

**GLOBAL HEALTH SECURITY AGENDA**

**ROADMAP**

**FOR**

**LIBERIA**

## Overview and Context

The purpose of this document is to develop a roadmap for ongoing and planned Global Health Security Agenda (GHSA) activities in support of the 12 GHSA targets through 2019. The goal is to ensure coordination and partnership across all organizations to ensure that targets are met and sustainable systems and networks are established. The roadmap is organized by specific capacities under the Prevent, Detect, Respond framework, and provides a snapshot of all activities planned to support GHSA implementation in Years One (2015) to Five (2019).

This will be a living document that will change over time to reflect shifts in priorities and/or resources. This template is designed as a resource for GHSA planning and should ultimately be adapted as countries articulate how best to meet their needs for GHSA planning and implementation. This document is intended to inform and complement annual country-specific work plans.

Other contextual issues that will be addressed in this roadmap include:

- Relevant country history with GHSA
- Presence and role of donors
- Prior relevant policy and program efforts with World Health Organization (WHO) International Health Regulations (IHRs) and World Organization for animal Health (OIE) World Animal Health Information System (WAHIS) reporting
- International Organizations' presence and programs
- Regional Organizations' presence and programs (e.g. African Union)
- Non-state organizations of relevance (e.g. Institute Pasteur)
- Other key issues and sensitivities

### Note

The information contained in this document is meant for planning and discussion purposes between the host-country and other GHSA partners. All activities will be carried out in a manner that is consistent with organizations requirements, budget authorities, and missions of host countries and GHSA partners. All GHSA partner country foreign assistance is subject to availability of funds and appropriations by the governmental processes of GHSA partner countries.

## Elements of the GHSA Roadmap

The document is organized by priority areas, under the Prevent, Detect, and Respond framework. Under each element, the first box of information contains the overarching GHSA Goal, GHSA Objective, and GHSA target. The last section includes overarching, cross-cutting and/or regional priorities for Liberia.

## Global Health Security Agenda Overarching Activities

Within the context of Prevent/Detect/Respond, this overarching implementation roadmap should reflect by target the following:

- Liberia's institutional structures and responsibilities, roles, responsibilities (*under host government activity*)
- U.S. Departments and Agencies providing technical assistance or support (*under US Government Activity*)
- Other donors' programs, support, etc. (*under Other activity*)
- Non state organizations' activities (*under Other activity*)
- Coordination mechanisms

## Prevent Antimicrobial Resistance

GHSA Goal	GHSA Objective	GHSA 5-Year Target		
Prevent Avoidable Epidemics	Preventing the emergence and spread of antimicrobial drug resistant organisms and emerging zoonotic diseases and strengthening international regulatory frameworks governing food safety.	Support work being coordinated by WHO, FAO,OIE to develop an integrated and global package of activities to combat antimicrobial resistance, spanning human, animal, agricultural, food and environmental aspects (i.e. a one-health approach), including: a) each country has its own national comprehensive plan to combat antimicrobial resistance; b) strengthen surveillance and laboratory capacity at the national and international level following agreed international standards developed in the framework of the Global Action plan, considering existing standards and; c) improved conservation of existing treatments and collaboration to support the sustainable development of new antibiotics, alternative treatments, preventive measures and rapid, point-of-care diagnostics, including systems to preserve new antibiotics.		
	<b>Key Milestones</b>	<b>US Government Activity</b>	<b>Host Government Activity</b>	<b>Other Activity (e.g. NGO, other governments, multilaterals)</b>
Year 1	<ol style="list-style-type: none"> <li>1. National infection prevention and control (IPC) unit and advisory committee within MOH creates an IPC policy and strategic plan endorsed by government health officials</li> <li>2. IPC focal persons and WASH/IPC committees are established at all hospitals</li> <li>3. All healthcare workers (HCWs) trained in post-EVD IPC "Safe and Quality Health Services" (SQS) training package. IPC focal persons are linked with mentors to implement SQS recs <u>and</u> are regularly reporting indicators tracking adherence to recommendations to MOH</li> </ol>	<p>CDC to coordinate with MOH and provide funding through a partner Cooperative Agreement (CoAg)</p> <p>CDC- CoAg partner to support focal persons and WASH/IPC committees</p> <p>CDC – Technical assistance in content and funding for delivery.</p> <p>USAID OFDA to provide funding for delivery.</p> <p>CDC- CoAg partner to provide SQS training to HCWs in hospitals.</p>	<p>MOH to create IPC unit and form national advisory committee</p>         <p>MOH to approve content and coordinate rollout of national training efforts</p>	<ul style="list-style-type: none"> <li>• WHO AMR Global Action Plan implementation</li> <li>• World Bank</li> <li>• Paul G. Allen Family Foundation (IPC training)</li> <li>• European Commission (IPC &amp; emergency services at hospital level)</li> <li>• IFRC (IPC training, emergency preparedness)</li> <li>• UNDP (procurement of medical equipment)</li> <li>• UNOPS (constructing permanent screening structures at priority facilities)</li> <li>• KOIKA (roll-out and mentoring on OPC via SQS)</li> </ul>

	<p>4. Hospital IPC focal persons paired with qualified mentors to implement recommendations in SQS training in their facilities</p> <p>5. Specialized advanced training developed for IPC focal points at hospitals and health centers</p> <p>6. Renovations to improve screening/isolation capacity and water/sanitation/hygiene (WASH) in hospitals completed</p>	<p>USAID OFDA-funded partners to deliver SQS training to HCWs in health centers and clinics.</p> <p>CDC – Technical assistance in mentorship package content and funding for delivery.</p> <p>CDC- CoAg partner to provide mentorship to IPC specialists in hospitals.</p> <p>CDC – Technical assistance and funding for delivery.</p> <p>CDC- CoAg partner to deliver advanced training content to IPC specialists at regional and national training meetings.</p> <p>CDC – Technical assistance on WASH in health facilities and funding for improvements.</p> <p>USAID OFDA to provide funding for improvements.</p> <p>CDC- CoAg partner providing WASH renovations to hospitals.</p> <p>USAID OFDA-funded partners providing improvements to health centers and clinics.</p>	<p>MOH to approve content and coordinate rollout of mentorship package</p> <p>MOH to approve content of training</p> <p>MOH to identify priority facilities for intervention/renovations</p>	
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Year 2	<ol style="list-style-type: none"> <li>1. Health facility IPC focal persons work with qualified mentors to maintain and improve IPC capacity in their facilities</li> <li>2. SQS training package integrated into medical, nursing, and medical technology pre-service training</li> <li>3. IPC advanced practice course or certification developed and released</li> </ol>	<p>CDC – Technical assistance in mentorship package content and funding for delivery.</p> <p>CDC- CoAg partner to provide mentorship to IPC specialists in hospitals.</p> <p>CDC – Technical assistance</p> <p>CDC – Technical assistance in content development</p>	<p>MOH to approve content and coordinate rollout of mentorship package</p> <p>MOH to work with medical and nursing boards to update curriculums with IPC content</p> <p>MOH to approve content of training and coordinate with professional boards and universities to implement</p>	
Year 3	<ol style="list-style-type: none"> <li>1. National plan to detect and prevent AMR developed and approved</li> <li>2. Clinicians and pharmacists educated on appropriate antimicrobial usage</li> <li>3. Surveillance definitions for priority healthcare-associated infections (HAI) developed</li> <li>4. National IPC technical guidelines reassessed and modified as needed</li> </ol>	<p>CDC Lab advisor to work with MOH and other stakeholders to draft AMR plan</p> <p>CDC – Technical assistance</p> <p>CDC technical assistance on surveillance of HAI</p> <p>CDC – Technical assistance</p>	<p>MOH to coordinate development of plan</p> <p>MOH National Drug Service to work with partners to develop trainings/guidelines</p> <p>MOH to set surveillance priorities and determine reporting mechanism</p> <p>MOH to coordinate review process with broad group of stakeholders</p>	

Year 4	1. Surveillance for priority HAI implemented in pilot hospitals	CDC – Technical assistance on implementation of HAI surveillance	MOH to lead implementation of hospital-based HAI surveillance	
	2. Clinical laboratory capacity for routine antimicrobial susceptibility testing and detection of AMR improved	CDC laboratory and IPC subject matter experts to assess status of laboratory testing	MOH to work with CDC and partners to develop capacity to detect AMR at the priority laboratories	
Year 5	1. Priority laboratories capable of testing for AMR in at least three pathogens using standardized, reliable detection assays and/or culture techniques	CDC – Technical assistance	MOH to coordinate efforts to improve laboratory testing capacity at priority laboratories	
	2. Summary report of HAI data for pilot hospitals produced	CDC to support analysis and development of report	MOH National IPC Coordinator coordinates report production	

## Prevent Zoonotic Diseases

GHSA Goal	GHSA Objective	GHSA 5-Year Target		
Prevent Avoidable Epidemics	Preventing the emergence and spread of antimicrobial drug resistant organisms and emerging zoonotic diseases and strengthening international regulatory frameworks governing food safety.	Adopted measured behaviors, policies and/or practices that minimize the spillover of zoonotic diseases from lower animals into human populations.		
	Key Milestones	US Government Activity	Host Government Activity	Other Activity (e.g. NGO, other governments, multilaterals)
Year 1	<ol style="list-style-type: none"> <li>1. Surveillance priorities and strategies for one to three high-priority zoonotic viruses established</li> <li>2. High-risk human/animal interfaces (e.g. “value chains”, land-use change, etc.) and their interfaces mapped</li> <li>3. Multi-sectoral coordination mechanism for zoonotic disease prevention established (NOTE: same mechanism will coordinate GHSA activities)</li> </ol>	USAID – Technical assistance  CDC– Technical assistance	Ministry of Agriculture Ministry of Health Forestry Development Authority	FAO OIE
Year 2	<ol style="list-style-type: none"> <li>1. High-risk “nodes” for spillover of zoonotic threats established; behavior and practices that enable spillover identified</li> <li>2. System for sampling and testing wildlife, livestock, and humans to better define risk from selected zoonotic pathogens in animal reservoirs and disease vectors implemented</li> </ol>	USAID – Technical assistance  CDC– Technical assistance	Ministry of Agriculture Ministry of Health Forestry Development Authority	



Year 3	<ol style="list-style-type: none"> <li>1. Plan for institutionalizing a national multi-sectoral coordination mechanism developed and approved by government</li> <li>2. System for sampling and testing wildlife, livestock, and humans evaluated</li> <li>3. Package of One Health "risk reduction" measures targeting high risk practices and behaviors that enable spillover validated</li> </ol>	<p>USAID – Technical assistance</p> <p>CDC– Technical assistance</p>	<p>Ministry of Agriculture Ministry of Health Forestry Development Authority</p>	
Year 4	<ol style="list-style-type: none"> <li>1. Capacity of animal health professionals to determine risk based on epidemiology and modeling/analytics demonstrated</li> <li>2. Policy, organizational and operational needs for multi-sectoral coordination mechanism established</li> <li>3. Package of One Health "risk reduction" measures targeting high risk practices and behaviors that enable spillover implemented</li> </ol>	<p>USAID – Technical assistance</p> <p>CDC– Technical assistance</p>	<p>Ministry of Agriculture Ministry of Health Forestry Development Authority</p>	<p>FAO USDA EISMV</p>
Year 5	<ol style="list-style-type: none"> <li>1. One Health workforce trained in accordance with national zoonotic disease prevention needs</li> <li>2. Package of One Health "risk reduction" measures targeting high risk practices and behaviors that enable spillover sustained</li> <li>3. Coordination mechanism in operation that enables cross-sectors/ministries to collaborate routinely for zoonotic disease prevention</li> </ol>	<p>USAID – Technical assistance</p> <p>CDC– Technical assistance</p>	<p>Ministry of Agriculture Ministry of Health Forestry Development Authority</p>	<p>FAO USDA EISMV</p>

## Prevent

### Biosafety & Biosecurity

GHSA Goal	GHSA Objective	GHSA 5-Year Target		
Prevent Avoidable Epidemics	Promoting national biosafety and biosecurity systems.	A whole-of-government national biosafety and biosecurity system is in place, ensuring that especially dangerous pathogens are identified, held, secured and monitored in a minimal number of facilities according to best practices; biological risk management training and educational outreach are conducted to promote a shared culture of responsibility, reduce dual use risks, mitigate biological proliferation and deliberate use threats, and ensure safe transfer of biological agents; and country-specific biosafety and biosecurity legislation, laboratory licensing, and pathogen control measures are in place as appropriate.		
	Key Milestones	US Government Activity	Host Government Activity	Other Activity (e.g. NGO, other governments, multilaterals)
Year 1	<ol style="list-style-type: none"> <li>1. Dangerous pathogen collections for animal and human health identified, documented, and destroyed or stored in a central regional repository</li> <li>2. Capacities in Biosafety and Biosecurity (BSS) among key laboratories assessed</li> <li>3. Strengthen the security of Ebola samples from the point of collection to the point of disposal or storage.</li> </ol>	DoD CTR/CBEP and DoD AFRICOM Malaria Task Force  CDC – Technical assistance  USAID – Technical assistance  DoS – Technical assistance	Ministry of Health Ministry of Agriculture	FAO OIE
Year 2	<ol style="list-style-type: none"> <li>1. Multi-sectoral BSS governance structure at the national level with representatives at the sub-national level created</li> <li>2. Legislation to support a Liberian national BSS program drafted</li> <li>3. Assessment of BSS requirements at key laboratories conducted</li> </ol>	DoD CTR/CBEP to support select biosafety & security activities  CDC – Technical assistance  USAID – Technical assistance	GOL authority to be determined	Other activity to be determined

Year 3	<ol style="list-style-type: none"> <li>1. BSS infrastructure improvements initiated/completed (i.e. enhanced-Biosafety Cabinets (BSC) certification/physical security/transport security) in compliance with WHO and OIE standards</li> <li>2. BSS focal points in each region established</li> <li>3. Harmonization of professional training with pre-existing/new BSS curriculums (i.e. laboratory technicians, physicians, hazardous waste disposal technicians, etc.) in compliance with WHO and OIE standards</li> </ol>	<p>DoD CTR/CBEP to support select biosafety &amp; security activities</p> <p>CDC – Technical assistance to work with collaborators</p> <p>USAID – Technical assistance</p>	GOL activity to be determined	Other activity to be determined
Year 4	<ol style="list-style-type: none"> <li>1. Routine mentoring and supervision for BSS program developed</li> <li>2. Dangerous pathogens identified and consolidated at a central laboratory in the region (see above)</li> <li>3. Strategic Action Plan for biosafety and biosecurity developed</li> <li>4. System for ensuring lab meets fully functional biosafety conditions and best practices in place</li> </ol>	<p>DoD CTR/CBEP to support select biosafety &amp; security activities</p> <p>CDC – Technical assistance</p> <p>USAID – Technical assistance</p>	GOL activity to be determined	Other activity to be determined
Year 5	<ol style="list-style-type: none"> <li>1. National BSS plan approved and disseminated which categorizes risks among indigenous agents and provides guidance on best practices;</li> <li>2. BSS system evaluation conducted</li> <li>3. BSS capacities in animal labs meet WHO/IHR standards</li> </ol>	<p>DoD CTR/CBEP to support select biosafety &amp; security activities</p> <p>CDC – Technical assistance</p> <p>USAID – Technical assistance</p>	GOL activity to be determined	IUE/OVS for agriculture laboratories

## Prevent Immunization

GHSA Goal	GHSA Objective	GHSA 5-Year Target		
Prevent Avoidable Epidemics	Reducing the number and magnitude of infectious disease outbreaks.	A functioning national vaccine delivery system – with nationwide reach, effective distributions, access for marginalized populations, adequate cold chain, and ongoing quality control – that is able to respond to new disease threats.		
	Key Milestones	US Government Activity	Host Government Activity	Other Activity (e.g. NGO, other governments, multilaterals)
Year 1	<p>Planning with MOH, WHO and CDC for routine and supplemental vaccine campaign for 2017 completed.</p> <p>Quality of IDSR and other surveillance data as a means to monitor risk for VPDs evaluated</p> <p>Two rounds of Periodic Intensification of Routine Immunization (PIRI) to restore coverage of children &lt; 1 year who were missed during Ebola completed</p> <p>Introduction of three new vaccine campaigns completed: Rotavirus, Human Papillomavirus (HPV), and Inactivated Polio Virus (IPV)</p>	CDC – Technical assistance to MOH	Manage and implement routine immunization while assessing need for supplemental campaigns.	WHO and UNICEF to focus on cold and supply chain issues related to vaccines. GAVI
Year 2	<p>Planning with MOH, WHO and CDC for routine and supplemental vaccine campaign for 2018 completed.</p> <p>IDSR and other surveillance data used to assess and monitor risk for VPDs</p>	CDC – Technical assistance to MOH	Manage and implement routine immunization while assessing need for supplemental campaigns.	WHO and UNICEF to focus on cold and supply chain issues related to vaccines. GAVI UNICEF

Year 3	<p>Planning with MOH, WHO and CDC for routine and supplemental vaccine campaign for 2019 completed.</p> <p>IDSR and other surveillance data used to assess and monitor risk for VPDs</p>	CDC – Technical assistance to MOH	Manage and implement routine immunization while assessing need for supplemental campaigns.	<p>WHO and UNICEF to focus on cold and supply chain issues related to vaccines.</p> <p>GAVI UNICEF</p>
Year 4	<p>Planning with MOH, WHO and CDC for routine and supplemental vaccine campaign for 2020 completed.</p> <p>IDSR and other surveillance data used to assess and monitor risk for VPDs</p>	CDC – Technical assistance to MOH	Manage and implement routine immunization while assessing need for supplemental campaigns.	<p>WHO and UNICEF to focus on cold and supply chain issues related to vaccines.</p> <p>GAVI UNICEF</p>
Year 5	<p>Planning with MOH, WHO and CDC for routine and supplemental vaccine campaign for 2021 completed.</p> <p>IDSR and other surveillance data used to assess and monitor risk for VPDs</p>	CDC – Technical assistance to MOH	Manage and implement routine immunization while assessing need for supplemental campaigns.	<p>WHO and UNICEF to focus on cold and supply chain issues related to vaccines.</p> <p>GAVI UNICEF</p>

## Detect

### Laboratory Systems

GHSA Goal	GHSA Objective	GHSA 5-Year Target		
Detect Threats Early	Developing and deploying novel diagnostics and strengthen laboratory systems.	Real-time biosurveillance with a national laboratory system and effective modern point-of-care and laboratory-based diagnostics.		
	Key Milestones	US Government Activity	Host Government Activity	Other Activity (e.g. NGO, other governments, multilaterals)
Year 1	<ol style="list-style-type: none"> <li>1. Mapping of multi-sectoral laboratory capacity including pathogen testing completed</li> <li>2. Consultative Lab Technical Working Group (LTWG) established</li> <li>3. Priority pathogens and diseases identified (including zoonotic diseases)</li> <li>4. Multi-sectoral nation-wide Laboratory strategic plan and policy established</li> <li>5. Plans to reinforce quality assurance are incorporated into plans</li> <li>6. Government of Liberia's has capability to conduct diagnostics for Ebola</li> <li>7. Government of Liberia capable of rapidly testing suspected Ebola samples</li> </ol>	<p>CDC – Technical assistance with CoAg partners</p> <p>USAID – Technical assistance</p>	<p>Ministry of Health</p> <p>Ministry of Agriculture</p> <p>University of Liberia</p> <p>Provide laboratory space in which to conduct Ebola diagnostics.</p>	<p>World Bank and UNOPS have stated they intend to provide infrastructure renovations and upgrades to the LIBR facility soon (likely before the USG-funded design/master plan noted in year 2 would be finished).</p> <p>Cuttington University</p> <p>Other donors supporting clinical and/or public health lab capacity development includes:</p> <ul style="list-style-type: none"> <li>• World Bank</li> <li>• AfDB</li> <li>• WHO</li> <li>• FAO/OIE</li> <li>• Global Fund</li> </ul> <p>Other activity to be determined</p>

Year 2	<ol style="list-style-type: none"> <li>1. Nationwide tiered laboratory network needs identified (animal and human health labs)</li> <li>2. National laboratory strategic plan and policy reviewed/updated with action items for broad-based capacity building</li> <li>3. Working towards lab quality management system (QMS) and Quality Assurance towards certification of the NPHL system</li> <li>4. Diagnostic testing implemented and optimized for viral pathogens in wildlife, livestock, and humans</li> <li>5. Provide design for laboratory upgrades of Liberian Institute of Biomedical Research (LIBR) facility, National Reference Lab, and a campus master plan for the LIBR campus</li> <li>6. Strengthen the Liberian Institute of Biomedical Research (LIBR) and Liberia's National Reference Laboratory</li> <li>7. Strengthen Liberia's regional reference laboratory system</li> </ol>	<p>CDC – Technical assistance with CoAg partners</p> <p>DoD CTR/CBEP – Technical Assistance</p> <p>USAID – Technical assistance</p>	<p>Ministry of Health</p> <p>Ministry of Agriculture</p> <p>University of Liberia</p> <p>Participate in collaborative design and planning processes.</p> <p>Provide information required to inform development of a design and master plan that will meet Liberia's needs in a sustainable manner.</p>	<p>Cuttington University</p> <p>Other activity to be determined</p>
Year 3	<ol style="list-style-type: none"> <li>1. Nationwide laboratory network formalized and established</li> <li>2. National Public Health Laboratory (NPHL) capacity at all levels for coordination and specimen collection, handling, shipment and referral established</li> <li>3. National laboratory strategic plan and policy operationalized</li> <li>4. Laboratory information management system (LIMS) selected and implemented at NPHL</li> </ol>	<p>CDC – Technical assistance with CoAg partners</p> <p>DoD CTR/CBEP – Technical assistance</p> <p>USAID – Technical assistance</p>	<p>Ministry of Health</p> <p>Ministry of Agriculture</p> <p>University of Liberia</p>	<p>Cuttington University</p> <p>Other activity to be determined</p>

Year 4	<ol style="list-style-type: none"> <li>1. National Public Health Laboratory (NPHL) operationalized and functional</li> <li>2. Accreditation/certification of NPHL process launched</li> </ol>	<p>CDC – Technical assistance with CoAg partners</p> <p>USAID – Technical assistance</p> <p>DoD CTR/CBEP – Technical assistance</p>	<p>Ministry of Health</p> <p>National Laboratory Network</p> <p>Ministry of Agriculture</p> <p>University of Liberia</p>	<p>Cuttington University</p> <p>Other activity to be determined</p>
Year 5	<ol style="list-style-type: none"> <li>1. Accreditation/certification of Regional laboratories in-process</li> <li>2. Evidence of increased capacity in laboratory staff in risk characterization and bioinformatics</li> </ol>	<p>CDC – Technical assistance with CoAg partners</p> <p>DoD CTR/CBEP – Technical assistance</p> <p>USAID – Technical assistance</p>	<p>Ministry of Health</p> <p>National Laboratory Network</p> <p>Ministry of Agriculture</p> <p>University of Liberia</p>	<p>Cuttington University</p> <p>Other activity to be determined</p>



## Detect Real Time Biosurveillance

GHSA Goal	GHSA Objective	GHSA 5-Year Target		
Detect Threats Early	Launching, strengthening and linking global networks for real-time biosurveillance.	Strengthened foundational indicator- and event-based surveillance systems that are able to detect events of significance for public health, animal health and health security; improved communication and collaboration across sectors and between sub-national, national and international levels of authority regarding surveillance of events of public health significance; improved country and regional capacity to analyze and link data from and between strengthened, real-time surveillance systems, including interoperable, interconnected electronic reporting systems. This can include epidemiologic, clinical, laboratory, environmental testing, product safety and quality, and bioinformatics data; and advancement in fulfilling the core capacity requirements for surveillance in accordance with the IHR and the OIE standards.		
	Key Milestones	US Government Activity	Host Government Activity	Other Activity (e.g. NGO, other governments, multilaterals)
Year 1	<ol style="list-style-type: none"> <li>1. Medical and surveillance officers trained in IDSR in 20% of the health districts</li> <li>2. Capacity of electronic disease surveillance systems assessed</li> <li>3. Coordinating framework established for the implementation electronic health information systems</li> <li>4. Existing cross-border public health agreements between Liberia and neighboring countries and status of cross-border information exchange assessed</li> <li>5. Plans for mapping population movements across borders developed, including the priority order of ports to maps</li> <li>6. Capacities and gaps in current animal and human health surveillance system identified and a plan for strengthening agreed upon with national authorities</li> <li>7. Community event based surveillance framework in alignment with IDSR developed</li> </ol>	<p>CDC – Technical assistance with FTE TA and CoAgs</p> <p>USAID – Technical assistance/ Disease surveillance activities</p> <p>DoD CTR/CBEP</p>	<p>Ministry of Health – Public health surveillance communication tools (community level)</p> <p>Ministry of Agriculture</p> <p>Ministries of Health, Transportation, and Interior to participate in border health activities</p>	<p>WHO, IOM likely to be partners on border health activities</p> <p>International Federation of the Red Cross and Red Crescent Societies (IFRC) to support community event based surveillance in Bomi, Grand Bassa, Margibi, Montserrado, and River Cess</p>

Year 2	<ol style="list-style-type: none"> <li>1. Surveillance data reported from at least 80% of districts for IDSR diseases</li> <li>2. Evaluation of IDSR implementation for priority diseases and conditions</li> <li>3. Medical and surveillance officers trained in IDSR in 40% of the districts</li> <li>4. Implement public health agreement between Liberia and neighboring countries for cross-border public health information sharing and cross-border transport</li> <li>5. One Health surveillance strategy is agreed upon by all stakeholders</li> <li>6. Surveillance definitions and reporting system for priority healthcare-associated infections developed</li> <li>7. Flow monitoring/population mapping is completed for first wave of high priority ports of entry to determine migration flow patterns. Mapped capacity of agricultural laboratories and agreed to plan to address gaps is complete</li> </ol>	<p>CDC – Technical assistance/some activities supported through MOH CoAg</p> <p>DoD CTR/CBEP – Disease surveillance activities</p> <p>USAID – Technical assistance/Disease surveillance activities</p>	<p>Ministries of Health, Transportation, and Interior to participate in border health activities</p> <p>Ministry of Agriculture</p>	<p>WHO, IOM likely to be partners on border health activities</p>
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Year 3	<ol style="list-style-type: none"> <li>1. Procedures and protocols for cross-border coordination and information-sharing established</li> <li>2. Hospital and laboratory surveillance data integrated in routine reporting system</li> <li>3. Medical and surveillance officers trained in IDSR in 60% of the health districts</li> <li>4. In-service surveillance teams trained and deployed in accordance with One Health surveillance strategy</li> <li>5. Community event based surveillance rolled out country wide</li> <li>6. Flow monitoring/population mapping is completed for 2<sup>nd</sup> wave of ports, including unofficial land and maritime ports, to determine migration flow patterns</li> <li>7. System for creating effective health messaging for inbound and outbound travelers when PH event occurs established</li> <li>8. Other POEs (seaports, select major land borders) assessed for IHR compliance</li> <li>9. Surveillance for priority healthcare-associated infections implemented in hospitals</li> <li>10. Address assessment recommendations from animal health laboratories</li> </ol>	<p>CDC – Technical assistance</p> <p>DoD CTR/CBEP – Disease surveillance</p> <p>USAID – Technical assistance/Disease surveillance activities</p>	<p>Ministries of Health, Transportation, and Interior to participate in border health activities</p> <p>Ministry of Agriculture</p>	<p>WHO, IOM and other global partners likely to be partners on border health activities</p>
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Year 4	<ol style="list-style-type: none"> <li>1. Zoonotic diseases relevant to human health integrated into routine surveillance</li> <li>2. Specimen transportation and DHIS-2 network functioning in at least 80% of districts for IDSR diseases</li> <li>3. Evidence indicating that suspected outbreaks are notified to central level within two days of surpassing epidemic threshold</li> <li>4. Trained medical and surveillance officers in IDSR in 80% of the districts</li> <li>5. Surveillance for priority healthcare-associated infections implemented in health centers</li> <li>6. Community event based surveillance M&amp;E framework developed and in practice</li> </ol>	<p>CDC – Technical assistance</p> <p>USAID – Technical assistance</p>	<p>Ministries of Health, Transportation and Interior to participate in border health activities</p> <p>Ministry of Agriculture</p>	<p>WHO, IOM and other global partners likely to be partners on border health activities</p>
Year 5	<ol style="list-style-type: none"> <li>1. Functioning surveillance system of three core syndromes indicative of public health emergencies</li> <li>2. Proficiency for testing of priority livestock and zoonotic diseases increased</li> <li>3. Surveillance data translated into regional surveillance policy and recommendations</li> <li>4. Evidence of effective use of electronic systems in public health information sharing</li> <li>5. Eight of twelve IHR core capacities for ports of entry (related to infectious disease response) met at international airport</li> <li>6. Systems to continually monitor and address gaps in preparedness at port of entry/land border crossings for public health events in place</li> <li>7. Sustained One Health surveillance</li> </ol>	<p>CDC – Technical assistance/some activities supported through MOH Co-Ag</p> <p>USAID – Technical assistance/Disease surveillance activities</p>	<p>Ministries of Health, Transportation, and Interior to participate in border health activities</p> <p>Ministry of Agriculture</p>	<p>WHO, IOM and other global partners likely to be partners on border health activities</p>

## Detect Workforce Development

GHSA Goal	GHSA Objective	GHSA 5-Year Target		
Detect Threats Early	Training and deploying an effective biosurveillance workforce.	A workforce including physicians, veterinarians, biostatisticians, laboratory scientists, and at least 1 trained field epidemiologist per 200,000 population, who can systematically cooperate to meet relevant IHR and Performance of Veterinary Services (PVS) core competencies.		
	Key Milestones	US Government Activity	Host Government Activity	Other Activity (e.g. NGO, other governments, multilaterals)
Year 1	<ol style="list-style-type: none"> <li>1. At least one key health officer and/or surveillance officer from 50% (38) of all 76 Health Districts has completed FETP training</li> <li>2. Basic FETP curriculum implemented with 4 cohorts of approximately 30 participants</li> <li>3. MOH approved “Safe and Quality Health Services” IPC training provided to all healthcare workers</li> <li>4. Liberian laboratory technicians are able to safely and accurately conduct Ebola diagnostics in a limited number of locations on a limited number of Ebola samples with some oversight provided by outside subject matter experts</li> <li>5. Officials responsible for disaster preparedness and management have the capacity to establish a national-level, systems-based approach to preparedness</li> </ol>	<p>CDC – Technical assistance through FTE TA and CoAgs</p> <p>DoD CTR/CBEP – Technical assistance</p> <p>DoD AFRICOM – West Africa Disaster Preparedness Initiative training</p> <p>USAID – Technical assistance</p> <p>Provide training, mentorship, and oversight of Ebola diagnostics conducted at the NRL facility and in Bong County and Tappita</p>	<p>Ministry of Health Ministry of Agriculture Ministry of Education Forestry Development Authority</p> <p>Provide lab facilities and Ministry of Health laboratory technicians who attend training and work in the laboratories</p> <p>Develop compulsory service policies for students who receiving training.</p> <p>Provide input and feedback to partners and donors on the development of a comprehensive laboratory training plan.</p>	<p>Paul G. Allen Family Foundation (via ACCEL) to provide SQS training to all hospitals</p> <p>World Bank supporting GOL Health Workforce Program to strengthen pre- and in-service training</p> <p>UNICEF, Last Mile Health, Global Fund and others supporting community health workforce strengthening</p>

Year 2	<ol style="list-style-type: none"> <li>1. At least one key health officer and/or surveillance officer from remaining Health Districts has completed FETP training</li> <li>2. FETP training incorporated into professional training and/or routine continuing education plan for recently graduated medical doctors and other health professionals</li> <li>3. Training Plan to incorporate public health laboratorians and veterinarians in FETP completed</li> <li>4. IPC supportive supervision and mentorship provided using MOH-approved package</li> <li>5. Specialized advanced training developed for IPC focal points at hospitals and health centers</li> <li>6. Pre-service/in-service training opportunities related to surveillance, research, lab testing and IPC identified</li> <li>7. Liberian Government laboratory technicians at LIBR and Bong are able to safely and accurately conduct laboratory diagnostic activities</li> <li>8. Liberia has a limited number of government laboratory technicians who are able to train and mentor other Liberian staff in laboratory diagnostics</li> <li>9. A limited number Liberian Government staff are able to conduct differential diagnosis</li> <li>10. Liberia has a limited number of government personnel capable of safely and securely transporting samples potentially containing pathogens of security concern.</li> </ol>	<p>CDC – Funding to support FETP/Technical assistance</p> <p>DoD CTR/CBEP – Technical assistance</p> <p>USAID – Technical assistance</p> <p>Provide training, mentorship, and oversight in laboratory diagnostics of especially dangerous pathogens, to include train-the-trainer training</p> <p>Provide differential diagnosis training.</p> <p>Provide sample collection, packaging, and transport training.</p>	<p>Ministry of Health Ministry of Agriculture Ministry of Education Forestry Development Authority</p> <p>Provide lab facilities and Ministry of Health students who attend training and work in the laboratories or in support of transporting samples.</p> <p>Develop compulsory service policies for students who receive training.</p>	UN
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Year 3	<ol style="list-style-type: none"> <li>1. Training Plan to establish FETP Intermediate in Liberia completed</li> <li>2. At least one cohort of FETP incorporating laboratorians and veterinarians completed for key regional and district health personnel and/or surveillance officers not previously trained</li> <li>3. District surveillance officers in border region supervise community-event-based surveillance in their districts</li> <li>4. Cadres of animal and human health professionals provided in-service training in requisite One Health skills ongoing</li> <li>5. IPC advanced practice course or certification developed and released</li> </ol>	<p>CDC – Funding to support FETP/Technical assistance</p> <p>DoD CTR/CBEP – Technical assistance</p> <p>USAID – Technical assistance</p>	<p>Ministry of Agriculture Ministry of Health Forestry Development Authority</p>	
Year 4	<ol style="list-style-type: none"> <li>1. Launch of first cohort of FETP 2-year Intermediate</li> <li>2. At least one cohort of first two tiers (Basic/Intermediate) of FETP incorporating laboratorians and veterinarians completed for key regional and district health personnel and/or surveillance officers not previously trained</li> </ol>	<p>CDC – Funding to support FETP/Technical assistance</p> <p>DoD CTR/CBEP – Technical assistance</p>	<p>Ministry of Agriculture Ministry of Health Forestry Development Authority</p>	
Year 5	<ol style="list-style-type: none"> <li>1. FETP integrated into MHSA and/or other permanent mechanisms for training highly qualified public health workforce in Liberia</li> <li>2. At least one cohort of FETP incorporating laboratorians and veterinarians completed for key regional and district health personnel and/or surveillance officers not previously trained</li> <li>3. One Health workforce has been trained in accordance with national One Health disease “detection” needs.</li> </ol>	<p>CDC – Funding to support FETP/Technical assistance</p> <p>DoD CTR/CBEP – Technical assistance</p> <p>USAID – Technical assistance</p>	<p>Ministry of Agriculture Ministry of Health Forestry Development Authority</p>	

## Detect Reporting

GHSA Goal	GHSA Objective	GHSA 5-Year Target		
Detect Threats Early	Strengthening the global norm of rapid, transparent reporting and sample sharing in the event of health emergencies of international concern.	Timely and accurate disease reporting according to WHO, OIE, and FAO requirements.		
	Key Milestones	US Government Activity	Host Government Activity	Other Activity (e.g. NGO, other governments, multilaterals)
Year 1	<ol style="list-style-type: none"> <li>Standard reporting systems for animals and humans in laboratory and surveillance systems identified and mapped</li> <li>Assessments of general IHR and OIE capacity to establish baseline levels reviewed</li> <li>Plan to address gaps in two-way reporting of diagnostic results from wildlife, livestock, and people developed</li> </ol>	<p>CDC – Technical assistance with CoAg partners</p> <p>USAID – Technical assistance as needed</p>	GOL activity to be determined	
Year 2	<ol style="list-style-type: none"> <li>Plan of action established for timely and accurate disease reporting based on IHR and OIE evaluation reports</li> <li>Protocols that strengthen two-way reporting of diagnostic results in wildlife, livestock, and people developed</li> </ol>	<p>CDC – Technical assistance with CoAg partners</p> <p>USAID – Technical assistance as needed</p>	GOL activity to be determined	
Year 3	<ol style="list-style-type: none"> <li>Evaluation of reporting requirements at national level established</li> </ol>	<p>CDC – Technical assistance with CoAg partners</p> <p>USAID – Technical assistance as needed</p>	GOL activity to be determined	



Year 4	1. Collaboration between various national data sources that contribute to public health reporting requirements (i.e. IHR, PVS) established	CDC – Technical assistance with CoAg partners USAID – Technical assistance as needed	GOL activity to be determined	
Year 5	1. Reporting protocols updated/ revised based on current best practices and IHR to improve data quality (timeliness, completeness, accuracy)	CDC – Technical assistance with CoAg partners USAID – Technical assistance as needed	GOL activity to be determined	

## Respond

### Emergency Management

GHSA Goal	GHSA Objective	GHSA 5-Year Target		
Respond Rapidly and Effectively	Developing an interconnected global network of EOCs and multi-sectoral response to biological incidents.	Every country will have a public health Emergency Operations Center (EOC) functioning according to minimum common standards; maintaining trained, functioning, multi-sectoral rapid response teams (RRTs) and “real-time” biosurveillance laboratory networks and information systems; and trained EOC staff capable of activating a coordinated emergency response within 120 minutes of the identification of a public health emergency.		
	Key Milestones	US Government Activity	Host Government Activity	Other Activity (e.g. NGO, other governments, multilaterals)
Year 1	<ol style="list-style-type: none"> <li>1. Strategic framework for the MOH EOC developed</li> <li>2. Construction and equipping of MOH EOC completed</li> <li>3. Trained EOC core and surge staff assigned to functional roles</li> <li>4. Create a framework for SOPs</li> <li>5. At least one MOH EOC staff trained in public health emergency management fellowship</li> <li>6. EOC/IMS personnel at the subnational level for localized EOC/IMS coordination and management established</li> <li>7. Increased capacity among military medical leaders and experts to prevent, detect, and respond to infectious disease outbreaks</li> <li>8. Capacity of Roberts International Airport to respond to an event of public health concern is assessed</li> <li>9. All hazards or communicable disease response plan is in place at Roberts International Airport</li> </ol>	<p>CDC – Technical assistance with CoAg partners</p> <p>USAID – Technical assistance/Animal health</p> <p>AFRICOM – African Partner Outbreak Response Alliance</p>	<p>MOH – Policy for EOC authority; core staff and training for EOC</p> <p>Ministry of Agriculture</p>	<p>WHO – EOC Training</p>

Year 2	<ol style="list-style-type: none"> <li>Validated Emergency Operations plan framework for the MOH EOC developed</li> <li>Additional MOH EOC staff trained in public health emergency management fellowship</li> <li>Initial operational capacity of EOC achieved</li> <li>Public health emergency management authority to the MOH EOC established</li> <li>Emergency Operations Plan developed and operationalized</li> <li>Exercise/testing of communicable disease response plan at Roberts International Airport is conducted on a routine basis</li> </ol>	<p>CDC – Technical assistance with CoAg partners</p> <p>USAID – Technical assistance/Animal health</p>	<p>MOH – Policy for EOC authority; core staff and training for EOC</p>	
Year 3	<ol style="list-style-type: none"> <li>Information from laboratory, surveillance, and information systems integrated into the EOC</li> <li>EOC facilities, staff, and systems strengthened and maintained</li> <li>EOC plans and procedures validated</li> <li>Sustainability and transition plan created</li> </ol>	<p>CDC – Technical assistance with CoAg partners</p> <p>USAID – Technical assistance/Animal health</p>	<p>MOH – Staff participation in development of SOPs, trainings and exercises; IT expertise for EOC</p>	
Year 4	<ol style="list-style-type: none"> <li>EOC facilities, staff, and systems strengthened and maintained</li> <li>EOC plans and procedures tested, validated and improved</li> <li>Transition plans of operations of EOC to MOH completed</li> </ol>	<p>CDC – Technical assistance with CoAg partners</p> <p>USAID – Technical assistance/Animal health</p>	<p>MOH – Staff participation in development of SOPs, trainings and exercises</p>	
Year 5	<ol style="list-style-type: none"> <li>EOC plans and procedures tested, validated, and improved</li> <li>National capacity for multi-sectoral preparedness and response established and functional</li> </ol>	<p>CDC – Technical assistance with CoAg partners</p> <p>USAID – Technical assistance/Animal health</p>	<p>MOH – Staff participation in development of SOPs, trainings and exercises</p>	

## Respond

### Linking PH and Law Enforcement

GHSA Goal	GHSA Objective	GHSA 5-Year Target		
Respond Rapidly and Effectively	Developing an interconnected global network of EOCs and multi-sectoral response to biological incidents: Promote establishment of public health EM programs, including EOCs; trained, functioning, multi-sectoral rapid response teams, with access to a real-time information system; and capacity to attribute the source of an outbreak.	In the event of a biological event of suspected or confirmed deliberate origin, a country will be able to conduct a rapid, multi-sectoral response, including the capacity to link public health and law enforcement, and to provide and/or request effective and timely international assistance, including to investigate alleged use events.		
	Key Milestones	US Government Activity	Host Government Activity	Other Activity (e.g. NGO, other governments, multilaterals)
Year 1	<ol style="list-style-type: none"> <li>1. Initial assessment linkage between public health and law enforcement completed</li> <li>2. Public health curriculum for BIN officers located at borders and in border communities strengthened in accordance with IDSR priority syndromes</li> <li>3. Capacity of health and security personnel to detect and respond to public health events of concern across borders strengthened</li> <li>4. Improving Liberian law enforcement capacity to detect and prevent biological incidents</li> </ol>	<p>CDC – Technical assistance</p> <p>DoS-CTR – Technical assistance</p>	<p>MOH, Transportation, Interior to participate in border health activities</p> <p>Liberia National Police</p>	<p>WHO, IOM (and others) likely to be partners on border health activities</p>
Year 2	<ol style="list-style-type: none"> <li>1. Written protocols are in place at key POEs for ill travelers, including: identification of signs of infectious diseases in travelers (in accordance with IDSR priority syndromes); timely notification of Port Health management; health care facility referral procedures</li> </ol>	<p>CDC – Technical assistance</p>	<p>MOH, Transportation, Interior to participate in border health activities</p>	<p>WHO, IOM (and others) likely to be partners on border health activities</p>

Year 3	1. 75% of existing BIN officers and 90% of onboarding officers serving at key border crossings trained in the detection of signs and symptoms of the IDSR priority syndromes	CDC – Technical assistance	MOH, Transportation, Interior to participate in border health activities	WHO, IOM (and others) likely to be partners on border health activities
Year 4	1. Plans and procedures at PoE tested, validated, and improved.	CDC – Technical assistance	MOH, Transportation, Interior to participate in border health activities	WHO, IOM (and others) likely to be partners on border health activities
Year 5	1. Multi-sectoral response to a biological event of suspected or confirmed deliberate origin demonstrated	USAID - Technical assistance	GOL activity to be determined	

## Respond MCM and Personnel Deployment

<b>GHSA Goal</b>	<b>GHSA Objective</b>	<b>GHSA 5-Year Target</b>		
Respond Rapidly and Effectively	Improving global access to medical and non-medical countermeasures during health emergencies.	A national framework for transferring (sending and receiving) medical countermeasures and public health and medical personnel among international partners during public health emergencies.		
	<b>Key Milestones</b>	<b>US Government Activity</b>	<b>Host Government Activity</b>	<b>Other Activity (e.g. NGO, other governments, multilaterals)</b>
Year 1	<ol style="list-style-type: none"> <li>Key agencies involved in MCM importation, deployment and regulatory approvals for use during public health emergencies identified</li> <li>National preparedness plans for use of non-medical measures involving zoonotic disease (available through regional stockpiles) developed</li> </ol>	<p>CDC – Technical assistance SME FTEs and with CoAg partners</p> <p>USAID – Technical assistance</p>	GOL activity to be determined	Other activity to be determined
Year 2	<ol style="list-style-type: none"> <li>Policy development for MCM importation, deployment, and regulatory approvals for use during public health emergencies initiated</li> </ol>	CDC – Technical assistance SME FTEs and with CoAg partners	GOL activity to be determined	Other activity to be determined
Year 3	<ol style="list-style-type: none"> <li>National policies for MCM during public health emergencies established by key agencies</li> <li>Regional agreements for rapid cross border deployment of personnel and material drafted</li> </ol>	CDC – Technical assistance SME FTEs and with CoAg partners	GOL activity to be determined	Other activity to be determined
Year 4	<ol style="list-style-type: none"> <li>Plans and procedures for MCM importation, deployment and regulatory approvals for use during public health emergencies tested and validated</li> </ol>	CDC – Technical assistance SME FTEs and with CoAg partners	GOL activity to be determined	Other activity to be determined

Year 5	<ol style="list-style-type: none"> <li>1. National framework for sending and receiving medical countermeasures and public health and medical personnel from and to international partners during health emergencies established</li> <li>2. Regional agreements for rapid cross border deployment of personnel and material finalized</li> <li>3. Capacities and skills required for implementation of national preparedness plans for use of non-medical countermeasures involving zoonotic disease (available through regional stockpiles) in place</li> </ol>	USAID – Technical assistance	GOL activity to be determined	Other activity to be determined
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