outcomes and serving as a source of knowledge and expertise. The NPHIL has a research implementing arm aimed at expanding, conducting and coordinating public health and medical research to guide Liberia public health policies. However, this newly established research arm of the institution is not yet fully functional.

Research implementers, non-governmental organizations with research activities embedded in their plans, local research institutions (ULPIRE, Subah-Belleh Associates, etc.) and the University of Liberia A.M. Dogliotti College of Medicine have conducted research on an ad-hoc basis. The lack of a policy framework and guidelines for the conduct of research, minimum or no financial resources and poor coordination among research institutions and various line ministries and agencies; including the MOH, formed the basis for the development of a National Research for Health Policy and Guidelines that will direct future research for health implementation in Liberia.

## **1.2 National Research for Health Policy and Strategy**

The current National Research for Health Policy and Strategy (2018-2023) intends to establish a platform for research in Liberia by emphasizing a more coordinated approach

characterized by governance and management. It also sets out the rules and principles of research practices and procedures in Liberia and will ensure the highest standards of research activities in the country. As such, it is the expectation of the Ministry of Health that the full compliance to the rules contained in this policy document will translate into improved researches that will inform decision making for the health sector.

This National Research for Health Policy and Strategy is relevant to the health sector, development partners, other governmental organs, and stakeholders. The policy has been developed to provide a vision to address research challenges within the health sector. This policy is committed to promoting ethical and evidence-based research that will inform effective and efficient quality health intervention programs at all levels of the health system for improved health service delivery to the Liberian population. It also encompasses governance, research financing, capacity development for research, information sharing and publication, management and coordination. This policy calls for full compliance on the part of individuals and institutions to concentrate their efforts on identified priorities, and new and emerging circumstances deemed necessary through stakeholders' consensus for the development and implementation of research for health to adequately improve the health status of the population.

### **1.3 Policy Context and Scope**

The development process of the National Research for Health Policy and Strategy (2018-2021) comes at a critical point in the history of the Liberian health sector as it moves toward becoming more resilient by 2021. Considering the impact of the Ebola Virus disease (EVD) and other related diseases, the Liberian health sector has made significant strides towards the delivery of quality, equitable and accessible health care services to its people through the availability of evidence based data to inform decision making. Recognizing that Research is an integral part of any health care delivery system, the National Investment Plan for Building a Resilient Health Care System (2015-2021) emphasizes the need to strengthen National Health Research System that will generate valid evidence to inform policy and decision making. Additionally, the National Health and Social Welfare Policy and Plan (2011-2021), mandates the development of a research policy and strategy, guidelines and framework to carry out ethical and evidence-based research in the country.

The intent of the National Research for Health Policy and Strategy (2018-2023) is to guide Liberians, health partners and research workers in implementing Research for Health activities in Liberia. The policy has been developed to govern, coordinate and manage research practices within the country's health system as well as research financing, research capacity development, information sharing and publication. This policy applies

to all institutions, organizations, individuals and other stakeholders involved with health research in Liberia.

## **1.4 Policy Development Process**

This policy was developed through a consultative process coordinated by the Department of Policy, Planning, and M&E with oversight from the Health Information Systems, Monitoring, Evaluation, and Research (HMER) Division with the Director of Research serving as focal person. In 2017, a re-organized technical working group for research coordinated the R4H research priority settings and earmarked relevant research activities for the health sector. These documentations, including a desk review, primary data review, and interviews informed the development of the Research for Health Policy and Strategy (2018-2023).

The National Research for Health Policy and Strategy reflects the best information available at the time of the policy development. This policy and strategy have been validated and disseminated, however, it is liable to changes in future as situations unfold in research for health in Liberia.

## **1.5 Alignment with Related Policies**

This policy is aligned with the Ministry of Health and the Government of Liberia's research agenda including the following policies and plans:

- (a) National Investment Plan for Building a Resilient Health System (2015-2021)
- (b) Liberia Health Information System & ICT Strategic Plan (2016-2021)
- (c) National M&E Policy and Strategy (2017-2021)
- (d) NPHIL Strategic Plan (2017-2022)
- (e) The Acts Establishing the National Public Health Institute of Liberia (2016)

# 2. Current Research for Health Situation

## **2.1 Research Coordination and Governance**

The Research Unit within the Department of Policy, Planning and M&E has the mandate to provide overall governance, management and coordination of health systems implementation research activities in Liberia. In furtherance of its mandate and with support from partners' health related training institutions, private health sector and health partner institutions should also ensure adherence to standards and public health norms and ethics. Currently, significant progress has been made but challenges remains. There is an ongoing need to address inadequate coordination, governance and management in the conduct of research in the country. Specifically, this requires addressing the current situation of limited governance, coordination and management that is paramount to the success of research in Liberia and will require the collective efforts of all stakeholders, development partners and other GoL ministries and agencies. The weak coordination mechanism existing amongst researcher/research institutions and the Ministry of Health remains a challenge.

Implementing the TOR of the Research Unit has encountered many challenges, especially in the event where there is no defined budget for the unit to carry out its functions. The unit will lead the coordination and supervision of all research institutions and partners undertaking research projects in Liberia, thus setting the pace for enhanced research coordination. The unit will help define the standards for research protocols that should be adhered to within the country and promote partnership in the governance, coordination and management of R4H.

### ***2.1.2 Collaboration and Partnership***

One area where there has been improvement in recent years, is collaboration and partnership in conducting R4H. This is evident by the existence of PREVAIL. Donors and other non-governmental organizations have collaborated at some level with the Ministry of Health in providing financial and technical support for several of the Ministry's national studies (DHS, MIS, HR Census, SARA, DQA, KAPs, etc) undertaken during and after the Ebola outbreak. Despite these improvements, there is still an ad hoc process at times in the conduct of R4H. In some instances, collaboration and partnership is one-sided in that major decisions on scope, type and implementation of studies are decided by donors or partners.

### **2.1.3 Governance**

The National Health and Social Welfare Policy (2011–2021) asserts, “The Ministry will promote a culture of inquiry into the best methods for delivering health and social welfare services”. To achieve this and to ensure the coordination of research activities in the health sector, the Ministry of Health has committed to building the capacity of its Research Unit to manage research and attain the research skills necessary to carry out action-oriented research. Additionally, with the establishment of the NPHIL, that has the mandate to conduct public health and biomedical researches, efforts are being made to define the roles and responsibilities of the unit and institution to enhance the governance, coordination and management of R4H.

## **2.2 Financing for Health Research in Liberia**

Currently, there is inadequate investment from the Government of Liberia’s overall budget towards financing research for health in Liberia. Health research is largely funded through collaborative initiatives, mainly private multilateral institutions and partners. The lack of a budgetary line and allocation in the GoL budget poses continuous hurdles in conducting research for health in Liberia. This results in funding from outside sources often driving the priorities for research rather than the ministry's strategies. Various ongoing and published researches by various research institutions and individuals are foreign driven, notably by external donors and may not focus on the Ministry of Health’s (National/County) concerns, thus not addressing the Liberian health sector’s pressing basic health issues. Research priorities will provide the right evidences and innovate interventions to improve the implementation of health services in the country, and consequently improve the worse indicators- especially those on child, neonatal and maternal health among others. There is a dire need for the Government of Liberia to allocate a specific research for health budget line, guarantee sustained research financing to conduct and manage research. In addition to domestically financing research for health in Liberia, there exists the need to establish a technical team with the requisite skills to apply for research grants and assist in mobilizing domestic and international funds for research.

## **2.3 Research Capacity**

Liberia’s future research development and growth depends largely on human and physical capacities. Building, sustaining and strengthening these capacities play a pivotal role in this process. To successfully cultivate and efficiently sustain research for health capacity at the central, county and district levels of the health sector, capacity building in human resource, financial resource and the research environment will be required. Currently, medical, public health and healthcare training institutions are yet to include

research as an integral part of their respective training curricula. The need for the Ministry of Health and other governing research bodies to increase and maintain the numbers of researchers in the health sector and build their capacities are priorities that must be addressed. There remains a substantial need to develop human resource capacities in specialized research fields such as statistics, epidemiology, anthropology, medical, clinical and other related research fields of study.

## **2.4 Information Production, Sharing and Publication**

In 2011 and 2017, the MOH Research Unit formulated and revised the national research for health priorities respectively. These processes brought together technical stakeholders involved in the governance, management and conduct of R4H and crafted a national list of priority research topics to guide the conduct of R4H in Liberia. However, there are prevailing challenges as these topics are barely investigated due to lack of resources - particularly from government, and most times the donors or research institutions priorities are not in line with the national research priorities. The conduct of R4H in Liberia remains fragmented and uncoordinated based on the aforementioned.

Additionally, due to the lack of policy and guidelines, local and international researchers and research institutions have had no guidance on the processes involved in conducting research in Liberia thus not seeing the need to share finished products or findings with the MOH.

Until recently, the Ministry had limited way of determining the number or scope of research projects in the country, let alone possessing copies of research conducted within any period. To reverse this situation, in 2018 the Ministry developed a database to capture all protocols submitted to the institutional review boards (IRB) and research results.

### ***2.4.1 Research findings translation and communication***

The demand for, and promotion of, the use of information for decision-making is created by the timely supply of accurate and easily understandable information.

The MOH organizes forums such as the quarterly reviews at the county level, annual review conferences at the national level, however; presentation of research findings are not integrated in the existing forum but rather on an adhoc basis. there is a need to establish a more coordinated mechanism for knowledge capture and dissemination that includes regular forum at the county and national level for presentation and discussions of actionable research evidence. The Ministry of Health, through its Research Unit, in 2017, initiated plans to conduct a national research symposium annually, but these plans



are yet to be materialized. There is a need to improve communication between researchers and end users including improved translation and dissemination of research evidence.

#### ***2.4.2 Research findings publication***

The MOH Research Unit has a database of health research conducted in Liberia. On an annual basis, all research carried out within a specific time frame is compiled in a compendium. The initial compilation spans the period 2005–2010 and is inclusive of both published and unpublished materials. Since the Ebola, the second phase of the compendium development is yet to take place. The occurrence of Ebola promoted, to some extent, the conduct and publication of R4H in Liberia. However, most principal investigators are foreign due to limited capacities of local researchers to take research lead in Liberia. The Ministry of Health, up to date, has not subscribed to any journal. Most local researchers access journals in the public domain with no subscription requirements.

### **2.5 Research Protocol and Ethical Standards**

Interest in the conduct of research for health in Liberia has increased in the past decade with limited institutions and workforce available to meet future expectations for issuing ethical clearance. Research is governed by ethical standards ranging from scientific research to health systems research. Adhering to ethical principles in efforts to protect the dignity and rights and welfare of research participants are cardinal to the overall goals of any evidence-based research. Ethical kindness, justice and autonomy are key to ethical review. The WHO Research Ethics Manual (Section XV.2) defines research with human subjects as 'any social science, biomedical, behavioral, or epidemiological activity that entails systematic collection or analysis of data with the intent to generate new knowledge, in which human beings: are exposed to manipulation, intervention, observation, or other interaction with investigators either directly or through alteration of their environment; or become individually identifiable through investigator's collection, preparation, or use of biological material or medical or other records'.

Research involving human participants needs to be reviewed by a capable Research Ethics Committee (REC). This review is an essential requirement of ethical standards in research. In the case of international collaborative health research involving researchers and funding from donors to conduct research for health in Liberia, ethical review is often complex. Research is increasingly becoming an international cross-cutting issue that takes place in more than one country at the same time.

In Liberia, only two known ethical review boards: The University of Liberia Pacific Institute for Research and Evaluation (UL-PIRE) and the National Ethic Committee of Liberia, have been issued ethical clearance to conduct studies in recent years. Coordination among

these boards remain poor. Topics and results of studies implemented are not recorded in any form or database for future reference. Additionally, these boards are not financially supported by the Government of Liberia and lacks the monitoring capacities to ensure that approved studies are implemented according to standards.

There are concerns about the lack of an ethical review system at the institutions of higher learning in Liberia. Best practice on ethical issues and protection of individual and community rights remains a major concern as studies conducted by local and international partners are sometimes conducted without ethical clearance.

**Informed consent** is the process of getting permission from interviewees or patients before conducting an interview or conducting a healthcare intervention on a subject. Informed consent is collected according to guidelines from the fields of various research and research ethics.

**Research transparency** aims to make the process of research clearly visible. This includes data collection, coding and analysis which are clearly understood to all readers. Access to the data, methodology and if possible, tools used in data analysis are all factors that contribute to transparency in research. The objective is to make research open, understandable and clearly replicable for future endeavor.

Risk is the probability of physical, psychological, social or economic harm or injury occurring because of participating in a research study. The magnitude of possible harm may vary from minimal to significant. The probability or magnitude of risk should be defined by the ethics committee regulation.

**Benefit of participant is** a desired outcome or advantage for participating in a research study.

# 3. Policy Foundations

## 3.1 Goal, Mission, and Vision

This policy is targeted towards all parties who are involved in conducting, managing, Financing or regulating health research in Liberia.

**Goal:** To improve health outcomes through governance, and guide the development of an enabling environment for research for health in Liberia.

**Vision:** To have an established evidence-based platform contributing to the improvement of the health status of the Liberian population.

**Mission:** To establish a coordinated governance and management platform for Research for Health in Liberia.

## 3.2 Guiding Principles of the Policy

In undertaking activities related to research and the use of scientific evidence, the national Research for Health policy and strategy will be guided by the values of impact, quality, communication and accessibility, demand driven research, ethics, human rights, laws, networking, public and private partnerships and collaboration. Cross-cutting priorities (gender equality, ethnicity, social protection, health promotion, human rights, and primary health care) will be streamlined.

In addition to these values, the national research for health policy and strategy is grounded in principles that will guide the achievement of its goals and objectives as follows:

1. **Impact:** The Ministry of Health (MoH) will give priority to research and innovation relevant to meeting health priorities and promoting development and equity at all levels of the health system. The MoH will commit itself to fostering timely, responsible, and appropriate use of research output for the improvement of public health and its policies and practices in Liberia.
2. **Quality:** The MoH, through its programs, will commit itself to promote, produce, and use high-quality research that is ethically grounded, effective, efficient, accessible to all, monitored and evaluated by experts.
3. **Communication and Accessibility:** The MoH will effectively communicate its research activities to the public in a timely and relevant manner, and enable free

and unrestricted access to the outputs, (non-private) primary data, protocols of the research it supports, promoting good use of its research and encouraging other agencies and partners that fund or perform research to do the same.

4. **Demand Driven Research:** The MoH will advocate and encourage stakeholders to conduct research responsive to priority health needs of Liberia
5. **Ethics:** Standards that govern the conduct of research, therefore all research conducted in Liberia shall be guided by national and international institutions and policy. (eg: WHO)
- 5.2 **Human Right:** The dignity and right of all research participants and vulnerable populations should be protected, according to the law of Liberia.
- 5.3 **Law** the constitution of the Republic of Liberia and all relevant Liberian laws, national policies, regulations and guidelines (public health law, Human right law, national health policy and plan) as well as in tandem with international law.
6. **Networking, Public and Private Partnerships and Collaboration: The MOH shall** promote strategic partnerships with public and private research institutions and a cross-section of other stakeholders.
7. **Cross- Cutting Issue:** (provide further clarity on how these issues impact the policy implementation)

# 4. Policy Orientations

This policy is to guide and create enabling environment for the conduct of research for health in Liberia among stakeholders

## 4.1 Coordination and Governance

Create an enabling environment for the implementation of the research agenda, ethical conduct of research, promote inter-sectoral participation, and promote health research as a core function of the national health systems.

### Strategic Objectives:

1. Promote health research as an integral part of the national health system.
  - a. Develop legislation and guidelines that create an enabling environment for health research
2. Promote inter and Intra-sectoral participation in all stages and levels of research for health
  - a. Develop and implement coordination mechanisms and technical guidelines for research at all level
3. Create an enabling environment to promote ethical standards in conduct of Research for Health
  - a. Facilitate and coordinate the review/validation of a National Research Agenda
  - b. Promote compliance to the National Research for Health standards and Agenda for all research carried out in the country

## 4.2 Resource Mobilization & Financing

Mobilize financial resources for research for health to support the implementation of this policy and the research agenda.

### Strategic Objectives:

1. Develop resource mobilization strategy for research for health
  - a. To increase resource envelope for research for health
  - b. Research proposal development and grant application.
2. Develop and promote partnerships for effective financial and technical resources for health
  - a. To increase policy dialogue between NGOs, Civil Society Organizations and health policy makers for sustainable resource mobilization

3. Streamline Resources towards research priorities in line with the strategy plan
  - a. To ensure that research finances are allotted in compliance with planned activities of the research strategic plan

### **4.3 Capacity Building**

Build capacity and strengthen researchers to conceptualize, conduct, analyze, disseminate and translate research for health data.

#### **Strategic Objectives:**

1. Strengthen the technical capacity of researchers in basic competencies through in-service training on data management, analysis, use of information, ethics, and the design and conduct of health research
2. Strengthen the technical capacity of institutional review boards (eg. LIBR, and UL-PIRE)
  - a. Identify health research capacity needs to address the health research agenda
  - b. Increase the cadre of individuals who are competent in grant writing, research methodology, publishing, and critical appraisal of literature and knowledge management skills
3. Strengthen institutional capacities of pre-service programs through update of the curriculum and develop a capacity for participating and becoming competitive in international research
  - a. Ensure require pre-service curricula to incorporate appropriate research coursework at Universities (eg, research methods and research ethics)
  - b. Develop mechanisms to bid, accept, and manage research grants

### **4.4 Dissemination and Use**

Develop mechanisms to generate, disseminate, and translate research for health findings for use in decision making in policy and practice.

#### **Strategic Objectives:**

1. To improve quality, production, dissemination, and use of health and health related research findings. information in support of health research
  - a. Institutionalize and strengthen "research to practice" activities among decision makers using the most up to date scientifically rigorous information/date

- b. Establish routine dissemination paths for actionable research information products (e.g. dashboards, reports, population surveys) to internal and external stakeholders in a timely manner for decision making and alerting the public of emerging health issues
- c. To develop infrastructure for health research data management and storage
- d. Support effective dissemination of research findings and use mechanisms of knowledge exchange to drive the adoption of evidence-informed practice and policy
- e. Explore and adapt appropriate technologies to facilitate enhanced communication and information sharing
- f. Establish and maintain effective partnership to facilitate knowledge transfer
- g. Increase information production for decision making

# 5. Roles and Responsibilities

All health research in Liberia shall be carried out in straight compliance with regulations in this research policy and strategic guidelines . The Ministry of Health shall be responsible for the overall coordination and governance of research for health in Liberia. The Ministry of Health recognizes the many actors including individual researchers and institutions involved with health research in Liberia and therefore assigns roles and responsibilities to entities in conformity with their expertise and mandates.

## 5.1 Governing Bodies

### 5.1.1 Ministry of Health shall:

1. Coordinate the development of Research for Health policy and strategy
2. Set national research for health agenda and define research priorities for health with all research stakeholders
3. Govern and manage research for health in Liberia
4. Monitor and evaluate the conduct of research for health along with all stakeholders
5. Mobilize resources for national research for health priorities
6. Conduct health systems and implementation research where necessary
7. Commission health research in line with the Ministry of Health Research Priorities
8. Provide capacity building and management support to Health Research and Ethics Boards to ensure quality.
9. Establish mechanism for dissemination of research findings and promote use
10. Establish and maintain a repository of all health research carried out in the country and use it to avoid duplications and ensure coordination
11. Ensure all health research conducted in Liberia have attained Ethical Clearance from the appropriate Ethical Review Boards
12. Respond to calls for proposal for grants to mobilize resources for health research in consultation with other institutions where necessary
13. issue calls for proposal in line with its research priorities.

### 5.1.2 County Health Teams

1. Conduct/participate in county level research for health that have received ethical clearance
2. ensure capacity building for local researchers by linking experienced researchers and research institutions for skills transfer at the local level.
3. Ensure all research for health conducted at county level has institutional review board (IRB) approval
4. Conduct operational, health system and implementation research
5. Submit reports and dataset of all research done at county level the CHT and partners to the Ministry of Health



6. Enforce compliance to research policies and guidelines at the county level

#### **5.1.3 National Research and Ethics Board (NREB)**

1. Establish guidelines for the review of research for health protocols for use by other review boards
2. Review and approve protocols in line with established ethics guidelines
3. Give advice on research to the Ministry of Health and related government ministries and agencies
4. Monitor the conduct of research for health to ensure compliance with approved protocol
5. Establish and maintain a repository of all protocols reviewed in the country along with finished research/study reports
6. Support research ethics capacity building

#### **5.1.4 National Public Health Institute of Liberia (NPHIL)**

1. Provide technical advice to the MoH and other health sector actors on Public Health and biomedical research
2. Participate in and /conduct Public Health and biomedical research
3. Respond to calls for proposal in consultation with the Ministry of Health
4. Issue calls for proposal
5. Mobilize resources for Public Health and biomedical research
6. Ensure that all Public Health and biomedical research conducted meet ethical standards
7. Establish and maintain an internal institutional review board (IRB)
8. Support research capacity building
9. Perform operational research on NPHIL programs

#### **5.1.5 Liberia Institute of Statistical and Geo-Information Services (LISGIS)**

1. Carry out large population base and Geospatial studies
2. Serve as repository for nation population-based study datasets
3. Ensure that all research for Health conducted under its purview is done in collaboration with the Ministry of Health and meets ethical standards
4. Serve as a credible source for national and sub-national estimates (data) and figures (maps and shapefiles)

#### **5.1.6 Other Government Institutions: Line Ministries and Agencies (MOA, CARI, FDA, etc)**

1. Participate in national ethics review boards as needed
2. Conduct/participate in research for health where necessary under one health platform

#### **5.1.7 Civil Society**

1. Professional Research Institutions/Organizations
2. NGOs
3. Academic Institutions
4. Secondary & Tertiary health facilities

- a. Participate/conduct research for health
- b. Respond to calls for proposal
- c. Ensure that all research for health conducted meet ethical standards
- d. Establish and maintain an internal institutional review board (IRB) where applicable
- e. Support research for health capacity building

# 6. Enabling Environment

The Ministry of Health shall strengthen the enabling environment for guiding the conduct of research in Liberia by investing in its legal framework, regulation and enforcement.

## 6.1 Legal Framework

Public or private sector research is governed by the Public Health Law of Liberia and other regulations that may be established by the Ministry of Health and other independent agencies.

## 6.1 Regulation

The Ministry of Health and other independent agencies that may be created (as mandated and, if necessary or desirable, in collaboration with national judicial, regulatory and enforcement authorities) are to promote the monitoring and reinforcement of the Public Health Law, as the same time may be amended or revised from time to time, in the following areas, including but not limited to: professional, public, private for profit and private not-for-profit health institutions, departments and programs.

## 6.2 Enforcement

In conjunction with the judicial and regulatory enforcement authorities, the Ministry of Health shall promote the monitoring and enforcement of the Public Health Law and other regulations that may be established. Mechanisms will be established to ensure compliance with existing research legislation, regulations, policies, standard operating procedures, protocols and guidelines.

## 6.3 Critical Assumptions and Risks

In developing this strategy, several risks and assumptions were identified, and the proposed mitigation measures highlighted in this document.

### ***6.3.1 External funding and sustainability:***

Currently, AID Development Partners provide most of the funding for Research for Health activities in Liberia. Any significant reduction of this support would negatively affect the implementation of this policy and plan. In view of the above, there is an urgent need for a shift in funding modalities. Primarily, MOH should focus on securing increased funding from the Government of Liberia (GoL) for Research for Health in Liberia.

### ***6.3.2 Partnership commitment and capacity:***

Successful implementation will require a stronger multi-sectoral coordination involving partners from public and private sectors and civil society. Provision of strong leadership, governance and coordination across government, combined with effective coordination of all stakeholders by MoH/NPHIL, is vital to the achievement of the outcomes under this Research Policy and Plan. HMER TWG, with the support of key Government and ADPs, should undertake continuous advocacy to ensure wide political commitment towards the implementation of this policy.

# **7. Monitoring and Evaluation**

Monitoring and evaluation are crucial in assessing the extent of implementation of this policy and strategy to measure its achievement. Thus, the Ministry of Health/NPHIL has the ultimate role in the M&E of this policy and strategy. They shall monitor the implementation quarterly, bi-annually or annually depending on data requirements for stakeholders and report to the Deputy Minister of Policy, Planning and M&E on a regular basis.

# Annexes

## Annex 1: Monitoring Framework with Specific Policy Benchmark

<b>Research for Health Monitoring and Evaluation Framework</b>				
<b>Research Coordination and Governance</b>				
<b>Activity</b>	<b>Timeframe</b>	<b>Achievement Indicators</b>	<b>Responsible Institutions</b>	<b>Source of Information</b>
<b>Research Institutions with Research agenda that are in line with existing research priorities</b>		<b>Number of Institutions with research agenda that complements the MOH research efforts</b>		
<b>Research Institutions/Universities have functional internal IRBs</b>		<b>Number of functional internal IRBs</b>		
<b>Resource Mobilization and Financing for Research for Health</b>				
<b>Ensure adequate percentage of national health budget allocated to research for health</b>		<b>Percentage of national budget allocated to research activities</b>		
<b>Ensure adequate MoH funding is allocated to research for health</b>		<b>Percentage of MoH allotment that is allocated to research</b>		

<b>respond to calls for proposal</b>		<b>number of "calls" responded to</b>		
<b>Capacity Building for Research for Health</b>				
<b>Health manpower training institutions incorporate research methods in their curriculum</b>		<b>Number and percentage of health training institutions having research methods incorporated in their training curriculum</b>		
<b>Carry out research skills training workshops</b>		<b>1) Number of research skills training workshop held 2) Number of persons trained in research skills topics</b>		
<b>Advocate for strengthening Research capacities at Masters, PhD, &amp; Technical certificate levels</b>		<b>1. Research for health Training plan available 2. Number of staffs trained (MPH/PhDs/Technical courses)</b>		
<b>Research for Health Dissemination and Use</b>				

<b>Ensure that research projects undertaken address national research for health priorities</b>		<b>Number and proportion of research projects that address national research for health priorities</b>		
<b>Ensure that research for health projects undertaken are published</b>	<b>annually</b>	<b>Number and proportion of research conducted that are published</b>		
<b>Health policies and strategies developed that are evidenced by research for health findings</b>		<b>Number of health policies and strategies developed incorporating findings from research for health</b>		
<b>Copies of completed research reports submitted to the NREB/IRBs/MOH to update research for health database</b>		<b>Number of completed research reports submitted</b>		



## **Annex 2: Structure of Research Protocol**

### ***Title***

The title clearly identifies the study and may contain a brief description of the study design and objectives.

### ***Investigators/Researchers including contact addresses***

Everyone who has made a valuable contribution to the study should be named and their contact details given.

### ***Abstract/Summary***

Summaries the aims or objectives of the study and give a brief outline of the design and methods.

### ***Background/Introduction***

The introduction should outline the background to the research, including a critical review of the current knowledge or literature, including published and unpublished work in the area. Any gaps in the evidence should be identified as should the potential value of furthering knowledge in this field, such as theoretical or clinical applications of the study outcomes. If applicable, the research hypothesis should also be included in this section, with an explanation of the reasons for undertaking the work.

### ***Aims & Objectives***

Outline concise and precise objectives that should follow on from the hypothesis.

### ***Study Design & Methods***

- ***Study Design.*** What study design is most appropriate to answer your research question? For more information regarding study design please see our fact sheet on research strategies.
- ***Setting.*** Where will the research take place? Your study may take place in several different sites, or you may be visiting patients in their homes. You need to address any practical issues involved, such as safety procedures when doing home visits.
- ***Subjects/Patients.*** Detailed information regarding your subjects should be given. For example, describe the study population, including a rationale of why they were chosen. Describe the methods by which subjects will be identified and recruited and what inclusion & exclusion criteria will be used. You will need to justify your sample size and state whether sample size calculations have been used. It may also be necessary to describe the criteria for participation or completion of the study, participant retention strategies and withdrawal criteria. If a control group is required as is mostly the case, don't forget to add it to the protocol.
- ***Randomization methods.*** Some research strategies, such as case control studies or randomized control studies, require a random allocation of patients to the different experimental groups or interventions. You will need to explain what randomization methods you will use.

- **Methods of assessment or measurement.** What data will be collected and why. For example, how will you measure your participants quality of life, what instruments will you use and are they the most appropriate? If you are using any equipment it should be clearly described.
- **Outcome measures/objectives.** The measurement outcomes used to support or reject the hypotheses can be stated and separated into primary and secondary outcomes. For example, primary outcomes or endpoints are most important to your hypothesis, there may be only 1 or 2. Secondary outcomes may provide some support to the hypothesis, but without the primary outcomes they could not confirm the hypothesis.
- **Interventions (if applicable).** Not all studies will involve any interventions, but if yours does a description of the study intervention should be provided. If you are giving a treatment or investigation, the dose, timing, method of providing, administering and receiving the treatment should be detailed. All necessary safeguards and potential risks should be made clear, including the methods by which intervention will be monitored.

### ***Data Collection, Management & Analysis***

Explain how the data will be collected and managed and who will have access to it. The method of the data analysis should also be specified and may include the following points:

- Method of data entry
- Plan of analysis, including assumptions of analysis
- Data analysis package
- Presentation of demographic and outcome data summaries
- Planned presentation of the data, i.e. graphs, tables, figures

### ***Study Administration & Ethical Issues***

- Outline the methods by which the patient/subject's interests will be safeguarded. For example, the process of risk limitation, how you will maintain confidentiality or anonymize patient data and how you will monitor any adverse side effects
- State whether there has been user involvement in design of the study.
- If applicable, state whether you have followed the Clinical trials directive, and you have Regulatory Authority Approval
- You should also state who will provide indemnity in case of harm to your participants through negligence?
- If applicable, the protocol should clearly state who is sponsoring the research study and what interest they have in its outcome. It is also necessary to state whether the sponsors are to provide indemnity in the case of negligent harm to participants.

### ***Resource Requirements***

The resource implications to the host organization and any other involved departments should be defined in this section. In addition, you must outline the timetable/schedule of the research and all costs.

***Study Plan***

You may wish to include a study plan, showing a summary or flowchart of the order, site and timing of all study procedures. It may also be useful to include consent forms & participant information in appendices.

***Supervision***

Where applicable, the protocol should name the individual(s) who will supervise the research project and the intended arrangements for the supervision.

***Dissemination & Outcome***

How will the study's findings be made available? State whether you intend to publish or present the findings. Any implications for future practice and patient care should also be suggested.

## **Annex 3: Active IRBs**

1. National Ethics Review Board (NREB)
2. University of Liberia Pacific Institute for Research and Evaluation

## **Annex 4: Definitions**

### **RESEARCH**

Research is the systematic, rigorous investigation of a situation or problem to generate new knowledge and the use of this knowledge to devise new applications. In Science, research usually refers to efforts to discover new knowledge or develop new processes or new products. In fields apart from science, research means collection, analyzing and presentation of information.

### **CLINICAL RESEARCH**

Clinical Research or investigation is simply an extension of the normal function of a Physician. When working with patients, the Physician feels the need to know more about the nature of a disease and here his focus is on studying the disease and questions such as how and why the patient has the disease.

This was the traditional view but today with the continuing scientific development in a rapidly changing world, it highlights the need for all health care providers including the nurses and allied health workers to carry out this type of research to identify new knowledge, improve professional education and improve patient care practices.

### **BIOMEDICAL RESEARCH**

A Biomedical research center around areas of human physiology, influence upon its functions and dysfunctions and upon the efficacy of the treatments and the emphasis is more on patient and disease rather than on the health care system. Biomedical research can at times be used interchangeably with medical research.

### **MEDICAL RESEARCH**

Medical research traditionally grew out of the encounter between health care providers and the patients with the diseases. These clinical encounters turn health professionals into researchers to observe, test, treat and record experiment and generally link the art of medicine to the rigor of scientific investigation. The researcher pursues their research at the bedside, into the laboratory among other people and population and the use of animals to do experiments to advance their understanding and control of disease and promoting well-being.

### **EPIDEMIOLOGICAL RESEARCH (Epidemiological surveys, Epidemiological studies)**

Epidemiological studies involve the study of distribution and determinants of health and diseases. It is concerned with the patterns of disease occurrence in human populations and the factors that influence these patterns. The disease occurrence is categorized by time, place, and persons. Studies of these types are categorized under several names and they can be called: descriptive studies, case-control studies, Cohort, and intervention studies.

Methods used in these studies help to discover the chain of events, which can help to explain disease occurrence and etiology and point the way to prevention and control.

**HEALTH SERVICES RESEARCH (also Operational or Health Systems Research)**

Health Research Systems examines the performance of the health services with the intention to improving them. This type of research is a response to problems identified in the operation of the system. It can be classified as applied research as results from this research helps to make wise decisions that lead to positive outcomes.

**Annex 5: Research for Health Guidelines**

## **Annex 6: R4H Prioritized Topics (2017-2021)**

<b>Plenary Rank</b>	<b>Prioritized Research for Health Topics</b>	<b>Research Domain</b>
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1	<b>Contributing factors to neonatal mortality</b>	RD 1: Maternal, reproductive and child health research
2*	<b>Conduct the national health accounts</b>	RD 5: Health system research
3*	<b>What are the key determinants of and barriers to program success and quality, from the perspective of health workers, community members, county health teams, and program managers?</b>	RD 5: Health system research
4	<b>Gap analysis of governance structures</b>	RD 5: Health system research
6*	<b>Health facility census and registry</b>	RD 5: Health system research
7*	<b>Improvement of data quality</b>	RD 5: Health system research
8*	<b>Is current infrastructure adequate to support mMoney</b>	RD 5: Health system research
9	<b>Sanitation and safe water risk profile</b>	RD 4: Healthy lifestyles
10	<b>Association between poverty access to care</b>	RD 5: Health system research
11	<b>Association between ANC4 and institutional delivery</b>	RD 1: Maternal, reproductive and child health research
12	<b>Prevalence of Hepatitis B and C</b>	RD 2: Communicable disease research
13	<b>Prevalence of substance abuse</b>	RD 4: Healthy lifestyles
14	<b>Sustainability of community programs using CHVs</b>	RD 5: Health system research
15	<b>Assessment of referral networks</b>	RD 5: Health system research
16	<b>Supply chain issues for drugs/supplies at all levels</b>	RD 5: Health system research
17	<b>Impact of regulatory bodies and their activities on health systems quality</b>	RD 5: Health system research
18	<b>Prevalence of MDR-TB</b>	RD 2: Communicable disease research
19*	<b>Health worker census and registry</b>	RD 5: Health system research
20*	<b>Under 5 Anthropometric study on obesity, malnutrition, stunting, and related risk factors</b>	RD 3: Non communicable Disease + NTDs
21	<b>Implementing national health insurance to improve health access</b>	RD 5: Health system research
22	<b>Role of road traffic incidents on burden of health system</b>	RD 4: Healthy lifestyles
23	<b>Intervention studies on human rabies eradication programs</b>	RD 2: Communicable disease research



24	<b>Factors affecting uptake of vaccines among pregnant women in Liberia</b>	RD 1: Maternal, reproductive and child health research
25	<b>Is task shifting to CHAs reducing the burden of service delivery on health facilities</b>	RD 5: Health system research
26	<b>Drivers for low retention of HIV patients on ARV</b>	RD 2: Communicable disease research
27	<b>Impact of the National CHA program on iCCM Service Utilization</b>	RD 3: Non-communicable Disease + NTDs
28*	<b>Extent the national CHA program been implemented as designed?</b>	RD 5: Health system research
29	<b>Factors affecting willingness to donate blood</b>	RD 4: Healthy lifestyles
30	<b>Assessing the persistence of behavior change in CLTS communities</b>	RD 4: Healthy lifestyles
31	<b>Rate of teenage pregnancy</b>	RD 1: Maternal, reproductive and child health research
32	<b>Time motion study of the three delays and decision process for institutional delivery</b>	RD 1: Maternal, reproductive and child health research
33	<b>Mental health management model at the community</b>	RD 3: Non-communicable Disease + NTDs
34	<b>Clinical factors which contribute to high maternal mortality rate</b>	RD 1: Maternal, reproductive and child health research
35	<b>Impact of malaria vector control</b>	RD 3: Non-communicable Disease + NTDs
36	<b>Knowledge attitude &amp; practices on community DOTs</b>	RD 2: Communicable disease research
37	<b>Burden of mental health conditions</b>	RD 3: Non-communicable Disease + NTDs
38	<b>Factors affecting uptake of LARCs/other</b>	RD 1: Maternal, reproductive and child health research
39*	<b>Service Availability Readiness Assessment</b>	RD 5: Health system research
40*	<b>Drivers of Ebola transmission</b>	RD 2: Communicable disease research
41*	<b>Age-specific malaria incidence</b>	RD 2: Communicable disease research
42	<b>Effect of open defecation free communities on diarrhea rates</b>	RD 4: Healthy lifestyles
43	<b>Causes of barriers and delays to safe institutional delivery</b>	RD 1: Maternal, reproductive and child health research
44	<b>Assessing factors driving staff attrition</b>	RD 5: Health system research

45	<b>Health implications for environmental pollution from solid waste from home sand industries</b>	RD 4: Healthy lifestyles
46	<b>Discovery of pathogens with viral hemorrhagic tendencies</b>	RD 3: Non-communicable Disease + NTDs
47	<b>STI prevalence</b>	RD 2: Communicable disease research
48*	<b>Characteristics of super spreaders during the outbreak</b>	RD 2: Communicable disease research
49	<b>Extent of health inequity between rural/urban</b>	RD 5: Health system research
50	<b>Nutritional and lifestyle factors contributing to higher levels of iron-deficiency anemia in pregnant women and children under 5</b>	RD 4: Healthy lifestyles
51	<b>Rate and factors influencing community delivery</b>	RD 1: Maternal, reproductive and child health research
52	<b>Prevalence of sex work and sexual abuse among adolescents</b>	RD 1: Maternal, reproductive and child health research
53	<b>Prevalence of onchocerciasis</b>	RD 3: Non-communicable Disease + NTDs
54	<b>Impact of county EOCs on subnational coordination around outbreaks and emergencies</b>	RD 5: Health system research
55	<b>Sustainability of micro-insurance scheme</b>	RD 5: Health system research
56	<b>Feasibility of EMR implementation in hospitals</b>	RD 5: Health system research
57	<b>Assessment of mobile money opportunities in the health sector</b>	RD 5: Health system research
58	<b>Risk factors associated with sexual violence</b>	RD 4: Healthy lifestyles
59	<b>What is the rate and contributing factors of loss to follow up in TB treatment</b>	RD 2: Communicable disease research
60	<b>Feasibility of implementing the new 8 ANC visit guidelines</b>	RD 1: Maternal, reproductive and child health research
61	<b>Population based diarrheal disease prevalence and bacteriology</b>	RD 2: Communicable disease research
62	<b>Effect of funerals and hospital visits on Ebola transmission patterns</b>	RD 2: Communicable disease research
63	<b>Impact of contract tracing on incidence during the Ebola outbreak</b>	RD 2: Communicable disease research
64*	<b>What is the impact of the NCHA program on service utilization and mortality rates?</b>	RD 5: Health system research
65	<b>Food hygiene practices in rural areas</b>	RD 4: Healthy lifestyles
66	<b>Prevalence of schistosomiasis and its sequelae and complications</b>	RD 3: Non-communicable Disease + NTDs

67	<b>Drivers for STIs among young women and other vulnerable groups</b>	RD 1: Maternal, reproductive and child health research
68	<b>Cultural factors influencing maternal mortality</b>	RD 1: Maternal, reproductive and child health research
69	<b>Knowledge, attitudes, and practice of gender-based violence</b>	RD 1: Maternal, reproductive and child health research
70	<b>STI screening program success rates in rural remote counties</b>	RD 2: Communicable disease research
71	<b>Effect of unstable payment and careers on health worker performance</b>	RD 5: Health system research
72	<b>Biological resistance to ARVs in the HIV population</b>	RD 2: Communicable disease research
73	<b>Impact of maternal antibodies on malaria</b>	RD 3: Non-communicable Disease + NTDs
74	<b>Prevalence and risk factors associated with erectile dysfunction</b>	RD 3: Non-communicable Disease + NTDs
75	<b>Factors affecting the usage and behaviors of road safety equipment (helmets, seatbelts...)</b>	RD 4: Healthy lifestyles
76	<b>Prevalence and risk factors associated with leprosy?</b>	RD 3: Non-communicable Disease + NTDs
77	<b>Effect of technology on quality of care</b>	RD 4: Healthy lifestyles
78	<b>Impact of knowledge of risky behaviors and health status on stroke</b>	RD 3: Non-communicable Disease + NTDs
79	<b>Risk factors of Lassa fever and onchocerciasis</b>	RD 3: Non-communicable Disease + NTDs
80	<b>Prevalence of disability in general population</b>	RD 4: Healthy lifestyles
81	<b>Solid waste management practices in urban areas</b>	RD 4: Healthy lifestyles
82	<b>Prevalence of yellow fever</b>	RD 2: Communicable disease research
83	<b>Task shifting to midwives</b>	RD 5: Health system research
84	<b>Prevalence and social effect of alcohol consumption</b>	RD 4: Healthy lifestyles
85	<b>Impact of changing cultural practices and lifestyles on nutrition</b>	RD 3: Non-communicable Disease + NTDs
86	<b>Research utilization/usage preferences by decision-makers</b>	RD 5: Health system research
87	<b>Association between domestic violence and childhood nutrition</b>	RD 4: Healthy lifestyles
88	<b>Ethical considerations of quarantine of suspected Ebola cases together at health facilities</b>	RD 2: Communicable disease research
89	<b>Effective coverage of pentavalent vaccines</b>	RD 1: Maternal, reproductive and child health research

90	<b>Involvement of community and youth in sexual and reproductive service delivery</b>	RD 1: Maternal, reproductive and child health research
91	<b>Emergence of other malaria species other than Pf through sentinel surveillance</b>	RD 2: Communicable disease research
92	<b>Causes of protein energy malnutrition</b>	RD 1: Maternal, reproductive and child health research
93	<b>Contribution of climate changes in vector coverage</b>	RD 4: Healthy lifestyles
94	<b>Effective ways to improve health outcomes for physically challenged children</b>	RD 4: Healthy lifestyles
95	<b>Implementing mHealth applications for family planning</b>	RD 1: Maternal, reproductive and child health research
96	<b>Expanding ownership of regular meetings, assessing impact</b>	RD 5: Health system research
97	<b>Contraceptive prevalence among adolescents in Liberia</b>	RD 1: Maternal, reproductive and child health research
98	<b>What is the rate of occupational injury and disability in the population?</b>	RD 4: Healthy lifestyles
99	<b>Implications of reduced international funding on sustainability of health programs</b>	RD 5: Health system research
100	<b>Factors influencing social and health outcomes in land transport</b>	RD 4: Healthy lifestyles
101	<b>Role and knowledge of local chief on health decision making</b>	RD 4: Healthy lifestyles
102	<b>Rate of intentional injury in young adults</b>	RD 4: Healthy lifestyles
103	<b>Can Money enhance staff retention and surveillance</b>	RD 5: Health system research
104	<b>Association between service availability and readiness and maternal mortality</b>	RD 1: Maternal, reproductive and child health research