DOCUMENTING PROGRESS FOLLOWING THE JOINT EXTERNAL EVALUATION (JEE) AND IMPLEMENTATION OF THE NATIONAL ACTION PLAN FOR HEALTH SECURITY (NAPHS) IN THE REPUBLIC OF SIERRA LEONE

Mission Report: 11-15 March 2019

World Health Organization

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Abbreviations

AEFI	Adverse Event Following Immunization
AH	Animal Health
AMR	Antimicrobial Resistance
APORA	African Partners Outbreak Response Alliance
AST	Antibiotic Susceptibility Testing
AWP	Annual Work Plan
DFID	Department for International Development (UK)
DHSE	Directorate for Health Security and Emergencies
DRM	Disaster Response Management
DVDMT	District Vaccination Data Management Tool
ECOWAS	Economic Community of West African States
ECP	Emergency Contingency Plan
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
EVD	Ebola Virus Disease
FAO	Food and Agriculture Organization
FETP	Field Epidemiology Training Program
GHSA	Global Health Security Agenda
HCAI	Health care associated infections
HF	Health facility
HR	Human resources
HRH	Human resources for Health
HSE	Health Security and Emergencies
IHR	International Health Regulations 2005
IDSR	Integrated Disease Surveillance and Response
IPC	Infection Prevention and Control
JEE	Joint External Evaluation
KAP	Knowledge, Attitudes and Practices
MAFFS	Ministry of Agriculture, Forestry and Food Security
MCM	Medical countermeasure
MDA	Ministries, Departments, Agencies
MOHS	Ministry of Health and Sanitation
MOU	Memorandum of Understanding
NAPHS	National Action Plan for Health Security
NFP	National Focal Point
NLSP	National Laboratory Strategic Plan
NSCCG	National Security Council Coordinating Group
NSSG	National Strategic Situation Group
OIE	World Organization for Animal Health
ONS	Office of National Security
PHEIC	Public Health Emergency of International Concern

POCT	Point of care testing
POE	Point of Entry
PVS	Performance of Veterinary Services
REDISSE	Regional Disease Surveillance Systems Enhancement
RRT	Rapid Response Team
RVF	Rift Valley Fever
SLMTA	Strengthening Laboratory Management toward Accreditation
SLL	Sierra Leone Leone
SOP	Standard Operating Procedure
SPAR	State Parties Annual Reporting
STAR	Strategic Tool for Assessing Risk
TOR	Terms of Reference
TOT	Training of Trainers
TWG	Technical Working Group
USAID	United States Agency for International Development
USCDC	United States Centers for Disease Control and Prevention
USD	United States Dollar
VHF	Viral Hemorrhagic Fever
VRAM	Vulnerability and Risk Assessment Mapping
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

Executive summary

Background

To implement the International Health Regulations (IHR) 2005, Member States need to build capacities to prevent, detect and respond to public health emergencies. To increase these capacities, the Government of Sierra Leone began developing a National Action Plan for Health Security (NAPHS) in 2017, informed by a Joint External Evaluation (JEE) in 2016, an IHR-PVS Bridging Workshop Roadmap (2018), by States Parties Annual Reporting (SPAR), and by other related sectoral workplans and risk assessments.

Objectives of the mission

1. Review progress made on increasing country capacities following use of IHR Monitoring and Evaluation Framework components and NAPHS implementation.
2. Identify best practices, challenges, and lessons learned for the implementation of activities to increase IHR capacities that can be shared with other countries.
3. Identify activities for immediate implementation to increase country capacities before the next self-assessment in 2019.

Mission details

A team of three facilitators from WHO, US CDC and Resolve to Save Lives reviewed evaluation and assessment reports, progress reports and the NAPHS. The team visited Sierra Leone on 11-15 March 2019. A 3-day workshop (Appendix 1) was organized by the WHO country office and included 63 participants from nine government MDAs and multiple partner agencies.

Methods

During the workshop, teams representing each of the 19 JEE technical areas: 1) discussed progress and challenges in implementing activities since the 2016 JEE; 2) compared self-assessed capacity levels from November 2018 (with JEE Scorecard using the JEE tool, 2nd version); and 3) identified actions that can be taken immediately, i.e. within the next 12 months, to build capacity using the newly published WHO Benchmarks Tool. These next steps were validated by the working groups and partners. Funding and implementation status of these activities were documented. The immediate next step activities were taken from the country's existing costed NAPHS. For a small number of new activities identified as priority next steps, but not reflected in the NAPHS, the mission team provided indicative cost estimates, using similar activities or assumptions used to cost the NAPHS.

The results from the workshop were presented to representatives from partner agencies on 15 March. During the partner meeting, participants identified whether they had already committed (planned or allocated) funds for implementation of the immediate next actions. Commitment was obtained to conduct these activities before the next self-assessment. Following the partner meeting, a

high-level summary of the mission was presented to key MOHS and MAFFS staff and a high-level commitment to implement the recommended activities was agreed upon.

Best Practices and Progress in Implementation of the National Plan

Best Practices

1. **Cross-Sectoral engagement** using the One Health approach and collaboration with partner organizations, civil society, and the private sector have resulted in improvements in planning, implementation, and emergency preparedness. This is well demonstrated by the successes in risk communications. **Formal coordination mechanisms and service level agreements** have resulted in strong partnerships between government sectors and development partners for IHR implementation.
2. The Government of Sierra Leone conducted a **self-assessment of capacities using the JEE tool** in November 2018 and plans to do this on an annual basis. This is a good way to monitor progress in IHR implementation and identify areas for further strengthening.
3. The **WHO Benchmarks tool** was used during the workshop and well received by participants. This allowed for rapid identification of next steps or specific activities that could increase capacity levels.
4. A comprehensive NAPHS was developed with multi-sector participation. The NAPHS (Total cost: USD 291m) was prioritized to **identify priority activities** (Cost: ~USD 50m). This reduces the workload for implementation and makes resource needs clearer.
5. **Resource mapping** was done in 2018. This activity identified resources for IHR implementation and areas for collaboration.

Progress Areas

1. **Creating an enabling environment for implementation of IHR (2005):** Restructuring within the Ministry of Health and Sanitation (MOHS) created a new Directorate for Health Security and Emergencies (DHSE), which hosts the IHR National Focal Point. The HSE Directorate now has the capacity and mandate to coordinate IHR implementation, including oversight of the NAPHS and the World Bank's Regional Disease Surveillance Systems Enhancement (REDISSE) project.
2. **Revision of Public Health Ordinance (1960):** a revised Public Health Bill (2019) has been finalized and is anticipated to be enacted by Parliament.
3. **Advancements in One Health:** One Health Committees have been established at the national and district levels. Strong coordination has been demonstrated by the agreement of ministries on a priority zoonotic disease list. A zoonotic surveillance unit has been created in the DHSE.
4. **Surveillance Systems Enhancement:** The Integrated Disease Surveillance and Response (IDSR) system has excellent (>95%) timeliness and completeness of reporting. A new electronic reporting system (eIDSR) has been rolled out in 12/14 districts, and now has >85% coverage of

all government health facilities. Rapid response teams (RRT) have been able to respond to 95% of verified signals within 24 hours.

5. An intermediate **Field Epidemiology Training Program (FETP)** has been created, complementing the existing frontline FETP. One Health human resource capacity has been strengthened by participation of animal, environmental, and laboratory staff in the FETP. Staff have also been sent for advanced training with the Ghana FETP. Thus, health staff now have access to all three levels of field epidemiology training.
6. **Laboratory testing for viral hemorrhagic fever (VHF)** has been established at the national and subnational levels.
7. **Risk Communication:** There is a strong multi-sectoral approach to community engagement, internal and partner communication. Operational research is done and anticipatory messages created in preparation for public health emergencies.

Challenges

- **Workforce:** The existing civil service does not include career categories or pathways for public health personnel including epidemiologists, biostatisticians, laboratory workers and animal health workers; there are major human resources gaps for animal health at the district and national levels.
- **REDISSE Implementation:** Challenges in obtaining timely approvals from the World Bank for the REDISSE annual work plan (AWP) and delays by the fiscal agent have delayed implementation of activities.
- **Sustainable Domestic Financing:** Efforts are in place for Sierra Leone to meet its Abuja Declaration commitment of 15% expenditure on the health sector; currently 11% is allocated.
- **Infrastructure:** Lack of consistent provision of electricity and running water at laboratories and health facilities create challenges for specimen storage, cold chain functioning, biosafety, infection prevention and control (IPC) and WASH compliance.
- **Laboratory Systems:** Animal health laboratory capacity lags behind human health. There is limited testing capacity for antimicrobial resistance (AMR). An integrated specimen transportation and referral system has not been operationalized, delaying clinical diagnosis and detection.

Recommendations for Way Forward

Specific activities for implementation in each of the 19 JEE technical areas to address the challenges and increase capacity are summarized in the following section. Of the 52 activities identified, majority (29/52, 56%) are already fully or partially funded (n=23) or are no cost activities (n=6). Additional resources (1.1 million USD) are needed to implement the remaining activities.

To ensure sustainable implementation, we recommend that Sierra Leone:

1. Launch the NAPHS and allocate budgets for IHR implementation in all relevant ministries.
2. Align the NAPHS and REDISSE plans by populating the REDISSE AWP using planned NAPHS activities.
3. Implement the prioritized activities agreed on at the workshop, track implementation, and reassess capacity levels by self-assessment using the JEE tool annually.

PREVENT

National Legislation, Policy and Financing

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
P.1.1 The State has assessed, adjusted and aligned its domestic legislation, policies and administrative arrangements in all relevant sectors to enable compliance with the IHR.	2	1
P.1.2 Financing is available for the implementation of IHR capacities.	2	2
P.1.3 A financing mechanism and funds are available for timely response to public health emergencies.	1	1

NAPHS Objectives	Progress as of February 2019	Challenges
• To ensure adequate administrative and statutory provisions are available for implementation of IHR by December 2018 • To adjust and align legislation, policies and administrative arrangements in compliance with IHR 2005 by end of 2018	• Public Health Ordinance (1960) revised and finalized, and anticipated to be enacted in 2019 • Engagement with Parliamentary Committee has begun • Resource mapping for implementation of IHR (2005) conducted • Contingency emergency financing mechanism exists	• Abuja Declaration Commitment has increased to 11%, but still below 15% for health • Limited domestic sources of funding (>90% partner supported) • Accessing REDISSE funds from fiscal agent has been slow; cumbersome process for accessing contingency emergency funds

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Sensitization and engagement of Parliament and civil society for enactment of revised Public Health Ordinance	On-going	75,510,000	REDISSE
Allocate budget in relevant ministries for IHR implementation	Not started	No Cost	NA
Exercise to test the Rapid Deployment Interim Facility	Planned	Unspecified	REDISSE

IHR Coordination, Communication and Advocacy

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
P.2.1 A functional mechanism established for the coordination and integration of relevant sectors in the implementation of IHR	1	

NAPHS Objectives	Progress as of February 2019	Challenges
• To strengthen IHR NFP for effective coordination, communication and advocacy	• Restructuring within the MOHS to create a new Directorate of Health Security and Emergencies • Designation of IHR NFP to a unit (HSE), resulting in easier coordination, 24/7 NFP availability • Service Level Agreements to coordinate partner activities	• Dedicated staff needed for One Health Coordination at national and district levels • SOPs need to be elaborated for IHR coordination across sectors

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Adapt and validate WHO recommended TOR for IHR NFP for local use	New activity	12,870,000	None
Develop and test SOPs for coordination and communication between IHR NFP and relevant sectors	Not started	73,185,800	None
Conduct simulation exercise to test NFP functioning	*See Emergency Response Operations*		

Antimicrobial Resistance (AMR)

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
P.3.1 Effective multi-sectoral coordination on AMR	3	3
P.3.2 Surveillance of AMR	1	1
P.3.3 Infection prevention and control	2	1
P.3.4 Optimize use of antimicrobial medicines in human and animal health and agriculture	1	1

NAPHS Objectives	Progress as of February 2019	Challenges
• To integrate AMR surveillance, prevention, and control into the NLSP and GHSA 5-year roadmap using One Health Approach • Establish surveillance systems to identify and monitor AMR pathogens • To strengthen facilities to conduct HCAI surveillance and prevention programs • To establish antimicrobial resistance stewardship to promote appropriate use of antibiotics	<u>Antimicrobial Resistance</u> • Developed a multi-sectoral national strategic plan for AMR • Fleming Fund award proposal submitted to build capacity for laboratory capacity for AMR • Human lab can conduct bacteriological testing and for AST (SOPs developed) at national level • Point prevalence survey for AMR completed in 4 hospitals <u>Infection Prevention and Control</u> • National Guidelines and Policy for IPC exist as well as National Action Plan • MOHS has established a national IPC unit • Hospital IPC Committee in 25 hospitals • District IPC committee established (14 districts) • Quarterly assessments of IPC compliance conducted • Certificate course on IPC for health care workers	<u>Antimicrobial Resistance</u> • Limited laboratory testing capacity for AMR • Challenge in expanding AST testing capacity from national level to regional laboratories • Inability to track antibiotics imported into the country • Antimicrobial stewardship committees have been challenging to establish in health facilities <u>Infection Prevention and Control</u> • Need to update national guidelines • Non-availability of some IPC supplies • WASH deficiencies – limited supply of running water at health facilities • Coordination between IPC and WASH • No capacity on animal health side – no guidelines • IPC compliance, particularly at primary health facilities, is low

Immediate Next Steps

Action^	Status	Cost (SLL)	Funding Source
Assess data needs, develop collection tools, and establish reporting mechanisms including SOPs and protocols	Not started	68,010,000	None (consider Fleming Fund)
Train laboratory personnel on AST (Animal Health – national level; Human Health - regional level)	Not started	1,009,760,000	USAID funding AH annual lab training
Procure reagents for AST in human and animal health laboratories	Not started	1,117,500,000	None
Update human health national guidelines	Planned (April 2019)	83,380,000	US CDC/WHO
Develop guidelines and SOPs for IPC for animal health (AH)	Not started	272,422,000*	None

^Partners also recommended considering as an immediate action the approval of the protocol for surgical site infection (SSI) surveillance in 4 hospitals

**estimated cost*

Zoonotic Diseases

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
P.4.1 Coordinated surveillance systems in place in the animal health & public health sectors for zoonotic diseases/pathogens identified as joint priorities	2	2
P.4.2 Mechanisms for responding to infectious and potential zoonotic diseases established and functional	2	2

NAPHS Objectives	Progress as of February 2019	Challenges
• Establish Zoonotic surveillance systems for 5 or more zoonotic diseases/ pathogens of greatest public health concern by 2022 • Increase animal health workforce capacity at national level and in at least 80% of district levels by 2022 • Establish a multi-sectoral mechanism for coordinated response to outbreaks of zoonotic diseases by human and animal sectors at national and district levels by 2022	• Identified priority zoonotic diseases between MOHS and MAFFS • Established One Health Committee • Discovery of zoonotic viruses, including Ebola, RVF, and Marburg viruses in animal hosts • Developed One-Health training materials for joint human-animal health response	• One Health Coordination has been less active at both national and district levels due to staffing issues • Delays in work because of REDISSE funds disbursement/approval issues • Limited capacity at district level of animal health staff to conduct investigations

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Train staff (human, animal and environmental health sectors) on surveillance guidelines, SOPs and operational plan – Conduct TOT and cascading trainings and disseminate materials	Ongoing	4,016,100,000	Funding from multiple sources

Food Safety

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
P.5.1 Surveillance systems in place for the detection and monitoring of foodborne diseases and food contamination	1	1
P.5.2 Mechanisms are established and functioning for the response and management of food safety emergencies	1	1

NAPHS Objectives	Progress as of February 2019	Challenges
• To establish food safety surveillance and response mechanisms with 50% reporting from identified reporting sites	• Food and Feed Safety Act was passed, provides a pathway to access European markets • Developed a checklist for most food processing activities and began implementation • SOP developed and validated by ONS for destruction of unsafe food	• The Food Safety Authority should have been established after the Food and Feed Safety Act was passed • Coordination of the responsible agencies and ministries for food safety • No food contamination monitoring system is in place • Lack of capacity for food safety testing

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Advocate to the Executive (Presidency) on the need to sign the bill to establish the Food and Feed Safety Authority and appoint a Head	New activity	No cost	NA
Develop a food safety emergency response plan	New activity	387,485,000*	None

**estimated cost*

Biosafety and Biosecurity

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
P.6.1 Whole-of-government biosafety and biosecurity system in place for all sectors (including human, animal and agriculture facilities)	1	1
P.6.2 Biosafety and biosecurity training and practices in all relevant sectors (including human, animal and agriculture)	1	1

NAPHS Objectives	Progress as of Feb 2019	Challenges
• Establish and enact legislation and regulations on biosafety and biosecurity. • Establish regulatory framework for laboratory practice in line with the national laboratory strategy • To develop human resource capacity to address biosafety and biosecurity issues nationwide. • To create new and upgrade existing infrastructure to meet standard biosafety and biosecurity practices.	• Health safety and policy guidelines document has been developed, validated and distributed • Ongoing training for biosafety/biosecurity officers in regional lab • On-going development of regulation on biotechnology, including biosafety and biosecurity following ECOWAS meeting	• Training and capacity building of mid-level engineers to work as biomedical engineers • Sierra Leone is not a signatory to the Catalina protocol but advocacy is currently undergoing • Need to align laboratory SOPs with ISO 15190 standards • Biosafety guidelines have not been developed

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Hire consultant to conduct bio-risk assessment of labs and facilities at national level (health and animal) that store dangerous pathogens	New activity	225,542,000*	None
Hire consultant to develop SOPs for labs that are aligned with the provisions in the Public Health Ordinance (2019)	New activity	189,042,000*	None

**estimated cost*

Immunization

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
P.7.1 Vaccine coverage (measles) as part of national programme	3	
P.7.2 National vaccine access and delivery	2	

NAPHS Objectives	Progress as of Feb 2019	Challenges
• To achieve and sustain at least 95% coverage of measles second dose coverage per year • To strengthen the capacity of District Health Management Teams (DHMTs) for improved vaccine access and delivery	• Completed training on data tools (DVDMT) for immunizations at district level • Coverage and equity assessment ongoing • Procurement of motorbikes for outreach activities • Coordination with HSE on measles outbreak response	• MCV1 coverage 80%; particularly low in hard-to-reach areas that are long distances from health facilities • Non-operational cold chain at many health facilities • Vaccine stock-outs at health facilities

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Complete the assessment of coverage and equity in 'hard-to-reach' areas	Ongoing	Unspecified	Gavi
Identify temperature monitoring devices to measure functioning of cold chain equipment at HF (identify devices for procurement)	Not started	No cost	NA
Implement existing training module for health workers to recognize, report, and manage AEFI (quarterly supportive supervision by districts)	Not started	32,869,428,000	Gavi(need to confirm)

DETECT

National Laboratory System

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
D.1.1 Laboratory testing for detection of priority diseases	4	1
D.1.2 Specimen referral and transport system	3	1
D.1.3 Effective national diagnostic network	3	1
D.1.4 Laboratory quality system	2	1

NAPHS Objectives	Progress as of February 2019	Challenges
• To expand lab capacity at the national reference lab to be able to conduct 6 of 10 WHO core tests • To institute an effective system for collection, packaging and transport of biological specimens • To develop or acquire technologies to optimize POCT at all levels (human and animal health) • Institute a national quality assurance system for human, animal, environment and food safety. • To ensure the inclusion and functionality of a National Laboratory Regulatory Board.	• New directorate at MOHS for laboratory and blood services with units focusing on clinical and public health laboratory services • SLMTA training has begun • Guidelines for specimen referral reviewed and validated • Central veterinary laboratory established with FAO support	• Reagent stock-outs and inadequate lab facilities including water and electricity, reliance on partners for reagents • Refresher trainings needed for lab staff; limited human resources including lab staff and data managers • No formal system for specimen referral/transport for priority diseases other than HIV/TB • Limited human resources for animal health lab

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Procure solar power equipment for 6 national labs including human, animal, and environmental health labs	Not started	2,205,000,000	REDISSE
Develop national procurement plan for priority reagents and improve supply chain management	Not started	480,588,000	REDISSE (partial)
Establish a transport system by contracting a courier to transport specimens to appropriate labs	Not started	1,946,880,000	REDISSE

Surveillance

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
D.2.1 Surveillance systems	3	3
D.2.2 Use of electronic tools	3	1
D.2.3 Analysis of surveillance data	4	2

NAPHS Objectives	Progress as of February 2019	Challenges
• Sustain existing human surveillance systems • Strengthen animal health surveillance systems. • Integrate animal and human health surveillance systems • Develop, integrate and maintain an interoperable, interconnected, electronic real-time reporting system, for public health and/or veterinary surveillance systems at all levels by 2022 • Strengthen capacity for data analysis at all levels by 2022 • Enhance the performance of the syndromic surveillance system and expertise by 2022	• IDSR officers active in all districts; eIDSR in 12 of 14 districts; with 97% timeliness and completeness of reporting • Animal health surveillance established from chiefdom to national levels • Veterinary epidemiology unit in MAFFS	• Human surveillance coverage is limited in private health facilities • Data quality - assessment in 2017 showed 60% accuracy of national surveillance data • Limited human resources at all levels (human and animal) • Few animal health workers trained on data analysis

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Build reporting capacity: identify and train staff on reporting at private health facilities and large hospitals	Planned	1,526,260,000	WHO (partial)
Extend data analysis capacity to district level for human health; build data analysis capacity at national and district level for animal health with refresher trainings	Not started	4,332,672,000	US CDC/WHO (for human health training at district level)
Develop and validate a data quality assurance module and estimate resources required for training and implementation at district level (consultancy + workshop)	Ongoing	310,292,000*	USCDC/WHO

**estimated cost*

Reporting

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
D.3.1 System for efficient reporting to FAO, OIE and WHO	3	3
D.3.2 Reporting network and protocols in country	2	2

NAPHS Objectives	Progress as of February 2019	Challenges
• By 2022, strengthen capacity to identify any potential PHEIC and report within 24 hours to WHO, FAO & OIE. • Develop & establish protocols, processes, regulations and legislation governing reporting to be implemented by 2020.	• Legislation includes multi-sectoral information sharing and reporting to WHO/OIE • High level of completeness and timeliness (>95%) from district to national level • Improved diagnostic capacity to aid reporting • Community Animal Health Officers (CHAO) can report events, which facilitates joint outbreak investigation and response	• Quality and accuracy of reporting • Sustainability of electronic tools for reporting in human health • Capacity for reporting in the animal sector

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Conduct a Simulation Exercise to demonstrate capacity to file a report within 24 hours of identifying a potential PHEIC	*See emergency response operations*		

Human Resources (Human and Animal Health sectors)

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
D.4.1 An up-to-date multisectoral workforce strategy is in place	1	1
D.4.2 Human resources are available to effectively implement IHR	2	1
D.4.3. In-service trainings are available	2	2
D.4.4 FETP or other applied epidemiology training program is in place	4	4

NAPHS Objectives	Progress as of February 2019	Challenges
• Establish a Multidisciplinary Public Health HR capacity at National and District levels by 2022 • Establish three levels of FETP/FETPV/FELTP (Basic, Intermediate and Advanced) in Sierra Leone or through an agreement with another country by 2022 • Adapt the national healthcare workforce strategy to include public health professionals in accordance with the One Health approach by 2022	• Assessment for human resources requirements in human and animal sectors completed • Intermediate FETP ongoing with EPA and MAFFS participation • 5 cohorts of FETP-Frontline are completed • Developed draft of IHR/IDSR pre-service/in-service curriculum • 128 Community Health Officers trained	• Initial Human Resources for Health (HRH) strategy included clinical, but not public health needs • Existing civil service system does not include epidemiologists or other key public health roles • Few trained veterinarians available in country, and no career pathway for them in government • EPA staff not present in all districts

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Add public health workforce into the HRH strategy as an addendum (consultant + workshops)	Ongoing	278,192,000	USCDC
Develop investment case document for HR for Human health (consultant for 2 months)	Not started	189,042,000	None
In-service training for House Officers and Community Health Officers	Ongoing	949,410,000*	USCDC

**estimated cost*

RESPOND

Emergency Preparedness

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
R.1.1 Strategic emergency risk assessments conducted and emergency resources identified and mapped	2	
R.1.2 National multisectoral multi-hazard emergency preparedness measures, including emergency response plans, are developed, implemented and tested	1	

NAPHS Objectives	Progress as of Feb 2019	Challenges
• To have an all hazards plan for the health sector that is 'one health compliant' by 2018 • To have a system by 2018 for stockpiling of supplies and a mechanism for faster access of resources during emergencies. • To have a comprehensive vulnerability and risk assessment with resource mapping and mobilization for identified hazards by 2019	• STAR risk profiling done to identify and prioritize hazards at district and national levels (2017) • VRAM tool validated in 2018; data collection will commence in April 2019 • National DRM plan available – Simulation Exercise conducted in 2018	• Need to create a comprehensive all-hazards preparedness plan, from VRAM, which includes prioritized hazards from all sectors (human, animal, chemical, radiological) • Need to identify required supplies based on national multi-hazard response plan and SOPs for stockpiling and distribution

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Develop a One Health-compliant all hazards plan: stakeholder mapping and engagement/orientation	Not started	44,980,000	DFID/WHO
Conduct a workshop to develop a list of required supplies for stockpiling	Ongoing	13,340,000	USAID
Workshop to validate and adopt SOP and tools for quarterly stock checks of stockpile items	Not started	23,440,000	USAID

Emergency Response Operations

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
R.2.1 Emergency response coordination	4	
R.2.2 Emergency operations center (EOC) capacities, procedures and plans	3	
R.2.3 Emergency exercise management program	2	

NAPHS Objectives	Progress as of February 2019	Challenges
• To have surge capacity staff available and prepared to respond at the various levels by 2018 • Raise the proportion of EOC operations budget supported through core government funding to 50% • Put in place SOPs for EOC emergency operation functions by 2018 • To have epidemiology capacity in both animal and human health by 2018 • Strengthen EOC Emergency response operations by 2018 • Establish a national outbreak preparedness and case management guidelines for epidemic prone diseases by 2018	• Increased commitment of multi-sectoral/MDAs and international partners at weekly meetings since EVD outbreak • Support from partners to ensure that response can occur at district level, including biological and non-biological hazards • Validated SOP at seaport POE for human remains • Case management guidelines are available for EVD, Lassa fever and cholera.	• Need for the government to take leadership of financing for Emergency Preparedness and Response activities • Coordination mechanisms at district level need to be strengthened • Need for a database of subject matter experts for consultation on priority hazards

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Reactivate steering committee to develop objectives, essential functions and core components; oversee the EOC and monitor and evaluate its use	Planned	201,840,000*	USCDC
Conduct full-scale EVD exercise	Planned	Unspecified	USCDC
Develop a database of subject matter experts for consultation on priority hazards	In progress (contract awarded)	Unspecified	Funded

**estimated cost*

Linking Public Health and Security Authorities

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
R.3.1 Public health and security authorities (e.g. law enforcement, border control, customs) linked during a suspect or confirmed biological, chemical or radiological event	1	

NAPHS Objectives	Progress as of Feb 2019	Challenges
• To establish an MOU to govern joint planning and response to public health emergencies by public health and security authorities by 2018	• NSSG and NSCCG coordination committees established and functional, with broad multi-sectoral participation with ONS leadership • District disaster management committees • Capacity building for linking public health and security authorities for health and non-health staff (e.g., APORA)	• Previous legislation did not include linking security authorities with radiation and chemical events • Formal MOUs for collaboration not in place across sectors (*ad hoc* collaboration has been effective in past)

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Formalize mechanisms for collaboration: written protocol or MOU that institutionalizes interactions between relevant multi-sectoral agencies	Not started	270,046,000	None
Monitor enactment of revised Public Health Ordinance, which includes chemical and radiological hazards	Ongoing	No cost	NA

Medical Countermeasures and Personnel Deployment

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
R.4.1 System in place for activating and coordinating medical countermeasures during a public health emergency	1	
R.4.2 System in place for activating and coordinating health personnel during a public health emergency	1	
R.4.3 Case management procedures implemented for IHR relevant hazards	2	

NAPHS Objectives	Progress as of Feb 2019	Challenges
• A one-health compliant strategic national stockpile of medical commodities for use in public health emergencies is established in Sierra Leone by 2020 • Establish a system for sending and receiving health personnel during a public health emergency	• MCM TWG has benefited from training from US CDC and zero-draft plan has been created • Successful deployment of personnel during measles outbreaks • 6 "Hospitainers" with isolation capacity in city of Bo	• MOUs need to be drafted for other agencies' coordination during emergencies • Need to draft a personnel roster for deployment (technical and non-technical staff) • Need to draft a formal system for personnel deployment (finalize procedures that were developed and used during EVD response)

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Stakeholder meeting for validation of the draft MCM plan	Planned for June 2019	unspecified	USCDC/WHO
Validation meeting for MOUs for MCM stakeholders	Planned for June 2019	unspecified	USCDC/WHO
Create and maintain a database of in-country personnel that can be deployed	Planned	35,280,000	REDISSE
Formalize a deployment system for technical and non-technical personnel	Not started	370,734,000	None

Risk Communication

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
R.5.1 Risk communication systems for unusual/ unexpected events and emergencies	4	
R.5.2 Internal and partner coordination for emergency risk communication	4	
R.5.3 Public communication for emergencies	5	
R.5.4 Communication engagement with affected communities	3	
R.5.5 Addressing perceptions, risky behaviours and misinformation	5	

NAPHS Objectives	Progress as of February 2019	Challenges
• To complete EOC communications strategic plan by 2018. • To develop a training plan by 2018 that will guide capacity building activities in risk communication. • To have a formal mechanism in place by 2018 to coordinate communication with the private sector during an emergency • To have risk communications focal persons in each district by 2018 (health sector) that will serve as communication link between the district and the community • To establish a dedicated budget line by 2018 for addressing risk communications response in MOHS & MAFFS • To enhance MOHS capacity to disprove rumour during public health emergencies	• Risk communication mechanisms tested and effective during measles outbreak • Focus groups conducted for KAP on Ebola ring vaccination (anticipatory) • Establishment of media monitoring unit and feedback system for affected populations • Open door policy with media and civil society	• Insufficient resources at community level for engagement with affected communities in hard-to-reach areas • Lack of sustainable domestic budget • Need to establish MOU with private sector (Orange) for TERA SMS system for emergency messaging

Immediate Next Steps

Action*	Status	Cost (SLL)	Funding Source
Operational support for community engagement meetings	Ongoing	57,600,000	Unknown
Procurement of equipment (e.g., megaphones) for disseminating messages at community level	Ongoing	Unspecified	Unknown
Finalize MOU with Orange	Ongoing	No cost	NA

**validation of One Health risk communications strategy is a funded, ongoing activity with Breakthrough Action as a partner*

OTHER IHR-related Hazards and Points of Entry (PoE)

Points of Entry

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
PoE.1 Routine capacities established at points of entry	2	
PoE.2 Effective public health response at points of entry	2	

NAPHS Objectives	Progress as of Feb 2019	Challenges
• To sustain routine 24-hour port health services in 4 POEs by 2022 • To develop, implement and test emergency contingency plans (ECPs) at 4 POEs by 2022	• Trained POE staff on IHR and IDSR for disease surveillance including chemical tracking • Developed SOPs and contingency plans for airport and seaport POEs • Assessed IHR core capacities at POE including border mapping • On-going POE surveillance	• No contingency plan exists for ground crossings • Transportation of sick travelers from POE to medical facility • National strategy for POEs is not integrated into the national emergency response plan • Need more structure at POEs and HR to staff them • Need to link POE and national surveillance systems

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Develop contingency plan for ground crossings	New activity	310,292,000*	None
Update existing SOPs for POEs to conform with new cross-border agreements	Planned	271,425,000	WHO
Integrate POE plans into national emergency plan	New activity	310,292,000*	None

**estimated cost*

Chemical Events

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
CE.1 Mechanisms established and functioning for detecting and responding to chemical events or emergencies	1	
CE.2 Enabling environment in place for management of chemical events	2	

NAPHS Objectives	Progress as of Feb 2019	Challenges
• To establish a national chemical surveillance and response system capable of real time reporting at 50% by 2022 • To develop legal instruments for effective implementation and enforcement of chemical events to support integrated national environment and health surveillance systems by 2022.	• Chemical legislation drafted • Developed a database of chemicals coming into Sierra Leone with data from customs • Inventory of obsolete pesticides completed • Responded to chemical spill events • Trained points of entry staff (but high turnover rate)	• Hazardous chemical disposal not available in country • Chemical legislation not yet passed • Low awareness of policy makers and public of hazards posed by chemicals • Data transmission from customs on chemical importation has stopped • Human resource constraints

Immediate Next Steps

Action	Status	Cost (SLL)	Funding Source
Follow up with law office to move chemical legislation forward	Ongoing	239,650,000 (partial costs)	Need resources
Develop and validate chemical incidents surveillance guidelines	Not started	1,203,200,000	None
Raise awareness/community outreach on chemical hazards	Started	unspecified	Global Environment Facility (need to confirm)

Radiation Emergencies

JEE Indicators	2018 JEE Self-assessment	
	Human Health	Animal Health
RE.1 Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies	1	
RE.2 Enabling environment in place for management of radiological and nuclear emergencies	2	

NAPHS Objectives	Progress as of Feb 2019	Challenges
• To strengthen surveillance and response to nuclear and radiological hazards with 50% routine reporting from identified nuclear and radiological hazard sites by 2022 • To develop, implement and test a national radiation emergency response plan by 2022.	• Able to detect open sources of radiation & control/retrieve • Capacity to regulate radiation sources (importation, return after useful lifespan) • Developed inventory of radiation sources (those under regulatory control)	• Low awareness and collaboration with customs officials • National regulations not aligned with latest international conventions • No radiation waste management facility • Limited human resources • Radiation emergency processes are not integrated into national emergency management plan

Immediate Next Steps

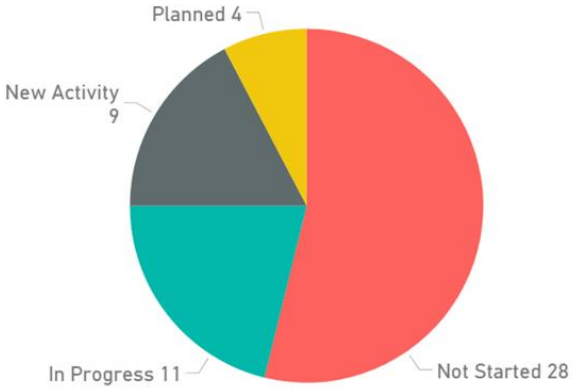
Action	Status	Cost (SLL)	Funding Source
Develop radiation emergencies plan	Not started	905,262,000	Need resources and TA
Develop risk assessment for radiation	Not started	1,084,242,000	Need resources and TA
Support radiation management organizational structures and facilities	Not started	676,200,000	Need resources

Conclusion

Sierra Leone has made excellent progress in implementing activities since the 2016 JEE. The team noted that the 2018 self-assessment scores do not capture the progress made due to changes in the attributes for some of the JEE indicators in the 2nd version compared to the version used during the JEE in 2016. For tracking progress going forward, use of the JEE 2nd edition along with the new WHO Benchmarks tool may be more useful. Reporting on the actual activities done and new milestones reached, as done during the workshop, provides a better picture than just a comparison of JEE scores. In some areas there is progress through achievement of additional attributes although the score has not changed.

Consensus among the technical working groups and development partners was reached on 52 identified activities for immediate implementation to increase IHR capacities by the next self-assessment. Figure 1 shows the implementation status of these activities as of 15 March 2019. To continue making progress it is important for steps to be undertaken to address systemic challenges such as improving REDISSE fund utilization and implementation, increasing domestic funding in accordance with the Abuja declaration and addressing the human resource issues in the MOHS and MAFFS.

Figure 1. Implementation status as of March 2019 of identified immediate activities to increase IHR capacities



To build further sustainable capacities, Sierra Leone can:

1. Launch the NAPHS and allocate budgets for implementation in all relevant sectors.
2. Implement the agreed activities (continue or start funded activities and mobilize resources for unfunded activities), track progress quarterly using the tracking tool developed, and re-assess capacity in October 2019 using the JEE scorecard and identify NAPHS priorities for 2020.
3. Align the NAPHS and REDISSE plans by using the NAPHS to create REDISSE Annual Workplans. Since REDISSE AWPs are due for submission in November, use the NAPHS implementation priorities and align with resources to create an aligned 2020 REDISSE annual workplan.
4. Continue doing annual assessments, identification and implementation of priority activities to continuously build health security capacities.

Appendix 1. Workshop Agenda

Documenting Progress following the JEE and NAPHS in Sierra Leone
12-14 March 2019
Golden Tulip Hotel, Freetown

Workshop Objectives:

- Review progress made on increasing country capacities following IHR Monitoring and Evaluation Framework components and NAPHS implementation
- Identify immediate activities for implementation to increase country capacities before the next self-assessment
- Sensitize sectors/departments in the need to integrate immediate activities into their workplans
- Identify which prioritized activities are implemented, ready for implementation, need to be integrated into sector workplans, or require additional funding
- Identify best practices, challenges, models, and lessons learned in the implementation of activities to increase IHR capacities
- Based on the experience of Sierra Leone, identify and disseminate the best practices, models, and lessons that can be shared with other countries
- To identify Sierra Leone priority areas for further WHO and partner support

Tuesday, 12 March 2019

Time	Activity/Technical Areas	Key Stakeholders / Participants
08:30-09:00	Meeting with IHR NFP	Director HSE, Team Leads for Surveillance, EPR, Laboratory, POEs, Zoonosis and Risk Communication
	Registration of Participants	c/o MOHS HSE Secretariat
09:00-09:30	Opening Remarks	Partners: USCDC, USAID, FAO, WHO MDAs: EPA, MAFFS, MOHS
09:30-09:45	Introduction of Participants	
09:45-10:00	Overview of the Mission	WHO Mission Team
10:00-10:15	Tea Break	
10:15-13:00	Group Discussion: IHR NFP and M&E • National legislation, policy and finance • IHR coordination • Reporting • Workforce development	MOHS: Technical Directorates, Finance and HR departments IHR NFP Public Health Law consultants MAFFS OIE delegate for SL Ministry of Finance ONS FELTP Advisor and mentors Partners: WHO, FAO, USCDC, USAID, PHE, GIZ & others
13:00-14:00	Lunch Break	
14:00-14:30	Group Discussion: Points of Entry	MOHS: National surveillance, POEs, DEH

		Livestock/MAFFS & EPA & ONS Immigration & SLCAA
14:30-16:30	Group Discussion: Zoonosis, Food Safety and AMR	MAFFS MOHS: Surveillance, IPC, AMR, Lab EPA & ONS
16:30-17:00	Tea Break and Closure	

Wednesday, 13 March 2019

Time	Activity/Technical Areas	Key Stakeholders / Participants
08:30-10:30	Group Discussion: Surveillance and Laboratory Systems • Surveillance systems • Biosafety and Biosecurity • National Laboratory System	MOHS: National surveillance MAFFS: Animal health surveillance CPHRL Teko Animal Health Lab Njara University
10:30-11:00	Tea Break	
11:00-13:00	Group Discussion: Immunization	MOHS: EPI WHO: EPI UNICEF
13:00-14:00	Lunch Break	
14:00-15:30	Group Discussion: Chemical Events and Radiation Emergencies	EPA Radiation Protection Authority
15:30-17:00	Group Discussion: IPC and Clinical management	MOHS: Clinical Services, IPC Director, Veterinary Services Teko Animal Health Lab
17:00	Tea Break and Closure	

Thursday, 14 March 2019

Time	Activity/Technical Areas	Key Stakeholders / Participants
08:30-10:30	Group Discussion: Risk Communication	MOHS: Communication MAFFS: Communication EPA: Communication
10:30-11:00	Tea Break	
11:00-13:00	Group Discussion: Pubic Health Emergency Preparedness • Emergency preparedness • Emergency Response Operations • Medical Countermeasures and personnel deployment • Linking public health and security authorities	MOHS: EOC ONS Sierra Leone Red Cross RSLAF
13:00-14:00	Lunch Break	
14:00-16:30	Review of the summary of findings • Plenary by themes • Summary	WHO Mission Team
16:30-17:00	Tea Break and Closure	

Appendix 2. List of Persons Met

Ministry of Health and Sanitation

Mr Abdul R.M. Fofanah	Senior Permanent Secretary
Dr. M.A. Vandi	DHSE Director
Mohamed S. Bah	Public Health Superintendent
Mohamed B. Balloh	NSO
Abdul Bangura	Country Director, Traditional Medicine
Moses Batema	Deputy MD, NMSA
Patrick M. Bundu	Public Health Superintendent
Andrew Charles	Administrative Assistant
Ben Coller	HED Officer
Melvin Conteh	M and E Staff
Mohamed Dumbuyo	Planning Specialist
Mukeh Fahnbulleh	Program Manager, DHSE
Musa M. Feika	Administrative Staff
Jimmy C. Gallia	Environmental Officer
Sahr Gbandeh	EOC Operations Coordinator
Doris Harding	Public Health Laboratory Manager
Dr. Kilinda Imanuel	Consultant
Alhassan Jalloh	HED Communications Staff
Fatmata B D Jalloh	Laboratorian
Dr. Joseph Sam Kanu	NDS, Department Manager, Surveillance
Aminata T. Koroma	SPHS
Emile Koroma	DHRH
Dr. Zikan Koroma	Clinical Lab Program Manager
Dr. Victor Lamin	Researcher
Patrick Lansana	Communications Staff
Edward Metzger	Communications Staff
Cyril Pat-Cole	Administrative Assistant, Laboratory
Christiana Roberts	HEO
Aminata Saccoh	Operations Staff
Dr. Tom Sesay	EPI Program Manager
Ansumana Sillah	EHS Director
Harold Thomas	Communications Head

Ministry of Agriculture, Forestry and Food Security

Dr. Amadu T. Jalloh	Director, Livestock and Veterinary Unit
Mohamed M. Koroma	Communications Officer
Dr. Amara Leno	Veterinary Officer
Alie Mansaray	Senior Agriculture Officer
Niccolo Nerigg	Advisor

Environmental Protection Agency

Hamidu D. Mansaray	Chemical Officer
Fatmata Bakar Sesay	AHOD/IEC

Office for National Security

Sabiatu Bakar	ARO
Tamba F. Nyaka	HOD/CC

Others

Amadu Jogor Bah	SL SB, Deputy Director
Patrick Musa	SLMET, Head of Climatology

Development Partners

Breakthrough Action:		
	James S. Fofanah	Chief of Party
	Edson E. Whitney	Senior Technical Specialist
FAO:		
	Dr Germain Bobo	ECTAD Team Leader
GIZ:		
	Duraman Conateh	Technical Advisor
ICAP:		
	Dr. Desalegn Helemo	Planning Advisor
NSRPA:		
	Abdulai A. Kargbo	Head, Regulatory Control
	Philip Johnson	Accountant
PHE Freetown:		
	Emmanuel Azore	PHE Laboratory Advisor
Red Cross:		
	Raymond Alpha	Cp3 Manager
USAID:		
	Monica Dea	Health Officer
	Dayo S. Walters	Consultant
USAID/PREDICT:		
	James Bangura	Coordinator
US CDC:		
	Dr. Bridgette Gleason	Surveillance and Program Lead
	Hassan Benya	IPC/WRD Specialist
	Sandi A. Genda	EM Specialist
	Dr. Marta Guerra	FETP Resident Advisor
WHO Country Office:		
	Alexander Chimbaru	OIC
	Dr. Charles Njuguna	HSE Coordinator
	Dr. Claudette Amuza	EPR/NPO
	Dr. James Bunn	Case Management and Laboratory
	Dr. Wilson Gachari	Epidemiologist
	Saffea Gborie	Communications
	Dr. Thomas Igbu	EPI, Team Leader
	Mugagga Malimbo	Data Manager
	Phili Raftery	Laboratory Advisor

Appendix 3. References

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