

# Liberia

This document is a compilation of all questions, justifications, and sources used to determine the 2021 Global Health Security Index scores for Liberia. For a category and indicator-level summary, please see the Country Profile for Liberia.

|  |           |
|--|-----------|
| <b>CATEGORY 1: PREVENTING THE EMERGENCE OR RELEASE OF PATHOGENS WITH POTENTIAL FOR INTERNATIONAL CONCERN</b> | <b>4</b>  |
| 1.1 Antimicrobial resistance (AMR)   | 4         |
| 1.2 Zoonotic disease   | 7         |
| 1.3 Biosecurity  | 13        |
| 1.4 Biosafety  | 20        |
| 1.5 Dual-use research and culture of responsible science   | 23        |
| 1.6 Immunization   | 26        |
| <b>CATEGORY 2: EARLY DETECTION AND REPORTING FOR EPIDEMICS OF POTENTIAL INTERNATIONAL CONCERN</b>            | <b>26</b> |
| 2.1 Laboratory systems strength and quality  | 26        |
| 2.2 Laboratory supply chains   | 29        |
| 2.3 Real-time surveillance and reporting   | 30        |
| 2.4 Surveillance data accessibility and transparency   | 32        |
| 2.5 Case-based investigation   | 38        |
| 2.6 Epidemiology workforce   | 40        |
| <b>CATEGORY 3: RAPID RESPONSE TO AND MITIGATION OF THE SPREAD OF AN EPIDEMIC</b>                             | <b>42</b> |
| 3.1 Emergency preparedness and response planning   | 42        |
| 3.2 Exercising response plans  | 45        |
| 3.3 Emergency response operation   | 47        |
| 3.4 Linking public health and security authorities   | 48        |
| 3.5 Risk communications  | 49        |
| 3.6 Access to communications infrastructure  | 52        |

|                                   |    |
|-----------------------------------|----|
| 3.7 Trade and travel restrictions | 53 |
|-----------------------------------|----|

**CATEGORY 4: SUFFICIENT AND ROBUST HEALTH SECTOR TO TREAT THE SICK AND PROTECT HEALTH WORKERS 55**

|   |    |
|---|----|
| 4.1 Health capacity in clinics, hospitals, and community care centers | 55 |
|---|----|

|   |    |
|---|----|
| 4.2 Supply chain for health system and healthcare workers | 58 |
|---|----|

|  |    |
|--|----|
| 4.3 Medical countermeasures and personnel deployment | 61 |
|--|----|

|                       |    |
|-----------------------|----|
| 4.4 Healthcare access | 62 |
|-----------------------|----|

|   |    |
|---|----|
| 4.5 Communications with healthcare workers during a public health emergency | 64 |
|---|----|

|   |    |
|---|----|
| 4.6 Infection control practices and availability of equipment | 65 |
|---|----|

|  |    |
|--|----|
| 4.7 Capacity to test and approve new medical countermeasures | 66 |
|--|----|

**CATEGORY 5: COMMITMENTS TO IMPROVING NATIONAL CAPACITY, FINANCING PLANS TO ADDRESS GAPS, AND ADHERING TO GLOBAL NORMS 68**

|   |    |
|---|----|
| 5.1 International Health Regulations (IHR) reporting compliance and disaster risk reduction | 68 |
|---|----|

|   |    |
|---|----|
| 5.2 Cross-border agreements on public health and animal health emergency response | 69 |
|---|----|

|                               |    |
|-------------------------------|----|
| 5.3 International commitments | 70 |
|-------------------------------|----|

|  |    |
|--|----|
| 5.4 Joint External Evaluation (JEE) and Performance of Veterinary Services Pathway (PVS) | 71 |
|--|----|

|               |    |
|---------------|----|
| 5.5 Financing | 72 |
|---------------|----|

|  |    |
|--|----|
| 5.6 Commitment to sharing of genetic and biological data and specimens | 76 |
|--|----|

**CATEGORY 6: OVERALL RISK ENVIRONMENT AND VULNERABILITY TO BIOLOGICAL THREATS 78**

|                                 |    |
|---------------------------------|----|
| 6.1 Political and security risk | 78 |
|---------------------------------|----|

|                               |    |
|-------------------------------|----|
| 6.2 Socio-economic resilience | 82 |
|-------------------------------|----|

|                             |    |
|-----------------------------|----|
| 6.3 Infrastructure adequacy | 84 |
|-----------------------------|----|

|                         |    |
|-------------------------|----|
| 6.4 Environmental risks | 85 |
|-------------------------|----|

|                                   |    |
|-----------------------------------|----|
| 6.5 Public health vulnerabilities | 85 |
|-----------------------------------|----|

## Category 1: Preventing the emergence or release of pathogens with potential for international concern

### 1.1 ANTIMICROBIAL RESISTANCE (AMR)

#### 1.1.1 AMR surveillance, detection, and reporting

##### 1.1.1a

**Is there a national AMR plan for the surveillance, detection, and reporting of priority AMR pathogens?**

Yes, there is evidence of an AMR plan, and it covers surveillance, detection, and reporting = 2, Yes, there is evidence of an AMR plan, but there is insufficient evidence that it covers surveillance, detection, and reporting = 1, No evidence of an AMR plan = 0

**Current Year Score: 0**

There is no publicly available national AMR plan for the surveillance, detection and reporting of priority AMR pathogens in Liberia. Liberia launched a draft national AMR plan in 2018 which was validated by the World Health Organisation, according to reporting by Reliefweb and AMR Insights. [1,2] The final plan is not, however, available online. The plan is not listed in the WHO Library of National Action Plans. [3] There is also no evidence of a plan on the Ministry of Health or the Ministry of Agriculture websites. [4,5] Liberia's Joint External Evaluation Report, conducted in September 2016, indicates that no plan was in place at that time. [6]

[1] Reliefweb. 28 June 2018. "Government of Liberia and Partners join forces to strengthen Global Health Security". [<https://reliefweb.int/report/liberia/government-liberia-and-partners-join-forces-strengthen-global-health-security>]. Accessed 12 November 2020.

[2] AMR Insights. 7 July 2018. "Liberia Against Antimicrobial Resistance, launch National Action Plan". [<https://www.amr-insights.eu/liberia-against-antimicrobial-resistance-launch-national-action-plan/>]. Accessed 10 November 2020.

[3] WHO. 2016. Library of National Action Plans [<http://www.who.int/antimicrobial-resistance/national-action-plans/library/en>]. Accessed 12 November 2020.

[4] Ministry of Health. [<https://moh.gov.lr/>] Accessed 12 November 2020.

[5] Ministry of Agriculture. [<https://www.moa.gov.lr/>] Accessed 12 November 2020.

[6] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020.

##### 1.1.1b

**Is there a national laboratory/laboratory system which tests for priority AMR pathogens?**

All 7 + 1 priority pathogens = 2, Yes, but not all 7+1 pathogens = 1, No = 0

**Current Year Score: 0**

There is no public evidence showing that Liberia has a national laboratory/laboratory system which tests for the 7+1 priority AMR pathogens. No evidence was found in the World Health Organisation's Library of National Action Plans. [1] There was no evidence found on the Ministry of Health website or the Ministry of Agriculture website. [2,3] According to the report from Liberia's Joint External Evaluation, conducted in September 2016, establishing "a surveillance system for infections caused by AMR pathogens ... as part of the national action plan on AMR" is a key area that needs strengthening. [4] Liberia has a

National Health Laboratory System, which includes a National Public Health Reference Laboratory (NRL), five Regional Laboratories, support for epidemic investigation, and a biobank. [5] However, the Joint External Evaluation Mission Report for Liberia states that as of 2016, there was no national capacity to address AMR. [6] There is evidence which could indicate that the country has some capacity to test for the priority pathogens, but only in certain situations. An article in the African Journal of Laboratory Medicine notes that the Ministry of Health is involved in clinical diagnosis and surveillance activities for a number of diseases including tuberculosis; the article does not specify what role the Ministry plays or who is conducting the testing. [7] The Microbiology Laboratory, part of the National Standards Laboratory of the Ministry of Commerce and Industry, can test for E. coli in food and water.

[1] World Health Organisation. 2018. "Library of national action plans." [<http://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]. Accessed 12 November 2020.

[2] Ministry of Health. [<http://moh.gov.lr/>]. Accessed 12 November 2020.

[3] Ministry of Agriculture, Republic of Liberia. "Planning & Development".

[<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 12 November 2020.

[4] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 12 November 2020.

[5] GHSA Agenda/WHO. September 2016. "Joint External Evaluation of the Republic of Liberia Mission Report".

[<https://web.archive.org/web/20170216023853/https://www.ghsagenda.org/docs/default-source/jee-reports/liberia-jee-report.pdf>]. Accessed 15 November 2020.

[6] Kennedy, Stephen B. et al. October 2016. "Pre-Ebola virus disease laboratory system and related challenges in Liberia", African Journal of Laboratory Medicine. [<https://ajlmonline.org/index.php/ajlm/article/view/508/682>]. Accessed 12 November 2020.

[7] Ministry of Commerce & Industry. 2012. "The Microbiology Laboratory".

[<http://www.moci.gov.lr/2content.php?sub=117&related=1&third=24&pg=tp>]. Accessed 12 November 2020.

### 1.1.1c

**Does the government conduct environmental detection or surveillance activities (e.g., in soil, waterways) for antimicrobial residues or AMR organisms?**

Yes = 1, No = 0

**Current Year Score: 0**

There is no publicly available evidence that Liberia conducts environmental detection or surveillance activities for antimicrobial residues or AMR organisms. There is no available evidence on the Environmental Protection Agency (EPA) website, the Ministry of Foreign Affairs' "An Act Creating the Environment Protection Agency of the Republic of Liberia", which was published on 30 April 2003, or the World Health Organisation's Library of national action plans (Liberia does not have a published National Action Plan). [1,2,3] According to Liberia's Joint External Evaluation Report, conducted in September 2016, Liberia "has not developed any capabilities to address AMR". [4] Neither the Environmental Protection Agency Act nor the EPA's National Biosafety Framework for Liberia includes detection or surveillance activities under the mandate of the EPA. [5,6] There is no available evidence from the Ministry of Health, including the National Health and Social Welfare Policy (2011-2021). [7]

[1] Environmental Protection Agency. [<http://www.epa.gov.lr/>]. Accessed 10 November 2020.

[2] Ministry of Foreign Affairs. 30 April 2003. "An Act Creating the Environment Protection Agency of the Republic of Liberia". [[https://postconflict.unep.ch/liberia/pdf/EPA\\_ACT.pdf](https://postconflict.unep.ch/liberia/pdf/EPA_ACT.pdf)]. Accessed 10 November 2020.

[3] World Health Organisation. 2018. "Library of national action plans." [<http://www.who.int/antimicrobial->

resistance/national-action-plans/library/en/]. Accessed 10 November 2020.

[4] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020.

[5] Ministry of Foreign Affairs. November 2002. "An Act Creating the Environment Protection Agency of the Republic of Liberia". [[https://postconflict.unep.ch/liberia/pdf/EPA\\_ACT.pdf](https://postconflict.unep.ch/liberia/pdf/EPA_ACT.pdf)]. Accessed 10 November 2020

[6] Environmental Protection Agency (EPA) National Biosafety Unit. November 2004. "National Biosafety Framework for Liberia Final Draft". [<https://web.archive.org/web/20170228184722/http://staging.unep.org/biosafety/files/LRNBFrep.pdf>]. Accessed 10 November 2020.

[7] Republic of Liberia, Ministry of Health and Social Welfare. 2017. "National Health and Social Welfare Policy and Plan 2011-2021". [<https://moh.gov.lr/documents/policy/2019/national-health-policy-plan-2011-2021/>]. Accessed 10 November 2020.

## 1.1.2 Antimicrobial control

### 1.1.2a

**Is there national legislation or regulation in place requiring prescriptions for antibiotic use for humans?**

Yes = 2 , Yes, but there is evidence of gaps in enforcement = 1 , No = 0

**Current Year Score: 0**

There is no evidence of a national legislation or regulation requiring prescriptions for antibiotic use for humans in Liberia. No evidence found via Liberia's Joint External Evaluation Report, conducted in September 2016, the World Health Organisation's Library of national action plans (Liberia does not have a published National Action Plan) or the Ministry of Health's National Health and Social Welfare Policy and Plan 2011-2021, though the latter states under section 5.4.3 that monitoring tools should be included to assess percent of prescriptions made with antibiotics. [1,2,3] The Medicines & Health Products Regulatory Authority (LMHRA) Act of 2010 does not include any regulations around prescriptions for antibiotics. Only narcotic drugs or psychotropic substances are said to require prescriptions. [4] Guidelines for prescriptions in National Therapeutic Guidelines do not specify which types of drugs require prescriptions. [5]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020.

[2] World Health Organisation. 2018. "Library of national action plans." [<http://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]. Accessed 10 November 2020.

[3] Ministry of Health Liberia. 2017. "National Health and Social Welfare Policy and Plan 2011-2021". [<https://moh.gov.lr/documents/policy/2019/national-health-policy-plan-2011-2021/>]. Accessed 10 November 2020.

[4] Liberia Medicines & Health Products Regulatory Authority (LMHRA) Act. September 2010. [[https://www.unodc.org/res/cld/document/lbr/medicines-and-health-products-regulatory-authority-act\\_html/Liberia\\_Medicines\\_and\\_Health\\_Products\\_Regulatory\\_Authority\\_LMHRA\\_Act.pdf](https://www.unodc.org/res/cld/document/lbr/medicines-and-health-products-regulatory-authority-act_html/Liberia_Medicines_and_Health_Products_Regulatory_Authority_LMHRA_Act.pdf)]. Accessed 10 November 2020.

[5] Republic of Liberia Ministry for Health and Social Welfare. 2011. "National Therapeutic Guidelines for Liberia and Essential Medicines List". [[www.who.int/medicines/areas/coordination/Liberia.pdf](http://www.who.int/medicines/areas/coordination/Liberia.pdf)]. Accessed 10 November 2020.

### 1.1.2b

**Is there national legislation or regulation in place requiring prescriptions for antibiotic use for animals?**

Yes = 2 , Yes, but there is evidence of gaps in enforcement = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence of national legislation or regulation in place requiring prescriptions for antibiotic use for animals in Liberia. According to Liberia's Joint External Evaluation Report, conducted in September 2016, there is a prescription-based access system to antimicrobials in the Agriculture sector and that "administration of drugs is based on prescription by qualified personnel in Agriculture sector". [1] However this is not specific for antibiotics and does not indicate whether there is a national legislation or regulation for prescribing antibiotics. [1] No evidence was found via the Ministry of Agriculture website. [2] The National Standard Therapeutic Guidelines and Essential Medicines List for 2017 does not provide guidelines for antibiotic use on animals. [3] No evidence was found via the World Health Organisation's Library of national action plans (Liberia does not have a published National Action Plan) or the Ministry of Health's National Health and Social Welfare Policy and Plan 2011-2021, though the latter states under section 5.4.3 that monitoring tools should be included to assess percent of prescriptions made with antibiotics. These however refer to human use. [4,5]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020.

[2] Ministry of Agriculture, Republic of Liberia. "Planning & Development". [<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 10 November 2020.

[3] Ministry of Health, Republic of Liberia. 2017. "2nd Edition National Standard Therapeutic Guidelines and Essential Medicines List". [<https://moh.gov.lr/wp-content/uploads/Liberia-NSTG-EML-2nd-Edition-2017.pdf>]. Accessed 10 November 2020.

[4] World Health Organisation. 2018. "Library of national action plans." [<http://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]. Accessed 11 November 2020.

[5] Ministry of Health Liberia. 2017. "National Health and Social Welfare Policy and Plan 2011-2021". [<https://moh.gov.lr/documents/policy/2019/national-health-policy-plan-2011-2021/>]. Accessed 11 November 2020.

## 1.2 ZOO NOTIC DISEASE

### 1.2.1 National planning for zoonotic diseases/pathogens

#### 1.2.1a

**Is there national legislation, plans, or equivalent strategy documents on zoonotic disease?**

Yes = 1, No = 0

**Current Year Score: 1**

There is evidence of a national legislation, plans, or equivalent strategy documents on zoonotic disease in Liberia. The National Technical Guidelines for Integrated Disease Surveillance and Response are intended to improve surveillance and response with support from the Ministry of Health. The document includes animal-related diseases and is meant to be used by healthworkers, veterinary and wildlife officers and others and includes information on the process to collect, process and store specimens, as well as other details as to how to respond to a suspected disease spillover event from animals to humans. The zoonotic diseases which could transfer to humans mentioned in the plan include rabies through dogs biting humans and viral haemorrhagic fevers (including Ebola) through consumption of bushmeat or other transmission events, Lassa fever etc. These address the surveillance and control of Ebola Virus Disease, Lassa Fever, Marburg Virus Disease and human rabies. [1,2] No additional information was found on the Ministry of Agriculture website or in Liberia's Joint External Evaluation Report, conducted in September 2016. [3,4]

[1] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance]. Accessed 10 May 2021.

[2] Ministry of Health Liberia. May 2016. "Community Event-Based Surveillance Manual for Integrated Disease Surveillance and Response in Liberia". [https://www.medbox.org/document/community-event-based-surveillance-manual-for-integrated-disease-surveillance-and-response-in-liberia#GO]. Accessed 10 May 2021.

[3] Ministry of Agriculture, Republic of Liberia. 2016. "Planning & Development". [http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp]. Accessed 10 May 2021.

[4] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia" [http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1]. Accessed 10 May 2021

### 1.2.1b

**Is there national legislation, plans or equivalent strategy document(s) which includes measures for risk identification and reduction for zoonotic disease spillover events from animals to humans?**

Yes = 1 , No = 0

**Current Year Score: 1**

There is evidence of a national plan which includes measures for risk identification and reduction for zoonotic disease spillover events from animals to humans. The National Technical Guidelines for Integrated Disease Surveillance and Response are intended to improve surveillance and response with support from the Ministry of Health. The document includes animal-related diseases and is meant to be used by healthworkers, veterinary and wildlife officers and others and includes information on the process to collect, process and store specimens, as well as other details as to how to respond to a suspected disease spillover event from animals to humans. The zoonotic diseases which could transfer to humans mentioned in the plan include rabies through dogs biting humans and viral haemorrhagic fevers (including Ebola) through consumption of bushmeat or other transmission events, Lassa fever etc. Some examples of risk reduction mentioned in the guidelines are; for vector-borne diseases, engage the service of experts such as an entomologist in designing appropriate interventions that will reduce exposure to the offending vectors (for example, for mosquito borne-illness) and work with the malaria control program in the respective district to implement an insecticide treated nets (ITNs) program, conduct community education on the proper use of bed nets and how to avoid dusk-todawn mosquito bites, promote the use of locally available ITNs and other insecticide treated materials (blankets, clothes, sheets, curtains, etc.). Other measures are encouraging prevention of diseases carried by rodents by helping people reduce their exposure to these animals. For example, rodents can transmit the virus that causes Lassa fever or they may be infested with fleas that carry plague. The vector control officer along with responsible members in the community can encourage the community to avoid contact with the rodents, urines, droppings and other secretions, keep food and water in the home covered to prevent contamination by rodents, keep the home and cooking area clean and tidy to reduce possibilities of rodents nesting in the room, use chemicals (insecticides, rodenticides, larvicides etc.) and traps as appropriate based on environmental and entomological assessment to reduce spillover of the disease from these vectors/reservoirs to humans. The Community Event Based Surveillance program also includes community triggers for animal-health events, with notification and engagement of the community and health sector. [1,2] No additional information was found on the Ministry of Agriculture website or in Liberia's Joint External Evaluation Report, conducted in September 2016. [3,4]

[1] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance]. Accessed 10 May 2021.

[2] Ministry of Health Liberia. May 2016. "Community Event-Based Surveillance Manual for Integrated Disease Surveillance

and Response in Liberia". [<https://www.medbox.org/document/community-event-based-surveillance-manual-for-integrated-disease-surveillance-and-response-in-liberia#GO>]. Accessed 10 May 2021.

[3] Ministry of Agriculture, Republic of Liberia. 2016. "Planning & Development".

[<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 10 May 2021.

[4] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia" [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 May 2021

### 1.2.1c

**Is there national legislation, plans, or guidelines that account for the surveillance and control of multiple zoonotic pathogens of public health concern?**

Yes = 1 , No = 0

**Current Year Score: 1**

Liberia has a national plan that accounts for the surveillance and control of multiple zoonotic pathogens of public health concern. These can be found in the following two Ministry of Health documents: National Technical Guidelines for Integrated Disease Surveillance & Response and Community Event-Based Surveillance Manual for Integrated Disease Surveillance and Response in Liberia. These address the surveillance and control of Ebola Virus Disease, Lassa Fever, Marburg Virus Disease and human rabies. [1,2] The National Technical Guidelines for Integrated Disease Surveillance and Response are intended to support improvement of surveillance and response with support from the Ministry of Health. The document includes animal-related diseases and are meant to be used by healthworkers, veterinary and wildlife officers and others and includes information on the process to collect, process and store specimens, as well as other details as to how to respond to a suspected event. The zoonotic diseases mentioned in the plan include rabies and viral haemorrhagic fevers (including Ebola). The Community Event Based Surveillance programme includes community triggers for animal-health events, with notification and engagement of the community and health sector. [1] No additional information was found on the Ministry of Agriculture website or in Liberia's Joint External Evaluation Report, conducted in September 2016. [3,4]

[1] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [<https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance>]. Accessed 7 November 2020.

[2] Ministry of Health Liberia. May 2016. "Community Event-Based Surveillance Manual for Integrated Disease Surveillance and Response in Liberia". [<https://www.medbox.org/document/community-event-based-surveillance-manual-for-integrated-disease-surveillance-and-response-in-liberia#GO>]. Accessed 7 November 2020.

[3] Ministry of Agriculture, Republic of Liberia. 2016. "Planning & Development".

[<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 7 November 2020.

[4] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia" [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 7 November 2020.

### 1.2.1d

**Is there a department, agency, or similar unit dedicated to zoonotic disease that functions across ministries?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence of a department, agency or similar unit dedicated to zoonotic disease that functions across ministries in Liberia. Liberia's Joint External Evaluation Report, conducted in September 2016, reported that "collaboration in information-sharing between the Ministry of Health and Ministry of Agriculture is weak." [1] There is no evidence on the Ministry of Agriculture website that this has been addressed, nor is there any mention of such an agency in the National Technical Guidelines for Integrated Disease Surveillance & Response document. [2,3] There is no publicly available evidence found via the Ministry of Health website. [4]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 7 November 2020.

[2] Ministry of Agriculture, Republic of Liberia. [<http://www.moa.gov.lr/>]. Accessed 7 November 2020.

[3] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [<https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance>]. Accessed 7 November 2020.

[4] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 14 November 2020.

## 1.2.2 Surveillance systems for zoonotic diseases/pathogens

### 1.2.2a

**Does the country have a national mechanism (either voluntary or mandatory) for owners of livestock to conduct and report on disease surveillance to a central government agency?**

Yes = 1, No = 0

**Current Year Score: 0**

There is no publicly available evidence that Liberia has a national mechanism for owners of livestock to conduct and report on disease surveillance to a central government agency. While Liberia's Integrated Disease Surveillance and Response (IDSR) programme indicates that zoonotic diseases in humans may be reported through the IDSR mechanism when community health workers consult with animal health workers, mechanisms for livestock owners to specifically report diseases were not found in Liberia's Joint External Evaluation Report, conducted in September 2016, nor the Ministries of Health and Agriculture. [1,2,3,4,5] The National Technical Guidelines for Integrated Disease Surveillance & Response and Community Event-Based Surveillance Manual for Integrated Disease Surveillance and Response in Liberia address the surveillance and control of Ebola Virus Disease, Lassa Fever, Marburg Virus Disease and human rabies. [3,4]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 7 November 2020.

[2] Ministry of Agriculture, Republic of Liberia. "Planning & Development". [<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 7 November 2020.

[3] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [<https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance>]. Accessed 7 November 2020.

[4] Ministry of Health Liberia. May 2016. "Community Event-Based Surveillance Manual for Integrated Disease Surveillance and Response in Liberia". [<https://www.medbox.org/document/community-event-based-surveillance-manual-for-integrated-disease-surveillance-and-response-in-liberia#GO>]. Accessed 7 November 2020.

[5] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 14 November 2020.

### 1.2.2b

**Is there legislation and/or regulations that safeguard the confidentiality of information generated through surveillance activities for animals (for owners)?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence of laws or guidelines that safeguard the confidentiality of information generated through surveillance activities for animals (for owners) in Liberia. There is no evidence of safeguards in Liberia's Joint External Evaluation Report, conducted in September 2016, nor on the websites of the Ministry of Health and Ministry of Agriculture (Liberia does not have a publicly available OIE PVS evaluation report). [1,2,3] The Ministry of Health's National Technical Guidelines for Integrated Disease Surveillance & Response, published in June 2016, does not include any reference to safeguarding the confidentiality of information. The National Technical Guidelines for Integrated Disease Surveillance & Response addresses the surveillance and control of Ebola Virus Disease, Lassa Fever, Marburg Virus Disease and human rabies. [4] The general Health Management Information Systems policy has data confidentiality guidelines, but it is unclear whether these extend to surveillance. [5]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020.

[2] Ministry of Agriculture, Republic of Liberia. "Planning & Development".

[<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 10 November 2020.

[3] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 14 November 2020.

[4] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [<https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance>]. Accessed 10 November 2020.

[5] The Ministry of Health and Social Welfare. June 2009. "National Management Information Systems Policy".

[<http://liberiamohsw.org/Policies%20&%20Plans/Final.HMIS.policy.07.07.09.doc>]. Accessed 13 November 2020.

### 1.2.2c

**Does the country conduct surveillance of zoonotic disease in wildlife (e.g., wild animals, insects, other disease vectors)?**

Yes = 1 , No = 0

**Current Year Score: 1**

Liberia conducts surveillance of zoonotic disease in wildlife. According to Liberia's Joint External Evaluation Report, conducted in September 2016, surveillance of zoonotic viruses at the interface between human and domestic animals and wildlife is conducted with support from the PREDICT programme, FAO, and preparedness and response programmes. [1] The PREDICT project is focussed on building capacities for zoonotic surveillance. [2,3] The PREDICT program focused on sampling bats to test for Ebola and other filoviruses. According to the National Technical Guidelines for IDSR, wildlife warders are part of the epidemiology/laboratory subcommittee responsible for conducting active surveillance. [4]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 7 November 2020.

[2] UC Davis School of Veterinary Medicine. "USAID | PREDICT". [<https://ohi.vetmed.ucdavis.edu/programs-projects/predict-project>]. Accessed 7 November 2020.

[3] UC Davis School of Veterinary Medicine. "PREDICT 2019 Semiannual Report". [<https://ohi.vetmed.ucdavis.edu/programs-projects/predict-project/reports>]. Accessed 7 November 2020.

[4] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [<https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance>]. Accessed 7 November 2020.

## 1.2.3 International reporting of animal disease outbreaks

### 1.2.3a

Has the country submitted a report to OIE on the incidence of human cases of zoonotic disease for the last calendar year?

Yes = 1 , No = 0

Current Year Score: 0

2019

OIE WAHIS database

## 1.2.4 Animal health workforce

### 1.2.4a

Number of veterinarians per 100,000 people

Input number

Current Year Score: -

No data available

OIE WAHIS database

### 1.2.4b

Number of veterinary para-professionals per 100,000 people

Input number

Current Year Score: -

No data available

OIE WAHIS database

## 1.2.5 Private sector and zoonotic

### 1.2.5a

Does the national plan on zoonotic disease or other legislation, regulations, or plans include mechanisms for working with the private sector in controlling or responding to zoonoses?

Yes = 1 , No = 0

**Current Year Score: 1**

The national plan on zoonotic disease includes mechanisms for working with the private sector in controlling or responding to zoonoses in Liberia. According to Liberia's Joint External Evaluation Report conducted in September 2016, there is a memoranda of understanding (MoU) in place between the Ministry of Agriculture and private veterinary facilities for animal health. [1] In addition, the National Technical Guidelines for Integrated Disease Surveillance & Response (ISDR) addresses working with the private sector under Annex 5A, via a County Epidemic Preparedness and Response Committee, which they recommend should include a mix of representatives from the public, non-governmental organisations (NGO) and private sectors. [2]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 7 November 2020.

[2] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [<https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance>]. Accessed 7 November 2020.

## 1.3 BIOSECURITY

### 1.3.1 Whole-of- government biosecurity systems

#### 1.3.1a

**Does the country have in place a record, updated within the past five years, of the facilities in which especially dangerous pathogens and toxins are stored or processed, including details on inventories and inventory management systems of those facilities?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient publicly available evidence to conclude that Liberia has in place a record, updated within the past 5 years, of the facilities in which especially dangerous pathogens and toxins are stored or processed, including details on inventories and inventory management systems of those facilities. While there is evidence of inventory management for Ebola samples, there is insufficient evidence of inventory record keeping for other pathogens. Liberia's Joint External Evaluation Report, conducted in September 2016, states that there is a catalog of the specimens collected during the 2014/2015 Ebola outbreak, and "storage of infectious specimens is consolidated at the National Reference Laboratory". However, the report also notes as a recommended action for the country that "it is important to identify the locations of high-risk pathogens and to secure them in a minimum number of facilities." [1] The National Health Laboratory System in Liberia has a biobank for biological or medical data and tissue samples for research purposes, but its website is no longer accessible. [2] The Joint Annual Health Sector Review Report, published in 2016, which set targets to build the National Reference Laboratory and biobank in Liberia does not provide any additional information regarding the record-keeping or the level of details on inventories and management systems of this facility. [3] There is no information found on the Ministry of Agriculture or the Ministry of Defence websites. [4,5] Although Liberia is party to the Biological Weapons Convention, there is no public evidence that it has submitted Confidence-Building Measures reports. [6] No relevant documentation was found in the Verification Research, Training and Information Centre (VERTIC) database. [7]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed

10 November 2020

[2] National Public Health Institute of Liberia. "Laboratory and Public Health Diagnostics".

[<http://nationalphil.org/index.php/laboratory-and-public-health-diagnostics/>]. Not accessible as of 12 November 2020.

[3] Ministry of Health Liberia. 2016. "Joint Annual Health Sector Review Report: National Health Sector Investment Plan for Building a Resilient Health System".

[[https://web.archive.org/web/20190214120119/http://www.seejph.com:80/public/books/Joint\\_Annual\\_Health\\_Sector\\_Review\\_Report\\_2016.pdf](https://web.archive.org/web/20190214120119/http://www.seejph.com:80/public/books/Joint_Annual_Health_Sector_Review_Report_2016.pdf)]. Accessed 11 November 2020

[4] Ministry of Agriculture, Republic of Liberia. [<http://www.moa.gov.lr/>]. Accessed 11 November 2020

[5] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 November 2020.

[6] United Nations. "Confidence Building Measures: Liberia". [<https://bwc-ecbm.unog.ch/state/liberia>]. Accessed 12 November 2020.

[7] Verification Research, Training and Information Centre (VERTIC) database. "Biological Weapons and Materials."

[<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>] Accessed 2 December 2020.

### 1.3.1b

**Does the country have in place legislation and/or regulations related to biosecurity which address requirements such as physical containment, operation practices, failure reporting systems, and/or cybersecurity of facilities in which especially dangerous pathogens and toxins are stored or processed?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that Liberia has in place legislation and/or regulations related to biosecurity which address requirements such as physical containment, operation practices, failure reporting systems and/or cybersecurity of facilities in which especially dangerous pathogens and toxins are stored or processed. According to Liberia's Joint External Evaluation Report, conducted in September 2016, Liberia does not have a national biosecurity legislation, regulation or framework. The JEE report states that "the Environmental Protection Agency provides overall legislation and regulations for compliance with biosafety and biosecurity". [1] However, no information was found on the Liberia Environmental Protection Agency's "Conventions and Protocols" webpage that details biosecurity requirements. [2] The last relevant documentation from 2012 was not finalised. The World Bank assisted with biosafety guidelines in 2009 as a supplement to the regulations of the Environmental Protection Agency, but these are not implemented and have remained as drafts. [2,3] The Environmental Protection Agency indicates that Liberia has been a party to the Cartagena Protocol on Biosafety since 2000, which is referenced in the draft National Biosafety Framework as requiring public information relating to storage of modified organisms, but there is no indication that legislation or measures are in place regarding this. In any case, the Cartagena Protocol deals only with biosafety, and not biosecurity; at that, it is focused on genetically modified organisms and not on dangerous pathogens. [2] No evidence was found via the websites of Ministry of Health, the Ministry of Agriculture, or the Ministry of Defence, nor in the VERTIC database. [4,5,6,7] Although Liberia is party to the Biological Weapons Convention, there is no public evidence that it has submitted Confidence-Building Measures reports. [8]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020.

[2] Liberia Environmental Protection Agency. "Conventions and Protocols". [<http://www.epa.gov.lr/?q=content/convention-protocol#overlay-context=content/convention-protocol%3Fq%3Dcontent/convention-protocol>]. Accessed 12 November 2020.

[3] Environmental Protection Agency (EPA). National Biosafety Unit. November 2004. "National Biosafety Framework for

Liberia Final Draft". [<https://web.archive.org/web/20170228184722/http://staging.unep.org/biosafety/files/LRNBFrep.pdf>]. Accessed November 2020.

[4] Ministry of Health Liberia. Policy Documents [<https://moh.gov.lr/documents/policy-documents/>]. Accessed 11 November 2020.

[5] Ministry of Agriculture, Republic of Liberia. "Planning & Development". [<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 10 November 2020.

[6] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 November 2020.

[7] VERTIC. [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>]. Accessed 13 November 2020.

[8] United Nations. "Confidence Building Measures: Liberia". [<https://bwc-ecbm.unog.ch/state/liberia>]. Accessed 22 November 2020.

### 1.3.1c

**Is there an established agency (or agencies) responsible for the enforcement of biosecurity legislation and regulations?**

Yes = 1, No = 0

**Current Year Score: 0**

There is no evidence of Liberia having an established agency responsible for the enforcement of biosecurity legislation and regulations. Liberia does not have in place legislation and/or regulations related to biosecurity which address requirements such as physical containment, operation practices, failure reporting systems and/or cybersecurity of facilities in which especially dangerous pathogens and toxins are stored or processed. According to Liberia's Joint External Evaluation Report, conducted in September 2016, Liberia does not have a national biosecurity legislation, regulation or framework and states that "The Environmental Protection Agency provides overall legislation and regulations for compliance with biosafety and biosecurity. Although a draft national environmental health policy exists, it is not comprehensive and needs to be updated. In addition, there are no national biosecurity or biosafety legislation, regulations or frameworks and no official biosafety or biosecurity monitoring". [1] No information was found on the general Liberia Environmental Protection Agency "Conventions and Protocols" webpage that details biosecurity requirements or their enforcement. [2] No further evidence was found via the websites of the Ministry of Health, the Ministry of Agriculture or the Ministry of Defence. [3,4,5] Although Liberia is party to the Biological Weapons Convention, there is no public evidence that it has submitted Confidence-Building Measures reports. [6] No relevant documentation was found in the Verification Research, Training and Information Centre (VERTIC) database. [7]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020

[2] Liberia Environmental Protection Agency. "Conventions and Protocols". [<http://www.epa.gov.lr/?q=content/convention-protocol#overlay-context=content/convention-protocol%3Fq%3Dcontent/convention-protocol>]. Accessed 12 November 2020

[3] Ministry of Health Liberia. [<http://moh.gov.lr>]. Accessed 11 November 2020

[4] Ministry of Agriculture, Republic of Liberia. "Planning & Development". [<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 10 November 2020

[5] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 November 2020.

[6] United Nations. "Confidence Building Measures: Liberia". [<https://bwc-ecbm.unog.ch/state/liberia>]. Accessed 12 November 2020.

[7] Verification Research, Training and Information Centre (VERTIC) database. "Biological Weapons and Materials." [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>] Accessed 2 December 2020

2020.

### 1.3.1d

**Is there public evidence that shows that the country has taken action to consolidate its inventories of especially dangerous pathogens and toxins into a minimum number of facilities?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no public evidence that shows that Liberia has taken action to consolidate its inventories of especially dangerous pathogens and toxins into a minimum number of facilities. According to Liberia's Joint External Evaluation Report, conducted in September 2016, it is important for Liberia "to identify the locations of high-risk pathogens and to secure them in a minimum number of facilities". [1] However, there is no public evidence on the websites of the Ministry of Health, the Ministry of Agriculture or the Ministry of Defence that suggest the country has taken this action as of the time of research, nor is there any evidence on the websites for the National Public Health Institute of Liberia. [2,3,4,5] Although Liberia is party to the Biological Weapons Convention, there is no public evidence that it has submitted Confidence-Building Measures reports. [6] No relevant documentation was found in the Verification Research, Training and Information Centre (VERTIC) database. [7]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020.

[2] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 11 November 2020.

[3] Ministry of Agriculture, Republic of Liberia. [<http://www.moa.gov.lr/>]. Accessed 11 November 2020.

[4] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 November 2020.

[5] National Public Health Institute of Liberia. [<http://nationalphil.org/>]. Accessed 12 November 2020.

[6] United Nations. "Confidence Building Measures: Liberia". [<https://bwc-ecbm.unog.ch/state/liberia>]. Accessed 22 November 2020.

[7] Verification Research, Training and Information Centre (VERTIC) database. "Biological Weapons and Materials." [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>] Accessed 2 December 2020.

### 1.3.1e

**Is there public evidence of in-country capacity to conduct Polymerase Chain Reaction (PCR)-based diagnostic testing for anthrax and/or Ebola, which would preclude culturing a live pathogen?**

Yes = 1 , No = 0

**Current Year Score: 1**

There is public evidence of in-country capacity to conduct Polymerase Chain Reaction (PCR)-based diagnostic testing for Ebola in Liberia, which precludes culturing a live pathogen. The Liberian Institute for Biomedical Research as well as regional laboratories can test for Ebola, with the Liberian National Reference Laboratory providing containment and PCR diagnostic capabilities. [1] Liberia's Joint External Evaluation Report, conducted in September 2016, notes that due to the recent Ebola outbreak, there has been a move towards polymerase chain reaction and serology methods to remove the need for culturing, and the country no longer relies on foreign personnel for this testing. [2]

[1] USAID. "The fight on Ebola Continues in the Lab." [https://blog.usaid.gov/tag/liberian-institute-for-biomedical-research/]. Accessed 12 November 2020.

[2] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1]. Accessed 10 November 2020.

## 1.3.2 Biosecurity training and practices

### 1.3.2a

**Does the country require biosecurity training, using a standardized, required approach, such as through a common curriculum or a train-the-trainer program, for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that Liberia requires biosecurity training, using a standardised, required approach for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential. According to Liberia's Joint External Evaluation Report, conducted in September 2016, training programs are often supported by partners and are therefore not nationally coordinated. [1] There is no public evidence of new requirements for biosecurity training on the websites of the Ministry of Health or the Ministry of Agriculture. [2,3] In 2016, EMPHNET conducted two training courses that covered biosafety and biosecurity measures. [4] The Environmental Protection Agency provides overall legislation and regulations around biosafety and biosecurity, but no mandated training programmes were found. [5] Although Liberia is party to the Biological Weapons Convention, there is no public evidence that it has submitted Confidence-Building Measures reports. [6] No relevant documentation was found in the Verification Research, Training and Information Centre (VERTIC) database. [7]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1]. Accessed 12 November 2020.

[2] Ministry of Health Liberia. [http://moh.gov.lr/]. Accessed 12 November 2020.

[3] Ministry of Agriculture, Republic of Liberia. "Planning & Development".

[http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp]. Accessed 12 November 2020.

[4] EMPHNET. 12 June 2016. "EMPHNET Conducts Back-To-Back Training Courses for Liberian and Guinean Laboratory Personnel and Biosecurity Officers". [http://emphnet.net/?news=emphnet-conducts-back-to-back-training-courses-for-liberian-and-guinean-laboratory-personnel-and-biosecurity-officers]. Accessed 19 November 2020.

[5] Government of the Republic of Liberia Environmental Protection Agency, "Who the EPA are".

[http://postconflict.unep.ch/liberia/index\_2a.php?m=2&sm=2a]. Accessed 31 November 2020.

[6] United Nations. "Confidence Building Measures: Liberia". [https://bwc-ecbm.unog.ch/state/liberia]. Accessed 12 November 2020.

[7] Verification Research, Training and Information Centre (VERTIC) database. "Biological Weapons and Materials."

[https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/] Accessed 2 December 2020.

### 1.3.3 Personnel vetting: regulating access to sensitive locations

#### 1.3.3a

**Do regulations or licensing conditions specify that security and other personnel with access to especially dangerous pathogens, toxins, or biological materials with pandemic potential are subject to the following checks: drug testing, background checks, and psychological or mental fitness checks?**

Personnel are subject to all three of these checks = 3, Personnel are subject to two of these checks = 2, Personnel are subject to one of these checks = 1, Personnel are not subject to any of these checks = 0

**Current Year Score: 0**

There is no publicly available evidence of any regulations or licensing conditions specifying that security and other personnel with access to especially dangerous pathogens, toxins, or biological materials with pandemic potential are subject to the following checks: drug testing, background checks, and psychological or mental fitness checks. Liberia does not have in place national biosafety legislation and/or regulation. According to Liberia's Joint External Evaluation Report, conducted in September 2016, there is no national biosecurity regulation, but there are a number of documents in draft form, such as the National Environmental and Occupational Health Policy (2010), the five-year Laboratory Strategic Plan (2016), the National Laboratory Policy (2011), the Biosafety Manual (2012) and the National Infection Protection and Control Guidelines (2016). It is possible that these draft documents may contain guidelines around research on biological materials with epidemic potential, but these documents are not publicly available. [1] The draft National Biosafety Framework for Liberia does not discuss checks on those dealing with biological materials. [2] No information was found on the Ministry of Agriculture or the Ministry of Defence websites. [3,4] Although Liberia is party to the Biological Weapons Convention, there is no public evidence that it has submitted Confidence-Building Measures reports. [5] No relevant documentation was found in the Verification Research, Training and Information Centre (VERTIC) database. [6]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020

[2] Liberia Environmental Protection Agency (EPA). November 2004. "National Biosafety Framework for Liberia." [[https://web.archive.org/web/20200115140705/https://unep.ch/biosafety/old\\_site/development/Countryreports/LRNBFrep.pdf](https://web.archive.org/web/20200115140705/https://unep.ch/biosafety/old_site/development/Countryreports/LRNBFrep.pdf)]. Accessed 12 November 2020.

[3] Ministry of Agriculture, Republic of Liberia. [<http://www.moa.gov.lr/>]. Accessed 11 November 2020

[4] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 November 2020.

[5] United Nations. "Confidence Building Measures: Liberia". [<https://bwc-ecbm.unog.ch/state/liberia>]. Accessed 22 November 2020.

[6] Verification Research, Training and Information Centre (VERTIC) database. "Biological Weapons and Materials." [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>] Accessed 2 December 2020.

### 1.3.4 Transportation security

#### 1.3.4a

**Does the country have publicly available information on national regulations on the safe and secure transport of infectious substances (specifically including Categories A and B)?**

Yes = 1, No = 0

**Current Year Score: 0**

There is no publicly available information found on national regulations on the safe and secure transport of infectious substances (Categories A and B). Neither Liberia's Joint External Evaluation Report, conducted in September 2016, nor the websites of the Ministry of Health, Ministry of Agriculture, Ministry of Defence, Ministry of Transport, the Standards and Trade Development Facility, or the Environmental Protection Agency website provide any evidence. [1,2,3,4,5,6,7,8] Although Liberia is party to the Biological Weapons Convention, there is no public evidence that it has submitted Confidence-Building Measures reports. [9] No relevant documentation was found in the Verification Research, Training and Information Centre (VERTIC) database. [10]

- [1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020
- [2] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 11 November 2020
- [3] Ministry of Agriculture, Republic of Liberia. "Planning & Development". [<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 10 November 2020
- [4] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 November 2020
- [5] Ministry of Transport. [<http://mot.gov.lr/2content.php?sub=14&related=7&third=14&pg=sp&pt=Publications%20and%20Documents>]. Accessed 12 November 2020
- [6] Government of the Republic of Liberia Environmental Protection Agency. "Who the EPA are". [[http://postconflict.unep.ch/liberia/index\\_2a.php?m=2&sm=2a](http://postconflict.unep.ch/liberia/index_2a.php?m=2&sm=2a)]. Accessed 12 November 2020
- [7] Standards and Trade Development Facility (STDF). August 2010. "Country Situation Report: Republic of Liberia, Assessment of the biosecurity/ Sanitary and Phytosanitary (food safety, animal and plant health) situation in Liberia". [[http://www.standardsfacility.org/sites/default/files/STDF\\_PPG\\_324\\_BiosecSituationReport\\_Sep-10.pdf](http://www.standardsfacility.org/sites/default/files/STDF_PPG_324_BiosecSituationReport_Sep-10.pdf)]. Accessed 12 November 2020.
- [8] United Nations. "Confidence Building Measures: Liberia". [<https://bwc-ecbm.unog.ch/state/liberia>]. Accessed 12 November 2020.
- [10] Verification Research, Training and Information Centre (VERTIC) database. "Biological Weapons and Materials". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>] Accessed 2 December 2020.

### 1.3.5 Cross-border transfer and end-user screening

#### 1.3.5a

**Is there legislation and/or regulations in place to oversee the cross-border transfer and end-user screening of especially dangerous pathogens, toxins, and pathogens with pandemic potential?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence of national legislation, regulation, or other guidance in place to oversee the cross-border transfer and end-user screening of especially dangerous pathogens, toxins and pathogens with pandemic potential exists in Liberia. Liberia's Joint External Evaluation Report, conducted in September 2016, named the following as one of the key areas for improvement: "cross-border collaboration/initiatives should be addressed during the development of the multihazard national public health emergency preparedness and response plan", though this is not specifically referencing the transfer and end-user screening of pathogens. [1] No specific information on the cross-border transfer and end-user screening of substances with pandemic potential was found in the "Handbook for Operating Businesses in Liberia: A guide to procedures and processes at the Ministry of Commerce & Industry", published in August 2010 by the Liberia Ministry of

Commerce and Industry. [2] According to the US National Institute of Allergy and Infectious Diseases, while information on the role of the Liberia Medicines and Health Products Regulatory Authority (LMHRA) in approving the import and export of biological specimens is unavailable, the LMHRA's Guidelines for Application to Conduct Clinical Trials in Liberia (Feb 2014) states that a Material Transfer Agreement (MTA) must be presented to the LMHRA for transfer of materials. The University of Liberia-Pacific Institute for Research and Evaluation Institutional Review Board (UL-PIRE-IRB) also requires an MTA with the sponsor, local institution, and other related parties before biological samples can be exported. However, none of these include details regarding especially dangerous pathogens. [3] No information found via the following Ministry websites: the Ministry of Health, the Ministry of Defence and the Ministry of Agriculture. [4,5,6] Although Liberia is party to the Biological Weapons Convention, there is no public evidence that it has submitted Confidence-Building Measures reports. [7] No relevant documentation was found in the Verification Research, Training and Information Centre (VERTIC) database. [8]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020

[2] Liberia Ministry of Commerce and Industry. August 2010. "Handbook for Operating Businesses in Liberia: A guide to procedures and processes at the Ministry of Commerce & Industry".

[<http://photos.state.gov/libraries/liberia/231771/PDFs/Business%20Handbook.pdf>]. Accessed 12 November 2020

[3] US Department of Health & Human Services, National Institute of Allergy and Infectious Diseases. August 2017.

"Specimens, Import & Export". [[https://clinregs.niaid.nih.gov/single\\_country.php?c\\_id=122#import\\_&\\_export](https://clinregs.niaid.nih.gov/single_country.php?c_id=122#import_&_export)]. Accessed 12 November 2020

[4] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 11 November 2020

[5] Ministry of Agriculture, Republic of Liberia. "Planning & Development".

[<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 10 November 2020

[6] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 November 2020.

[7] United Nations. "Confidence Building Measures: Liberia". [<https://bwc-ecbm.unog.ch/state/liberia>]. Accessed 22 November 2020.

[8] Verification Research, Training and Information Centre (VERTIC) database. "Biological Weapons and Materials."

[<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>] Accessed 2 December 2020.

## 1.4 BIOSAFETY

### 1.4.1 Whole-of-government biosafety systems

#### 1.4.1a

Does the country have in place national biosafety legislation and/or regulations?

Yes = 1, No = 0

**Current Year Score: 0**

There is no evidence that Liberia has in place national biosafety legislation and/or regulations. There is a National Biosafety Framework in a final draft form, though the extent to which it is followed or implemented is unclear. [1] However, the most recent text demonstrates that the document only covers GMOs, not laboratory biosafety for especially dangerous pathogens or pathogens with pandemic potential. According to the Liberia's Joint External Evaluation Report, conducted in September 2016, and an assessment of the biosecurity/sanitary and phytosanitary situation in Liberia, there are a number of documents relating to biosafety in draft form, including the Biosafety Manual (2012), the Draft Biosafety Policy under the Environmental Protection Agency, and the Draft Biosafety Act (2004). It seems these documents have remained in draft form and may be

outdated. [2, 3] Although Liberia is party to the Biological Weapons Convention, there is no public evidence that it has submitted Confidence-Building Measures reports. [4] No relevant documentation was found in the Verification Research, Training and Information Centre (VERTIC) database. [5]

[1] Liberia Environmental Protection Agency (EPA). November 2004. "National Biosafety Framework for Liberia." [[https://web.archive.org/web/20200115140705/https://unep.ch/biosafety/old\\_site/development/Countryreports/LRNBFrep.pdf](https://web.archive.org/web/20200115140705/https://unep.ch/biosafety/old_site/development/Countryreports/LRNBFrep.pdf)]. Accessed 12 November 2020.

[2] The Standards and Trade Development Facility. August 2010. "Assessment of the biosecurity/ Sanitary and Phytosanitary (food safety, animal and plant health) situation in Liberia".

[[http://www.standardsfacility.org/sites/default/files/STDF\\_PPG\\_324\\_BiosecSituationReport\\_Sep-10.pdf](http://www.standardsfacility.org/sites/default/files/STDF_PPG_324_BiosecSituationReport_Sep-10.pdf)]. Accessed 12 November 2020.

[3] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020.

[4] United Nations. "Confidence Building Measures: Liberia". [<https://bwc-ecbm.unog.ch/state/liberia>]. Accessed 12 November 2020.

[5] Verification Research, Training and Information Centre (VERTIC) database. "Biological Weapons and Materials." [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>] Accessed 2 December 2020.

### 1.4.1b

#### Is there an established agency responsible for the enforcement of biosafety legislation and regulations?

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that Liberia has an established agency responsible for the enforcement of biosafety legislation and regulations. Liberia does not have in place national biosafety legislation and/or regulations. There is a National Biosafety Framework in a final draft form, though the extent to which it is followed or implemented is unclear. [1] However, the most recent text demonstrates that the document only covers GMOs, not laboratory biosafety for especially dangerous pathogens or pathogens with pandemic potential. According to the Liberia's Joint External Evaluation Report, conducted in September 2016, and an assessment of the biosecurity/sanitary and phytosanitary situation in Liberia, there are a number of documents relating to biosafety in draft form, including the Biosafety Manual (2012), the Draft Biosafety Policy under the Environmental Protection Agency, and the Draft Biosafety Act (2004). It seems these documents have remained in draft form and may be outdated. [2, 3] Although Liberia is party to the Biological Weapons Convention, there is no public evidence that it has submitted Confidence-Building Measures reports. [4] No relevant documentation was found in the Verification Research, Training and Information Centre (VERTIC) database. [5]

[1] Liberia Environmental Protection Agency (EPA). November 2004. "National Biosafety Framework for Liberia." [[https://web.archive.org/web/20200115140705/https://unep.ch/biosafety/old\\_site/development/Countryreports/LRNBFrep.pdf](https://web.archive.org/web/20200115140705/https://unep.ch/biosafety/old_site/development/Countryreports/LRNBFrep.pdf)]. Accessed 12 November 2020.

[2] The Standards and Trade Development Facility. August 2010. "Assessment of the biosecurity/ Sanitary and Phytosanitary (food safety, animal and plant health) situation in Liberia".

[[http://www.standardsfacility.org/sites/default/files/STDF\\_PPG\\_324\\_BiosecSituationReport\\_Sep-10.pdf](http://www.standardsfacility.org/sites/default/files/STDF_PPG_324_BiosecSituationReport_Sep-10.pdf)]. Accessed 12 November 2020.

[3] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed

10 November 2020.

[4] United Nations. "Confidence Building Measures: Liberia". [<https://bwc-ecbm.unog.ch/state/liberia>]. Accessed 12 November 2020.

[5] Verification Research, Training and Information Centre (VERTIC) database. "Biological Weapons and Materials." [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>] Accessed 2 December 2020.

## 1.4.2 Biosafety training and practices

### 1.4.2a

**Does the country require biosafety training, using a standardized, required approach, such as through a common curriculum or a train-the-trainer program, for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that Liberia requires biosafety training, using a standardised, required approach for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential. There is no mention of such standardised training found in Liberia's Joint External Evaluation Report, conducted in September 2016, or the websites of the Ministry of Health or Ministry of Agriculture. [1,2,3] In 2016, EMPHNET conducted two training courses that covered biosafety and biosecurity measures. [4] Liberia's "National Biosafety Framework for Liberia Final Draft" from 2004 only includes a brief mention of training for staff involved in biosafety. [5] Although Liberia is party to the Biological Weapons Convention, there is no public evidence that it has submitted Confidence-Building Measures reports. [6] No relevant documentation was found in the Verification Research, Training and Information Centre (VERTIC) database. [7]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 12 November 2020.

[2] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 12 November 2020.

[3] Ministry of Agriculture, Republic of Liberia. "Planning & Development".

[<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 12 November 2020.

[4] EMPHNET. 12 June 2016. "EMPHNET Conducts Back-To-Back Training Courses for Liberian and Guinean Laboratory Personnel and Biosecurity Officers". [<http://emphnet.net/?news=emphnet-conducts-back-to-back-training-courses-for-liberian-and-guinean-laboratory-personnel-and-biosecurity-officers>]. Accessed 19 November 2020.

[5] Environmental Protection Agency (EPA) National Biosafety Unit. November 2004. "National Biosafety Framework for Liberia Final Draft" [<https://web.archive.org/web/20170228184722/http://staging.unep.org/biosafety/files/LRNBFrep.pdf>]. Accessed 19 November 2020.

[6] United Nations. "Confidence Building Measures: Liberia". [<https://bwc-ecbm.unog.ch/state/liberia>]. Accessed 22 November 2020.

[7] Verification Research, Training and Information Centre (VERTIC) database. "Biological Weapons and Materials." [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>] Accessed 2 December 2020.

## 1.5 DUAL-USE RESEARCH AND CULTURE OF RESPONSIBLE SCIENCE

### 1.5.1 Oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research

#### 1.5.1a

Is there publicly available evidence that the country has conducted an assessment to determine whether ongoing research is occurring on especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research?

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Liberia has conducted an assessment to determine whether ongoing dual use research is occurring, including on especially dangerous pathogens, toxins, pathogens with pandemic potential. The National Public Health Institute of Liberia, under the Ministry of Health, has the mandate to "expand, conduct and coordinate public health and medical research" in the country. However, there is no publicly available information on assessments of ongoing dual-use research on the websites of the Ministry of Health, the Ministry of Defence or the Ministry of Agriculture. [1,2,3] There is no mention of such an assessment in Liberia's Joint External Evaluation Report, conducted in September 2016. [4] Although Liberia is party to the Biological Weapons Convention, there is no public evidence that it has submitted Confidence-Building Measures reports. [5] No relevant documentation was found in the Verification Research, Training and Information Centre (VERTIC) database. [6]

[1] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 11 November 2020.

[2] Ministry of Agriculture, Republic of Liberia. "Planning & Development".

[<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 10 November 2020.

[3] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 November 2020.

[4] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020.

[5] United Nations. "Confidence Building Measures: Liberia". [<https://bwc-ecbm.unog.ch/state/liberia>]. Accessed 12 November 2020.

[6] Verification Research, Training and Information Centre (VERTIC) database. "Biological Weapons and Materials."

[<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>] Accessed 2 December 2020.

#### 1.5.1b

Is there legislation and/or regulation requiring oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research?

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence of a national policy requiring oversight of dual use research in Liberia. No evidence was found via the National Biosafety Framework for Liberia draft report (published in November 2004 by Liberia Environmental Protection Agency) or the websites of the Ministry of Health, the Ministry of Defence and the Ministry of Agriculture. [1,2,3,4,5] There is no mention of such a policy in Liberia's Joint External Evaluation Report, conducted in September 2016. [6] The National Public Health Institute of Liberia has coordination of public health research within its

mandate, but there is no information on dual-use research oversight. [7] Although Liberia is party to the Biological Weapons Convention, there is no public evidence that it has submitted Confidence-Building Measures reports. [8] No relevant documentation was found in the Verification Research, Training and Information Centre (VERTIC) database. [9]

- [1] Liberia Environmental Protection Agency (EPA). November 2004. "National Biosafety Framework for Liberia." [[https://web.archive.org/web/20200115140705/https://unep.ch/biosafety/old\\_site/development/Countryreports/LRNBFrep.pdf](https://web.archive.org/web/20200115140705/https://unep.ch/biosafety/old_site/development/Countryreports/LRNBFrep.pdf)]. Accessed 12 November 2020
- [3] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 11 November 2020
- [4] Ministry of Agriculture, Republic of Liberia. "Planning & Development". [<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 10 November 2020
- [5] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 November 2020
- [6] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 12 November 2020
- [7] National Public Health Institute of Liberia. [<http://nationalphil.org/index.php/about/>]. Accessed 31 November 2020.
- [8] United Nations. "Confidence Building Measures: Liberia". [<https://bwc-ecbm.unog.ch/state/liberia>]. Accessed 12 November 2020.
- [9] Verification Research, Training and Information Centre (VERTIC) database. "Biological Weapons and Materials." [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>] Accessed 2 December 2020.

### 1.5.1c

**Is there an agency responsible for oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence of an agency responsible for oversight of dual use research in Liberia, including research with especially dangerous pathogens, pathogens with pandemic potential. There is no mention of dual-research in the National Biosafety Framework for Liberia draft report (published in November 2004 by Liberia Environmental Protection Agency), Liberia's Joint External Evaluation Report, conducted in September 2016, or the websites of the Ministry of Health, the Ministry of Defence and the Ministry of Agriculture. [1,2,3,4,5,6] The website of the National Public Health Institute of Liberia is no longer accessible. [7] Although Liberia is party to the Biological Weapons Convention, there is no public evidence that it has submitted Confidence-Building Measures reports. [8] No relevant documentation was found in the Verification Research, Training and Information Centre (VERTIC) database. [9]

- [1] Liberia Environmental Protection Agency (EPA). November 2004. "National Biosafety Framework for Liberia." [[https://web.archive.org/web/20200115140705/https://unep.ch/biosafety/old\\_site/development/Countryreports/LRNBFrep.pdf](https://web.archive.org/web/20200115140705/https://unep.ch/biosafety/old_site/development/Countryreports/LRNBFrep.pdf)]. Accessed 12 November 2020.
- [2] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 13 November 2020.
- [4] Ministry of Health Liberia.. [<http://moh.gov.lr/>]. Accessed 11 November 2020.
- [5] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 November 2020.
- [6] Ministry of Agriculture, Republic of Liberia. "Planning & Development". [<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 10 November 2020.

[7] National Public Health Institute of Liberia. [<http://nationalphil.org/index.php/about/>]. Not accessible as of 14 November 2020.

[8] United Nations. "Confidence Building Measures: Liberia". [<https://bwc-ecbm.unog.ch/state/liberia>]. Accessed 14 November 2020

[9] Verification Research, Training and Information Centre (VERTIC) database. "Biological Weapons and Materials." [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>] Accessed 2 December 2020.

## 1.5.2 Screening guidance for providers of genetic material

### 1.5.2a

**Is there legislation and/or regulation requiring the screening of synthesized DNA (deoxyribonucleic acid) against lists of known pathogens and toxins before it is sold?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that there is a national legislation, regulation, policy, or other guidance in Liberia requiring the screening of synthesized DNA before it is sold. Liberia's draft National Biosafety Framework (from 2004) refers to genetically modified organisms (GMOs) but does not have any information regarding the screening of synthesized DNA before it is sold. [1] The extent to which this Framework is followed or implemented is unclear. In addition, there is no evidence found in Liberia's Liberia's Joint External Evaluation Report, conducted in September 2016, nor on the websites of the Ministry of Health, the Ministry of Defence, the Ministry of Agriculture or the Ministry of Transport. [2,3,4,5,6] Although Liberia is party to the Biological Weapons Convention, there is no public evidence that it has submitted Confidence-Building Measures reports. [7] No relevant documentation was found in the Verification Research, Training and Information Centre (VERTIC) database. [8]

[1] Liberia Environmental Protection Agency (EPA). November 2004. "National Biosafety Framework for Liberia." [[https://web.archive.org/web/20200115140705/https://unep.ch/biosafety/old\\_site/development/Countryreports/LRNBFrep.pdf](https://web.archive.org/web/20200115140705/https://unep.ch/biosafety/old_site/development/Countryreports/LRNBFrep.pdf)]. Accessed 12 November 2020.

[2] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia." [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020.

[3] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 11 November 2020.

[4] Ministry of Agriculture, Republic of Liberia. "Planning & Development".

[<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 10 November 2020.

[5] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 November 2020.

[6] Ministry of Transport.

[<http://mot.gov.lr/2content.php?sub=14&related=7&third=14&pg=sp&pt=Publications%20and%20Documents>]. Accessed 12 November 2020.

[7] United Nations. "Confidence Building Measures: Liberia". [<https://bwc-ecbm.unog.ch/state/liberia>]. Accessed 22 November 2020.

[8] Verification Research, Training and Information Centre (VERTIC) database. "Biological Weapons and Materials." [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>] Accessed 2 December 2020.

## 1.6 IMMUNIZATION

### 1.6.1 Vaccination rates

#### 1.6.1a

Immunization rate (measles/MCV2)

Immunization rate (measles/MCV2), 95% or greater = 2, 80-94.9% = 1, Less than 80%, or no data = 0

Current Year Score: 0

2019

World Health Organization

#### 1.6.1b

Are official foot-and-mouth disease (FMD) vaccination figures for livestock publicly available through the OIE database?

Yes = 1, No = 0

Current Year Score: 0

2020

OIE WAHIS database

## Category 2: Early detection and reporting for epidemics of potential international concern

## 2.1 LABORATORY SYSTEMS STRENGTH AND QUALITY

### 2.1.1 Laboratory testing for detection of priority diseases

#### 2.1.1a

Does the national laboratory system have the capacity to conduct diagnostic tests for at least 5 of the 10 WHO-defined core tests?

Evidence they can conduct 5 of the 10 core tests and these tests are named = 2, Evidence they can conduct 5 of the 10 core tests and the tests are not named = 1, No evidence they can conduct 5 of the 10 core tests = 0

Current Year Score: 0

There is no publicly available information that national laboratory system in Liberia has the capacity to conduct diagnostic tests for at least 5 of the 10 WHO-defined core tests. According to Liberia's Joint External Evaluation (JEE) Report, conducted in September 2016, "from the laboratory perspective, there has been a move towards molecular methods of testing and serology to limit the need to culture dangerous pathogens, but these require further investment, development and

accreditation". The JEE also states "Liberia does not have the capability to test for a number of IDSR priority diseases in-country, so samples are sent out of the country for testing". [1] There was no publicly available evidence that this move has been implemented successfully. The website of the Liberian Institute for Biomedical Research is no longer active. [2] No additional information was found from the Ministry of Health. [3] As of 2017, the WHO reports that Liberia does have the capacity to test for six IDSR priority diseases (which are not included on the WHO list of six priority diseases): measles/rubella, yellow fever, shigellosis, cholera and meningitis, but did not have the capacity to test for Lassa fever or polio (samples for both were sent out of the country). [4]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020

[2] The Liberian Institute for Biomedical Research. "Programs and Capabilities of LIBR ". [<http://libresearch.org/programs.html>]. Not accessible as of 12 November 2020

[3] Ministry of Health Liberia. "Policy Documents". [<http://moh.gov.lr/category/policies/>]. Accessed 11 November 2020

[4] Reliefweb. August 2017. "Liberia: Integrated Disease Surveillance and Response Bulletin, Semester Bulletin Vol. 1 Issue 1 - January - June 2017". [<https://reliefweb.int/report/liberia/liberia-integrated-disease-surveillance-and-response-bulletin-semester-bulletin-vol-1>]. Accessed 31 November 2020

### 2.1.1b

**Is there a national plan, strategy or similar document for conducting testing during a public health emergency, which includes considerations for testing for novel pathogens, scaling capacity, and defining goals for testing?**

Yes, there is evidence of a plan, and it includes considerations for testing for novel pathogens, scaling capacity, and defining goals for testing = 2, Yes, there is evidence of a plan, but there is insufficient evidence that it includes considerations for testing for novel pathogens, scaling capacity, and defining goals for testing = 1, No evidence of a plan = 0

**Current Year Score: 0**

There is no evidence of a national plan, strategy or similar document for conducting testing during a public health emergency in Liberia. The website of the Liberian Institute for Biomedical Research is no longer active. [1] The National Public Health Institute of Liberia, the Ministry of Health and the Ministry of Agriculture do not share any relevant documents on their websites. [2,3,4]. The US Centers for Disease Control and Prevention reports that it has previously supported Liberia in preventing disease outbreaks but does not reference a national plan or strategy for testing during a public health emergency. [5] Lastly, although testing for COVID-19 is discussed in the Final Interim Guidelines for COVID-19 under the Ministry of Health, there is no evidence of a specific COVID-19 testing strategy.[6]

[1] The Liberian Institute for Biomedical Research. "Programs and Capabilities of LIBR ". [<http://libresearch.org/programs.html>]. Not accessible as of 12 November 2020

[2] National Public Health Institute of Liberia [<https://www.nphil.gov.lr/>]. Accessed 10 May 2021

[3] Ministry of Health. [<https://moh.gov.lr/>]. Accessed 12 November 2020.

[4] Ministry of Agriculture. [<https://www.moa.gov.lr/>] Accessed 12 November 2020.

[5] Centers for Disease Control and Prevention. "Summer 2017: Faster, Smarter Outbreak Response in Liberia." [<https://www.cdc.gov/globalhealth/healthprotection/fieldupdates/summer-2017/liberia-outbreak-response.html>]. Accessed 12 November 2020.

[6] Ministry of Health Liberia. Ministry of Health and National Public Health Institute of Liberia. Final Interim Guidelines for COVID-19.[ <https://moh.gov.lr/documents/policy/2020/final-interim-guidance-for-covid-19/>] Accessed 10 May 2021

## 2.1.2 Laboratory quality systems

### 2.1.2a

**Is there a national laboratory that serves as a reference facility which is accredited (e.g., International Organization for Standardization [ISO] 15189:2003, U.S. Clinical Laboratory Improvement Amendments [CLIA])?**

Yes = 1 , No = 0

**Current Year Score: 1**

There is evidence that Liberia has a national laboratory that serves as a reference facility and is accredited. According to Liberia's Ministry of Commerce and Industry, Liberia has a National Standards Laboratory. This laboratory, which does not have a website, has a subdivision called the Microbiology Laboratory which "straightly complies with ISO 17025:2005 international standards in all laboratory practices." [1] Liberia's Joint External Evaluation (JEE) report, conducted in September 2016, indicates that the Liberia National Standards Laboratory was working towards ISO certification in September 2016, when the report was conducted. [2] The National Public Health Institute of Liberia, the Ministry of Health and the Ministry of Agriculture do not share any additional information about the national laboratory. [3,4,5]

[1] Ministry of Commerce and Industry. "The Microbiology Laboratory."

[<http://www.moci.gov.lr/2content.php?sub=117&related=1&third=24&pg=tp>]. Accessed 10 November 2020.

[2] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020

[3] National Public Health Institute of Liberia [<https://www.nphil.gov.lr/>]. Accessed 12 November 2020.

[4] Ministry of Health. [<https://moh.gov.lr/>]. Accessed 12 November 2020.

[5] Ministry of Agriculture. [<https://www.moa.gov.lr/>] Accessed 12 November 2020.

### 2.1.2b

**Is there a national laboratory that serves as a reference facility which is subject to external quality assurance review?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that there is a national laboratory that serves as a reference facility for Liberia and is subject to external quality assurance (EQA) review. The Liberian Institute for Biomedical Research houses Liberia's national reference laboratory, according to Liberia's Joint External Evaluation (JEE) report, conducted in September 2016, but no details were provided about whether it is subject to EQA review, except that the JEE recommends as a priority action the implementation of EQA for Liberian laboratories. The JEE report also indicates that the Liberia National Standards Laboratory "has initiated a quality management programme", but no further details were provided. [1] The website of the Liberian Institute for Biomedical Research is no longer active. [2] The National Public Health Institute of Liberia, the Ministry of Health and the Ministry of Agriculture do not share any relevant documents on their websites. [3,4,5].

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020

[2] The Liberian Institute for Biomedical Research. "Programs and Capabilities of LIBR".

[<http://libresearch.org/programs.html>]. Not accessible as of 12 November 2020

[3] National Public Health Institute of Liberia [<https://www.nphil.gov.lr/>]. Accessed 12 November 2020.

[4] Ministry of Health. [<https://moh.gov.lr/>]. Accessed 12 November 2020.

[5] Ministry of Agriculture. [<https://www.moa.gov.lr/>] Accessed 12 November 2020.

## 2.2 LABORATORY SUPPLY CHAINS

### 2.2.1 Specimen referral and transport system

#### 2.2.1a

**Is there a nationwide specimen transport system?**

Yes = 1 , No = 0

**Current Year Score: 0**

While there is evidence of a robust specimen transport system in Liberia, there is insufficient evidence that the system operates nationwide. According to Liberia's Joint External Evaluation Report, conducted in September 2016, the specimen transportation system has been strengthened and "the designated partner, Riders-for-Health, supports with the transport of clinical and public health specimens from health-care facilities in the counties to centrally located laboratories." [1] Riders for Health Liberia was established in 1991 and works throughout the counties of Liberia, supporting the surveillance and rapid diagnostic system in coordination with the Ministry of Health. [2] As of 2017, the WHO reports that a total of 60 couriers from Riders for Health were transporting specimens from 302 health facilities across the country to public health laboratories. Despite the extensive network of pickup spots, the evidence here is insufficient to prove that the system operates "nationwide". [3] There is no further evidence on either the Ministry of Health or Ministry of Agriculture websites. [4,5]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 7 November 2020

[2] Riders for Health Liberia. [<https://www.riderslr.org/cherry-services/specimen-transport/>]. Accessed 7 November 2020

[3] Reliefweb. August 2017. "Liberia: Integrated Disease Surveillance and Response Bulletin, Semester Bulletin Vol. 1 Issue 1 - January - June 2017". [<https://reliefweb.int/report/liberia/liberia-integrated-disease-surveillance-and-response-bulletin-semester-bulletin-vol-1>]. Accessed 31 November 2020

[4] Ministry of Health. [<https://moh.gov.lr/>] Accessed 2 December 2020.

[5] Ministry of Agriculture. [<https://www.moa.gov.lr/>] Accessed 2 December 2020

### 2.2.2 Laboratory cooperation and coordination

#### 2.2.2a

**Is there a plan in place to rapidly authorize or license laboratories to supplement the capacity of the national public health laboratory system to scale-up testing during an outbreak?**

Yes = 2 , Yes, but there is evidence of gaps in implementation = 1 , No = 0

**Current Year Score: 0**

There is no evidence of a plan to rapidly authorize or license laboratories to supplement the capacity of the national public health laboratory system and scale-up testing during an outbreak in Liberia. The website of the Liberian Institute for Biomedical Research is no longer active. [1] The National Public Health Institute of Liberia, the Ministry of Health and the Ministry of Agriculture do not share any relevant documents on their websites. [2,3,4]. The US Centers for Disease Control and Prevention reports that it has previously supported Liberia in preventing disease outbreaks but does not reference a national plan or strategy to authorize laboratories to supplement the capacity of the national public laboratory system or

scale-up testing during a public health emergency. [5]

[1] The Liberian Institute for Biomedical Research. "Programs and Capabilities of LIBR".

[<http://libresearch.org/programs.html>]. Not accessible as of 12 November 2020

[2] National Public Health Institute of Liberia [<https://www.nphil.gov.lr/>]. Accessed 12 November 2020.

[3] Ministry of Health. [<https://moh.gov.lr/>]. Accessed 12 November 2020.

[4] Ministry of Agriculture. [<https://www.moa.gov.lr/>] Accessed 12 November 2020.

[5] Centers for Disease Control and Prevention. "Summer 2017: Faster, Smarter Outbreak Response in Liberia."

[<https://www.cdc.gov/globalhealth/healthprotection/fieldupdates/summer-2017/liberia-outbreak-response.html>]. Accessed 12 November 2020.

## 2.3 REAL-TIME SURVEILLANCE AND REPORTING

### 2.3.1 Indicator and event-based surveillance and reporting systems

#### 2.3.1a

**Is there evidence that the country is conducting ongoing event-based surveillance and analysis for infectious disease?**

Yes, there is evidence of ongoing event-based surveillance and evidence that the data is being analyzed on a daily basis = 2,

Yes, there is evidence of ongoing event-based surveillance, but no evidence that the data are being analyzed on a daily basis

= 1, No = 0

**Current Year Score: 1**

There is evidence that Liberia is conducting ongoing event-based surveillance (EBS) and analysis for infectious disease, but not enough evidence to confirm that data is being analysed on a daily basis. According to Liberia's Joint External Evaluation (JEE) report, conducted in September 2016, Community Event-Based Surveillance (CEBS) is carried out by surveillance officers under the Disease Prevention and Control Division of the Ministry of Health. [1] The JEE also notes that in addition to routine surveillance, if necessary, the Ministry of Health can activate its incident management system through the Emergency Operations Center, which has an EBS unit. [2] The functions work in tandem as the Deputy Minister for Disease Surveillance and Epidemic Control under the Ministry of Health manages the EOC. [3] The JEE indicates that community EBS occurs in "real time" and that data is transmitted to the district, county, and national level on a weekly basis. Though this assessment indicates daily analysis may be occurring, it is inadequate to prove its occurrence. The National Technical Guidelines call for daily analysis for many diseases in the case of an outbreak, but do not indicate that daily analysis is occurring on a routine basis. [4]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020

[2] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [<https://www.afro.who.int/sites/default/files/2017-06/Ministry%20of%20Health%20Liberia%20National%20Technical%20Guidelines%20for%20Integrated%20Disease%20Surveillance%20%26%20Response%20.pdf>]. Accessed 22 November 2020.

[3] Centers for Disease Control and Prevention. August 2017. "Faster, Smarter Outbreak Response in Liberia".

[<https://www.cdc.gov/globalhealth/healthprotection/fieldupdates/summer-2017/liberia-outbreak-response.html>]. Accessed 22 November 2020

[4] US Embassy in Liberia. August 2015. "Embassy, MOH Dedicate Emergency Operations Centre".

[<https://lr.usembassy.gov/embassy-moh-dedicate-emergency-operations-center/>]. Accessed 22 November 2020

### 2.3.1b

**Is there publicly available evidence that the country reported a potential public health emergency of international concern (PHEIC) to the WHO within the last two years?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is publicly available evidence that Liberia reported a potential public health emergency of international concern to the World Health Organisation (WHO), but it was more than two years ago. Lassa Fever was reported by Liberia to the WHO on 22 February 2018. Lassa Fever is endemic to Liberia. There were 91 cases between January 2017 and January 2018. [1] Additionally, in July 2017 it was reported that a "cluster of deaths" from April and May of that year, which had previously be unexplained, was the result of an outbreak of a meningococcal disease outbreak. The outbreak had 31 suspected infections and 13 deaths. [2] The first case of COVID-19 in Liberia was confirmed on March 16, 2020 and since then updates on the COVID-19 status in the country are shared on the WHO website.[3]

[1] World Health Organisation. 22 February 2018. "Emergencies preparedness, response". [<http://www.who.int/csr/don/22-february-2018-lassa-fever-liberia/en/>]. Accessed 12 November 2020.

[2] World Health Organisation. 6 July 2017. "Meningococcal septicaemia associated with attending a funeral - Liberia". [<https://www.who.int/csr/don/06-july-2017-meningococcal-septicaemia-liberia/en/>]. Accessed 22 November 2020.

[3] World Health Organization. COVID-19 Situation Reports. [<https://www.who.int/countries/lbr/>] Accessed 10 May 2021

## 2.3.2 Interoperable, interconnected, electronic real-time reporting systems

### 2.3.2a

**Does the government operate an electronic reporting surveillance system at both the national and the sub-national level?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is not enough publicly available evidence to confirm that the Liberian government operates an electronic reporting surveillance system at both the national level and sub-national level. There is such a system at the national level, but the sub-national level appears to still be under development. According to Liberia's Joint External Evaluation (JEE) Report, conducted in September 2016, "an Excel-based system is being utilised at national and county level for priority disease weekly reporting. An electronic early warning system has been developed and is being piloted in four out of 15 counties" and "districts collate their data and report to the county level, where data are entered into the DHIS 2 information management system". [1] However, the JEE gives a score of just 2 for Liberia in the category of "Interoperable, interconnected, electronic real-time reporting system", indicating that it has "limited capacity". [1,2] The National Technical Guidelines for IDSR confirm this Excel process for weekly and monthly reporting and indicate that an electronic disease early warning system (eDEWS) was being piloted as early as June 2016. [3] There is no more recent or relevant information shared by the Ministry of Health via its website. [4]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020.

[2] World Health Organisation (WHO). 2016. "Joint External Evaluation Tool".

[[https://apps.who.int/iris/bitstream/handle/10665/204368/9789241510172\\_eng.pdf?sequence=1](https://apps.who.int/iris/bitstream/handle/10665/204368/9789241510172_eng.pdf?sequence=1)]. Accessed 22 November 2020.

[3] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response" [[http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical\\_Guidelines\\_20161128.pdf](http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical_Guidelines_20161128.pdf)]. Accessed 31 November 2020.

[4] Ministry of Health. [<http://moh.gov.lr/>]. Accessed 22 November 2020.

### 2.3.2b

**Does the electronic reporting surveillance system collect ongoing or real-time laboratory data?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence found that Liberia collects real-time laboratory data. According to Liberia's Joint External Evaluation (JEE) Report, conducted in September 2016, monthly disease reporting is summarised at the health facility level and entered into the country-wide District Health Information System 2 (DHIS2) accessible at national level. Weekly reportable diseases, conditions, and events are reported from facilities to districts weekly, districts then report to counties weekly, and counties submit Excel reports to national weekly. At national level, data from clinical sites are matched with lab results. [1] Since data is entered and matched with lab results weekly, it is not available electronically in real-time. However, Liberia has recently implemented an electronic Disease Early Warning System for real-time reporting of diseases during surveillance with mobile tools, which is being piloted in 75 facilities. [2] No further evidence about this programme was found on the Ministry of Health website. [3]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 10 November 2020

[2] World Health Organisation Regional Office for Africa. December 2015. "Liberia introduces electronic reporting to detect disease outbreaks early". [<http://www.afro.who.int/news/liberia-introduces-electronic-reporting-detect-disease-outbreaks-early>]. Accessed 31 November 2020

[3] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 11 November 2020

## 2.4 SURVEILLANCE DATA ACCESSIBILITY AND TRANSPARENCY

### 2.4.1 Coverage and use of electronic health records

#### 2.4.1a

**Are electronic health records commonly in use?**

Electronic health records are commonly in use = 2, Electronic health records are not commonly in use, but there is evidence they are used = 1, No evidence electronic health records are in use = 0

**Current Year Score: 0**

There is no publicly available evidence supporting that electronic health (e-health) records are commonly used in Liberia. The World Health Organisation's "Global Observatory for eHealth" responses for Liberia highlight the lack of use. [1] No evidence was found via the Ministry of Health website. [2] There is no evidence that the Liberian public health system currently uses electronic medical records, though partners have begun to pilot individual solutions, particularly during the Ebola outbreak. [3] Some births and deaths records have been recorded using mobile devices since 2010, but coverage is very low. [4] No

evidence was found on the National Institute of Public Health website. [5]

[1] World Health Organisation. "Global Observatory for eHealth". [<http://www.who.int/goe/publications/atlas/lbr.pdf>]. Accessed 12 November 2020

[2] Ministry of Health Liberia. "Policy Documents". [<http://moh.gov.lr/category/policies/>]. Accessed 12 November 2020

[3] TIME Health. December 2014. "The First Attempt to Digitize Ebola Health Records". [<http://time.com/3615990/ebola-electronic-health-records/>]. Accessed 31 November 2020

[4] World Health Organization Regional Office for Africa. 2014. "Liberia: Availability of IT solutions".

[[https://web.archive.org/web/20160316035747/http://www.who.int/profiles\\_information/index.php/Liberia:Availability\\_of\\_IT\\_solutions](https://web.archive.org/web/20160316035747/http://www.who.int/profiles_information/index.php/Liberia:Availability_of_IT_solutions)]. Accessed 31 November 2020

[5] National Public Health Institute of Liberia. [<https://www.nphil.gov.lr/>]. Accessed 31 November 2020.

### 2.4.1b

**Does the national public health system have access to electronic health records of individuals in their country?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that the national public health system has access to the electronic health records of individuals in their country as there is no publicly available evidence supporting that electronic health (e-health) records are commonly used in Liberia. The World Health Organisation's "Global Observatory for eHealth" responses for Liberia highlight the lack of use. [1] No evidence was found via the Ministry of Health website. [2] There is no evidence that the Liberian public health system currently uses electronic medical records, though partners have begun to pilot individual solutions, particularly during the Ebola outbreak. [3] Some births and deaths records have been recorded using mobile devices since 2010, but coverage is very low. [4] No evidence was found on the National Institute of Public Health website. [5]

[1] World Health Organisation. "Global Observatory for eHealth". [<http://www.who.int/goe/publications/atlas/lbr.pdf>]. Accessed 12 November 2020

[2] Ministry of Health Liberia. "Policy Documents". [<http://moh.gov.lr/category/policies/>]. Accessed 12 November 2020

[3] TIME Health. December 2014. "The First Attempt to Digitize Ebola Health Records". [<http://time.com/3615990/ebola-electronic-health-records/>]. Accessed 31 November 2020

[4] World Health Organization Regional Office for Africa. 2014. "Liberia: Availability of IT solutions".

[[https://web.archive.org/web/20160316035747/http://www.who.int/profiles\\_information/index.php/Liberia:Availability\\_of\\_IT\\_solutions](https://web.archive.org/web/20160316035747/http://www.who.int/profiles_information/index.php/Liberia:Availability_of_IT_solutions)]. Accessed 31 November 2020

[5] National Public Health Institute of Liberia. [<https://www.nphil.gov.lr/>]. Accessed 31 November 2020.

### 2.4.1c

**Are there data standards to ensure data is comparable (e.g., ISO standards)?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence of data standards to ensure data is comparable for electronic health records in Liberia as there is no publicly available evidence supporting that electronic health (e-health) records are commonly used in Liberia. The World Health Organisation's "Global Observatory for eHealth" responses for Liberia highlight the lack of use. [1] No evidence was found via the Ministry of Health website. [2] There is no evidence that the Liberian public health system currently uses electronic medical records, though partners have begun to pilot individual solutions, particularly during the Ebola outbreak.

[3] Some births and deaths records have been recorded using mobile devices since 2010, but coverage is very low. [4] No evidence was found on the National Institute of Public Health website. [5]

[1] World Health Organisation. "Global Observatory for eHealth". [<http://www.who.int/goe/publications/atlas/lbr.pdf>]. Accessed 12 November 2020

[2] Ministry of Health Liberia. "Policy Documents". [<http://moh.gov.lr/category/policies/>]. Accessed 12 November 2020

[3] TIME Health. December 2014. "The First Attempt to Digitize Ebola Health Records". [<http://time.com/3615990/ebola-electronic-health-records/>]. Accessed 12 November 2020

[4] World Health Organization Regional Office for Africa. 2014. "Liberia: Availability of IT solutions".

[[https://web.archive.org/web/20160316035747/http://www.who.int/profiles\\_information/index.php/Liberia:Availability\\_of\\_IT\\_solution](https://web.archive.org/web/20160316035747/http://www.who.int/profiles_information/index.php/Liberia:Availability_of_IT_solution)]. Accessed 12 November 2020

[5] National Public Health Institute of Liberia. [<https://www.nphil.gov.lr/>]. Accessed 12 November 2020.

## 2.4.2 Data integration between human, animal, and environmental health sectors

### 2.4.2a

**Is there evidence of established mechanisms at the relevant ministries responsible for animal, human, and wildlife surveillance to share data (e.g., through mosquito surveillance, brucellosis surveillance)?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient public evidence of established mechanisms at the relevant ministries responsible for animal, human and wildlife surveillance to share data in Liberia. According to the National Technical Guidelines for Integrated Disease Surveillance & Response (June 2016) there are wildlife wardens in Liberia, but the guidelines do not mention a mechanism of sharing surveillance data. [1] Liberia's Joint External Evaluation Report, conducted in September 2016 notes that there is currently no formal information sharing link between the animal health and human public health sectors, though some information is being shared between the Ministries of Health and Agriculture on animal bites. [2] There is no publicly available evidence of data sharing across relevant ministries from the websites of the Ministry of Health and Ministry of Agriculture. [3,4] The Environmental and Social Management Framework for West Africa Regional Disease Surveillance Systems Enhancement (REDISSE) Project indicates that improved coordination for animal and human disease surveillance is expected to be a component of the program in the future. [5]

[1] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical\\_Guidelines\\_20161128.pdf](http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical_Guidelines_20161128.pdf). Accessed 13 November 2020

[2] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 13 November 2020

[3] Ministry of Health Liberia. "Policy Documents". [<http://moh.gov.lr/category/policies/>]. Accessed 13 November 2020

[4] Ministry of Agriculture, Republic of Liberia. "Planning & Development".

[<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 13 November 2020

[5] The World Bank. April 2016. "Environmental and Social Management Framework for West Africa Regional Disease Surveillance Systems Enhancement (REDISSE) Project Draft Report".

[<http://documents.worldbank.org/curated/en/495041467992498115/pdf/SFG2111-V4-EA-P154807-Box396250B-PUBLIC-Disclosed-4-27-2016.pdf>]. Accessed 12 November 2020

## 2.4.3 Transparency of surveillance data

### 2.4.3a

**Does the country make de-identified health surveillance data on infectious diseases publicly available via reports (or other format) on government websites (such as the Ministry of Health, Ministry of Agriculture, or similar)?**

Yes = 1 , No = 0

**Current Year Score: 0**

Liberia makes de-identified health surveillance data on infectious diseases publicly available via reports on government websites, but there is not enough evidence to suggest that in recent times this is done on a weekly basis. De-identified health surveillance data on disease outbreaks are publicly available via reports on Ministry of Health websites and the Regional Office for Africa (AFRO) World Health Organisation (WHO) website through the Annual Integrated Disease Surveillance and Response (IDSR) Bulletin. [1,2] In addition to an annual bulletin, the Ministry of Health published IDSR Bulletins with de-identified aggregated health surveillance data every week with the support of WHO and the Centers for Disease Control (CDC) till August 2019. [3,4] According to the Ministry of Health Website, the last report of Early Warning Disease Surveillance EPI is from Week 31, 2019, posted on August 12, 2019. There are no updates since the last report.[4]

[1] Ministry of Health. "Annual Integrated Disease Surveillance and Response (IDSR) Bulletin". [<http://moh.gov.lr/wp-content/uploads/2018/06/Liberia-Early-Warning-Disease-Surveillance-2017-IDSR-Annual-Bulletin.pdf>]. Accessed 12 November 2020.

[2] World Health Organisation Regional Office for Africa (AFRO). "Liberia Publications". [<https://afro.who.int/countries/publications?country=838>]. Accessed 12 November 2020.

[3] Republic of Liberia Ministry of Health. "Documents: Reports". [<https://moh.gov.lr/documents/reports/epi-reports/#>]. Accessed 10 May 2021

[4] Ministry of Health. Reports. Liberia IDSR Epidemiology Bulletin.[ <http://moh.gov.lr/wp-content/uploads/Liberia-Early-Warning-Disease-Surveillance-Bulletin-EPI-Week-31-2019.pdf>] Accessed 10 May 2021

### 2.4.3b

**Does the country make de-identified COVID-19 surveillance data (including details such as daily case count, mortality rate, etc) available via daily reports (or other formats) on government websites (such as the Ministry of Health, or similar)?**

Yes = 1 , No = 0

**Current Year Score: 0**

Liberia does not make de-identified COVID-19 surveillance data (including details such as daily case count, mortality rate, etc) available via daily reports. The Ministry of Health website provides updates on the COVID-19 outbreak situation, but the reports are shared sporadically, with the most recent report from April 2020. [1] The World Health Organization has more frequent data on confirmed cases, but there are some days where no data is displayed, suggesting either no new confirmed cases or a lack of daily reporting - it is unclear which. [2]

[1] Ministry of Health. Coronavirus (COVID-19) Situational Reports. [<https://moh.gov.lr/documents/reports/covid-19-reports/>] Accessed 14 November 2020.

[2] World Health Organization. Liberia COVID-19. [<https://covid19.who.int/region/afro/country/lr>] Accessed 14 November 2020.

## 2.4.4 Ethical considerations during surveillance

### 2.4.4a

**Is there legislation and/or regulations that safeguard the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities?**

Yes = 1 , No = 0

**Current Year Score: 1**

There is evidence of laws, regulations, or guidelines that safeguard the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities, in Liberia. The National Management Information Systems Policy has a section on confidentiality, which states " The publication of the information from the Ministry of Health and Social Welfare will be guided by the provision of Statistics Act and the Public Health Act and any other existing regulations on privacy. In all HMIS operations, efforts will be exercised to protect the clients' rights without compromising safety and knowledge development." and "Health workers who have privileged access to patient's records will be accountable to maintain the highest level of confidentiality and ensure that shared confidentiality is only practiced in the interest of the patient." [1] Section 18.23 of the Public Health Act (2010) addresses confidentiality, though it is mainly in reference to AID and HIV diagnosis/status of individuals. [2] Section 13 of the Statistics Act (December 2008) addresses confidentiality of all individual-based data. [3] The National Technical Guidelines for Integrated Disease Surveillance and Response alludes to the ethical implications of managing data but does not provide specific guidance for confidentiality of information. [4]

[1] Ministry of Health. June 2009. "National Management Information Systems Policy".

[<http://liberiamohsw.org/Policies%20&%20Plans/Final.HMIS.policy.07.07.09.doc>]. Accessed 13 November 2020.

[2] Republic of Liberia. 2010. "The Public Health Act". [<http://ilo.org/dyn/natlex/docs/ELECTRONIC/96959/114838/F-1655986320/LBR96959.pdf>]. Accessed 13 November 2020.

[3] Republic of Liberia. December 2008. "The Statistics Act".

[<https://unstats.un.org/unsd/vitalstatkb/KnowledgebaseArticle50768.aspx>]. Accessed 13 November 2020.

[4] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response".

[[http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical\\_Guidelines\\_20161128.pdf](http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical_Guidelines_20161128.pdf)]. Accessed 14 November 2020

### 2.4.4b

**Is there legislation and/or regulations safeguarding the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities, include mention of protections from cyber attacks (e.g., ransomware)?**

Yes = 1 , No = 0

**Current Year Score: 0**

While there is evidence of laws, regulations, or guidelines that safeguard the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities, in Liberia, there is no evidence that they include protections from cyber attacks. The National Management Information Systems Policy has a section on confidentiality, which states "The publication of the information from MOHSW [Ministry of Health and Social Welfare] will be guided by the provision of Statistics Act and the Public Health Act and any other existing regulations on privacy. In all HMIS operations, efforts will be exercised to protect the clients' rights without compromising safety and knowledge development." and "Health workers who have privileged access to patient's records will be accountable to maintain the highest level of confidentiality and ensure that shared confidentiality is only practiced in the interest of the patient." [1] However, there is no mention of cyber protections. Section 18.23 of the Public Health Act (2010) addresses confidentiality, though it is mainly in reference to

AID and HIV diagnosis/status of individuals; there is no mention of cyber protections. [2] Section 13 of the Statistics Act (December 2008) addresses confidentiality of all individual-based data. [3] The National Technical Guidelines for Integrated Disease Surveillance and Response alludes to the ethical implications of managing data and states that data should be stored in a "secure" way, but does not provide specific guidance for confidentiality of information or protections from cyber attacks. [4]

[1] Ministry of Health. June 2009. "National Management Information Systems Policy".

[<http://liberiamohsw.org/Policies%20&%20Plans/Final.HMIS.policy.07.07.09.doc>]. Accessed 13 November 2020.

[2] Republic of Liberia. 2010. "The Public Health Act". [<http://ilo.org/dyn/natlex/docs/ELECTRONIC/96959/114838/F-1655986320/LBR96959.pdf>]. Accessed 13 November 2020.

[3] Republic of Liberia. December 2008. "The Statistics Act".

[<https://unstats.un.org/unsd/vitalstatkb/KnowledgebaseArticle50768.aspx>]. Accessed 13 November 2020.

[4] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response".

[[http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical\\_Guidelines\\_20161128.pdf](http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical_Guidelines_20161128.pdf)]. Accessed 13 November 2020

## 2.4.5 International data sharing

### 2.4.5a

**Has the government made a commitment via public statements, legislation and/or a cooperative agreement to share surveillance data during a public health emergency with other countries in the region?**

Yes, commitments have been made to share data for more than one disease = 2, Yes, commitments have been made to share data only for one disease = 1, No = 0

**Current Year Score: 0**

There is insufficient evidence that the Liberian government has made a commitment via public statements, legislation, and/or a cooperative agreement to share surveillance data during a public health emergency with other countries in the region. According to an article published by APA News on 30 June 2017, "President Ellen Johnson Sirleaf has submitted to the national legislature for ratification a financing agreement for the Regional Disease Surveillance Systems Enhancement Project in West Africa (REDISSE)". [1] The REDISSE project includes the cross-border exchange of information and surveillance data. [2,3] No evidence could be found on whether the REDISSE agreement was ratified by Liberia. [4] REDISSE is specifically intended for use during public health emergencies, as well as in the prevention of outbreaks. [5] There is no further relevant information on the Ministry of Health website. [6]

[1] APA News. June 2017. "Sirleaf submits regional disease surveillance agreement for ratification".

[<http://apanews.net/en/news/sirleaf-submits-regional-disease-surveillance-agreement-for-ratification>]. Accessed 13 November 2020.

[2] The World Bank. "West Africa Regional Disease Surveillance Systems Enhancement Project (REDISSE) P154807".

[<http://pubdocs.worldbank.org/en/769681467208334446/REV5-English-WEST-AFRICA-REGIONAL-DISEASE-SURVEILLANCE-Project-2pager.pdf>]. Accessed 13 November 2020.

[3] The World Bank. June 2016. "Project Appraisal Document for a Regional Disease Surveillance Systems Enhancement Project in West Africa". [<http://documents.worldbank.org/curated/en/965001467305866621/pdf/PAD1752-PAD-P154807-OUO-9-IDA-R2016-0154-1-Box396265B.pdf>]. Accessed 13 November 2020.

[4] The World Bank. Regional Disease Surveillance Systems Enhancement (REDISSE).

[<http://projects.worldbank.org/P154807/?lang=en&tab=overview>]. Accessed 31 November 2020.

[5] World Bank. 29 June 2016. "World Bank Contributes to Improved Disease Surveillance and Health Systems in West Africa Following Ebola Epidemic". [<http://www.worldbank.org/en/news/press-release/2016/06/29/world-bank-contributes-to->

improved-disease-surveillance-and-health-systems-in-west-africa-following-ebola-epidemic]. Accessed 22 November 2020.  
[6] Ministry of Health. [<https://moh.gov.lr/>] Accessed 2 December 2020.

## 2.5 CASE-BASED INVESTIGATION

### 2.5.1 Case investigation and contact tracing

#### 2.5.1a

**Is there a national system in place to provide support at the sub-national level (e.g. training, metrics standardization and/or financial resources) to conduct contact tracing in the event of a public health emergency?**

Yes, there is evidence that the national government supports sub-national systems to prepare for future public health emergencies = 2, Yes, there is evidence that the national government supports sub-national systems, but only in response to active public health emergencies = 1, No = 0

**Current Year Score: 0**

There is not enough publicly available evidence to confirm that Liberia has a national system in place to provide support at the sub-national level (e.g. training, metrics standardization and/or financial resources) to conduct contact tracing in the event of a public health emergency. There is no evidence on the Ministry of Health website or the National Public Health Institute of Liberia website. [1,2] There are reports, however, of increased training for healthcare workers in Liberia since the Ebola outbreak, particularly relating to contact tracing. [3] No further information is found in the National Technical Guidelines for Integrated Disease Surveillance and Response or in the Community Event-Based Surveillance Manual for Integrated Disease Surveillance and Response. [4,5] In light of the present pandemic there is no such evidence of a national system in place to provide support at the sub-national level under the Final Interim Guidance for COVID-19 under the Ministry of Health.[6]

[1] Ministry of Health. [<https://moh.gov.lr/>] Accessed 12 November 2020.

[2] National Public Health Institute of Liberia [<https://www.nphil.gov.lr/>] Accessed 12 November 2020.

[3] Johns Hopkins Bloomberg School of Public Health. Global Health Now. "In Liberia, Resources are Scarce - but Contact Tracing is Second Nature." [<https://www.globalhealthnow.org/2020-06/liberia-resources-are-scarce-contact-tracing-second-nature#:~:text=As%20the%20US%20slowly%20builds,close%20ties%20to%20their%20community>] Accessed 11 May 2021.

[4] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [<https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance>]. Accessed 11 May 2021.

[5] Ministry of Health Liberia. May 2016. "Community Event-Based Surveillance Manual for Integrated Disease Surveillance and Response in Liberia". [<https://www.medbox.org/document/community-event-based-surveillance-manual-for-integrated-disease-surveillance-and-response-in-liberia#GO>]. Accessed 11 May 2021.

[6] Ministry of Health Liberia. Ministry of Health and National Public Health Institute of Liberia. Final Interim Guidelines for COVID-19.[ <https://moh.gov.lr/documents/policy/2020/final-interim-guidance-for-covid-19/>] Accessed 11 May 2021

#### 2.5.1b

**Does the country provide wraparound services to enable infected people and their contacts to self-isolate or quarantine as recommended, particularly economic support (paycheck, job security) and medical attention?**

Yes, both economic support and medical attention are provided = 2, Yes, but only economic support or medical attention is provided = 1, No = 0

**Current Year Score: 0**

There is not sufficient evidence to confirm that Liberia provides wraparound services to enable infected people and their contacts to self-isolate or quarantine as recommended, particularly economic support (paycheck, job security) and medical attention. There are no documents addressing wraparound services which includes financial support and medical attention on the Ministry of Health website or the National Public Health Institute of Liberia website. [1,2] No further information is found in the National Technical Guidelines for Integrated Disease Surveillance and Response or in the Community Event-Based Surveillance Manual for Integrated Disease Surveillance and Response.[3,4] In light of the present pandemic there is no such evidence of such wraparound services for infected persons and their contacts under the Final Interim Guidance for COVID-19 under the Ministry of Health.[5]

[1] Ministry of Health [<https://moh.gov.lr/>] Accessed 12 November 2020.

[2] National Public Health Institute of Liberia. [<https://www.nphil.gov.lr/>]. Accessed 12 November 2020.

[3] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [<https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance>]. Accessed 11 May 2021.

[4] Ministry of Health Liberia. May 2016. "Community Event-Based Surveillance Manual for Integrated Disease Surveillance and Response in Liberia". [<https://www.medbox.org/document/community-event-based-surveillance-manual-for-integrated-disease-surveillance-and-response-in-liberia#GO>]. Accessed 11 May 2021.

[5] Ministry of Health Liberia. Ministry of Health and National Public Health Institute of Liberia. Final Interim Guidelines for COVID-19. [<https://moh.gov.lr/documents/policy/2020/final-interim-guidance-for-covid-19/>] Accessed 11 May 2021

### 2.5.1c

**Does the country make de-identified data on contact tracing efforts for COVID-19 (including the percentage of new cases from identified contacts) available via daily reports (or other format) on government websites (such as the Ministry of Health, or similar)?**

Yes = 1 , No = 0

**Current Year Score: 0**

Liberia does not make de-identified data on contact tracing efforts for COVID-19 available via daily reports. The National Public Institute of Health shares a number of "contacts under follow up" in its reports, but these situation reports are sporadic. As of 12 November 2020, the most recent situational report was from 12 September 2020. [1] The Ministry of Health website also shares COVID-19 Situational Reports sporadically. [2] The national laboratory does not have its own website.

[1] National Public Health Institute of Liberia. Liberia COVID-19 Update. [<https://www.nphil.gov.lr/liberia-statistic-on-covid-19/>] Accessed 12 November 2020.

[2] Ministry of Health. COVID-19 Situational Reports. [<https://moh.gov.lr/documents/reports/covid-19-reports/>] Accessed 12 November 2020.

## 2.5.2 Point of entry management

### 2.5.2a

**Is there a joint plan or cooperative agreement between the public health system and border control authorities to identify suspected and potential cases in international travelers and trace and quarantine their contacts in the event of a public health emergency?**

Yes, plan(s)/agreement(s) are in place to prepare for future public health emergencies = 2, Yes, but plan(s)/agreement(s) are in place only in response to active public health emergencies = 1, No = 0

**Current Year Score: 0**

There is insufficient evidence of a joint plan or cooperative agreement between the public health system and border control authorities to identify suspected and potential cases in international travelers and trace and quarantine their contacts in the event of a public health emergency in Liberia.

The Community Event-Based Surveillance Manual for Integrated Disease Surveillance and Response published in 2016 states that there is a system where the Community Health Volunteers (CHVs) are placed in the ports of entry (POE). The CHVs stay informed of local events and activities at the land border crossing and surrounding communities, regularly meet with counterparts across border to receive priority disease and health updates, identify priority disease event triggers as they occur at the POE level using the CHV/POE referral form, immediately report event triggers and all relevant information to their supervisor and the catchment health facility. The CHVs visually detect overt signs and symptoms of illness in travellers, ensure prompt notification on the illness within their supervisory channels, refer ill travellers to the nearest health facility to the border crossings for isolation and or treatment, report to the health facility in their notification flow and complete the POE trigger form.[1] However, there is no evidence of an agreement that includes contact tracing.

[1] Ministry of Health Liberia. May 2016. "Community Event-Based Surveillance Manual for Integrated Disease Surveillance and Response in Liberia". [<https://www.medbox.org/document/community-event-based-surveillance-manual-for-integrated-disease-surveillance-and-response-in-liberia#GO>]. Accessed 11 May 2021.

## 2.6 EPIDEMIOLOGY WORKFORCE

### 2.6.1 Applied epidemiology training program, such as the field epidemiology training program, for public health professionals and veterinarians (e.g., Field Epidemiology Training Program [FETP] and Field Epidemiology Training Program for Veterinarians [FETPV])

#### 2.6.1a

**Does the country meet one of the following criteria?**

- Applied epidemiology training program (such as FETP) is available in country
- Resources are provided by the government to send citizens to another country to participate in applied epidemiology training programs (such as FETP)

Needs to meet at least one of the criteria to be scored a 1 on this measure. , Yes for both = 1 , Yes for one = 1 , No for both = 0

**Current Year Score: 1**

An applied epidemiology training program, the Liberia Field Epidemiology Training Program (LFETP), is available and resources have been provided by the government to send citizens to another country to participate in such a programme as well. The LFETP was established in 2015 in response to the 2014 Ebola outbreak. [1] According to Liberia's Joint External

Evaluation Report, conducted in September 2016, the foundation for Liberia's FETP has been set in collaboration with Emory University (in the US) and the Africa Field Epidemiology Network (AFENET). [2] In addition, the JEE states there is a "collaborative arrangement that allows personnel from Liberia to undertake advanced training in Ghana," where five Liberian FETP fellows have been sent. [2]

[1] The African Field Epidemiology Network (AFENET). September 2018. [<http://www.afenet.net/index.php/news/news/435-liberia-fetp-held-1st-annual-scientific-conference-in-honor-of-dr-emmet-a-dennis>]. Accessed 12 November 2020.

[2] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 12 November 2020.

### 2.6.1b

**Are the available field epidemiology training programs explicitly inclusive of animal health professionals or is there a specific animal health field epidemiology training program offered (such as FETPV)?**

Yes = 1, No = 0

**Current Year Score: 1**

There is evidence that Liberia has access to a field epidemiology program inclusive of veterinarians. In 2018, the FAO and the Institute for Infectious Animal Diseases (IIAD) at Texas A&M AgriLife Research launched the In-Service Applied Veterinary Epidemiology (ISAVET) program in 14 countries, including Liberia. [1,2] The program is a four-month frontline field epidemiology program to train veterinary field epidemiologists. [3] There is, however, no publicly available evidence that the Liberia Field Epidemiology Training Programme (LFETP) is explicitly inclusive of animal health professionals. In Liberia's Joint External Evaluation Report, conducted in September 2016, it was recommended as a priority action for Liberia to "proactively enrol professionals from the animal health sector into field epidemiology and laboratory training programmes (FELTP) to build technical, leadership and managerial skills for national and subnational surveillance and health leadership", indicating that a specific training programme for personnel from the animal sector is not available. [4] There is no publicly available evidence that LFETP now is inclusive of animal health professionals on the websites of the Liberian Ministry of Health or the African Field Epidemiology Network webpage. [5,6]

[1] Food and Agriculture Organisation (FAO) of the United Nations. November 2020. "New training for veterinarians in 14 African countries to help combat infectious diseases." [<http://www.fao.org/emergencies/fao-in-action/stories/stories-detail/en/c/1161401>]. Accessed 12 November 2020.

[2] Institute for Infectious Animal Diseases. "Frontline ISAVET." [<https://iiad.tamu.edu/frontline-isavet/>]. Accessed 12 November 2020.

[3] Food and Agriculture Organisation (FAO) of the United Nations. October 2019. "First FAO ISAVET training programme held in Uganda." [<http://www.fao.org/resilience/news-events/detail/en/c/1171750>]. Accessed 12 November 2020.

[4] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 12 November 2020.

[5] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 12 November 2020

[6] The African Field Epidemiology Network (AFENET). Updated 2018. [<http://afenet.net/>]. Accessed 12 November 2020.

## 2.6.2 Epidemiology workforce capacity

### 2.6.2a

Is there public evidence that the country has at least 1 trained field epidemiologist per 200,000 people?

Yes = 1 , No = 0

Current Year Score: 1

2020

Completed JEE assessments; Economist Impact analyst qualitative assessment based on official national sources, which vary by country

## Category 3: Rapid response to and mitigation of the spread of an epidemic

### 3.1 EMERGENCY PREPAREDNESS AND RESPONSE PLANNING

#### 3.1.1 National public health emergency preparedness and response plan

##### 3.1.1a

Does the country have an overarching national public health emergency response plan in place which addresses planning for multiple communicable diseases with epidemic or pandemic potential?

Evidence that there is a plan in place, and the plan is publicly available = 2, Evidence that the plan is in place, but the plan is not publicly available OR, Disease-specific plans are in place, but there is no evidence of an overarching plan = 1, No evidence that such a plan or plans are in place = 0

Current Year Score: 1

Liberia has a national public health emergency response plan in place which addresses planning for multiple communicable diseases with pandemic potential, but the plan does not appear to be publicly available. The national pandemic preparedness and response plan was developed in 2007 with the Ministry of Agriculture and has since been updated, according to the Joint External Evaluation for Liberia which was completed in September 2016. [1] In addition, there is also a national epidemic preparedness and response (EPR) plan, focused on integrated disease surveillance and response to epidemic-prone diseases. There is evidence that Liberia's plan was updated: the Ministry of Health's National Technical Guidelines for Integrated Disease Surveillance & Response, published in June 2016, addresses planning for multiple communicable diseases with pandemic potential. [2]

[1] World Health Organisation. September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia - Mission Report". [<http://apps.who.int/iris/bitstream/10665/255268/1/WHO-WHE-CPI-2017.23-eng.pdf?ua=1>]. Accessed 13 November 2020.

[2] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [<https://www.afro.who.int/sites/default/files/2017-06/Ministry%20of%20Health%20Liberia%20National%20Technical%20Guidelines%20for%20Integrated%20Disease%20Survei>]

llance%20&%20Response%20.pdf]. Accessed 13 November 2020.

### 3.1.1b

**If an overarching plan is in place, has it been updated in the last 3 years?**

Yes = 1 , No /no plan in place= 0

**Current Year Score: 0**

Liberia has a national public health emergency response plan in place which addresses planning for multiple communicable diseases with pandemic potential, but there is no evidence it has been updated in the past three years and the plan does not appear to be publicly available. The national pandemic preparedness and response plan was developed in 2007 with the Ministry of Agriculture and has since been updated, according to the Joint External Evaluation for Liberia, completed in September 2016. [1]

[1] World Health Organisation. September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia - Mission Report". [<http://apps.who.int/iris/bitstream/10665/255268/1/WHO-WHE-CPI-2017.23-eng.pdf?ua=1>]. Accessed 13 November 2020.

### 3.1.1c

**If an overarching plan is in place, does it include considerations for pediatric and/or other vulnerable populations?**

Yes = 1 , No /no plan in place= 0

**Current Year Score: 0**

Liberia has a national public health emergency response plan in place which addresses planning for multiple communicable diseases with pandemic potential, but there is no evidence that includes considerations for paediatric and other vulnerable populations in detail. The national pandemic preparedness and response plan was developed in 2007 with the Ministry of Agriculture and should be updated, according to the Joint External Evaluation for Liberia, completed in September 2016. [1] In addition, there is also a national epidemic preparedness and response (EPR) plan, focused on integrated disease surveillance and response epidemic-prone diseases. There is evidence that Liberia's plan was updated: the Ministry of Health's National Technical Guidelines for Integrated Disease Surveillance & Response, adapted in June 2016, which addresses planning for multiple communicable diseases with pandemic potential. [2] However, while these Guidelines mention vulnerable populations, they do not specifically explain how they will be treated. [2]

[1] World Health Organisation. September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia - Mission Report". [<http://apps.who.int/iris/bitstream/10665/255268/1/WHO-WHE-CPI-2017.23-eng.pdf?ua=1>]. Accessed 13 November 2020.

[2] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [<https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance>]. Accessed 13 November 2020.

### 3.1.1d

**Does the country have a publicly available plan in place specifically for pandemic influenza preparedness that has been updated since 2009?**

Yes = 1 , No = 0

Current Year Score: 0

2020

WHO Strategic Partnership for IHR and Health Security (SPH)

### 3.1.2 Private sector involvement in response planning

#### 3.1.2a

**Does the country have a specific mechanism(s) for engaging with the private sector to assist with outbreak emergency preparedness and response?**

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available evidence that Liberia has a specific mechanism for engaging with the private sector to assist with outbreak emergency preparedness and response. Specific private sector engagement plans for preparedness and response could not be found. The Ministry of Health has a partnerships and coordination manual, as well as administrative guidelines for contracts with the Ministry of Health. While these documents do not exclude emergency response from their remit, they are generally focused toward development contracts, and do not describe mechanisms that are specifically geared toward emergencies, health or otherwise. [1, 2] The National Technical Guidelines for Integrated Disease Surveillance & Response does mention working with the private sector, under Annex 5A, via a County Epidemic Preparedness and Response Committee, which they recommend should include a mix of representatives from the public, non-governmental organisations (NGO) and private sectors, but there is no evidence this Committee has been enacted. [3]

[1] Ministry of Health and Social Welfare. September 2009. "Partnerships and Coordination Manual".

[<http://liberiamohsw.org/Policies%20&%20Plans/DMSS%20Partnerships%20and%20Coordination%20Manual%20Aug09.docx>]. Accessed 13 November 2020

[2] Ministry of Health & Social Welfare, Government of Liberia. July 2010. "Administrative Guidelines for Contracts with the MOHSW".

[<http://liberiamohsw.org/Policies%20&%20Plans/MOHSW%20Contract%20Guidelines,%20July%207,%202010.pdf>]. Accessed 13 November 2020

[3] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response".

[<https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance>]. Accessed 13 November 2020

### 3.1.3 Non-pharmaceutical interventions planning

#### 3.1.3a

**Does the country have a policy, plan and/or guidelines in place to implement non-pharmaceutical interventions (NPIs) during an epidemic or pandemic?**

Yes, a policy, plan and/or guidelines are in place for more than one disease = 2, Yes, but the policy, plan and/or guidelines exist only for one disease = 1, No = 0

Current Year Score: 0

There is no evidence that Liberia has a policy, plan and/or guidelines in place to implement non-pharmaceutical interventions (NPIs) during an epidemic or pandemic. The National Technical Guidelines for Integrated Disease Surveillance & Response report, published by the Ministry of Health in 2016, talks about the importance of early interventions in preventing the spread of disease, but does not lay out a detailed plan. [1] No further evidence is seen in the Community Event-Based Surveillance Manual for Integrated Disease Surveillance and Response published in 2016. [2] The Ministry of Health has advised Liberians to practice measures such as social distancing in response to COVID-19, but has not yet published a COVID-19 response plan. No further evidence is seen in the Final Interim Guidance for COVID-19 under the Ministry of Health. [3,4]

[1] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response".

[<https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance>]. Accessed 11 May 2021

[2] Ministry of Health Liberia. May 2016. "Community Event-Based Surveillance Manual for Integrated Disease Surveillance and Response in Liberia". [<https://www.medbox.org/document/community-event-based-surveillance-manual-for-integrated-disease-surveillance-and-response-in-liberia#GO>]. Accessed 11 May 2021.

[3] Ministry of Health Liberia. Ministry of Health and National Public Health Institute of Liberia. Final Interim Guidelines for COVID-19. [<https://moh.gov.lr/documents/policy/2020/final-interim-guidance-for-covid-19/>]. Accessed 11 May 2021

[4] Ministry of Health Liberia. [<https://moh.gov.lr/>]. Accessed 11 May 2021

## 3.2 EXERCISING RESPONSE PLANS

### 3.2.1 Activating response plans

#### 3.2.1a

Does the country meet one of the following criteria?

- Is there evidence that the country has activated their national emergency response plan for an infectious disease outbreak in the past year?

- Is there evidence that the country has completed a national-level biological threat-focused exercise (either with WHO or separately) in the past year?

Needs to meet at least one of the criteria to be scored a 1 on this measure. , Yes for both = 1 , Yes for one = 1 , No for both = 0

**Current Year Score: 1**

There is evidence that Liberia has completed a national-level biological threat-focused exercise in the past year, and insufficient evidence that it has activated a national emergency response plan for an infectious disease outbreak in the past year. The World Health Organization reports that the last simulation exercise to test Liberia's health system capacity to respond to a disease outbreak took place in December 2019 for assessing the readiness of PHEOCs in the WHO African Region to respond to a public health emergency, Ebola. [1] Liberia has a national public health emergency response plan in place which addresses planning for multiple communicable diseases with pandemic potential, but it does not appear to be publicly accessible, and there is no evidence that it has been recently enacted. [2] The U.S. Centers for Disease Control and Prevention reports, however, that Liberia's capacity to respond to disease outbreaks has significantly improved since the Ebola outbreak in 2014. [3] In light of the present COVID-19 pandemic, Liberia has not published a COVID-19 response plan but there is evidence of a Final Interim Guidance for COVID-19 under the Ministry of Health. This guideline is intended for use by all clinicians involved in the care of patients when COVID-19 is suspected or confirmed. [4,5]

[1] World Health Organization. Simulation Exercise. [<https://extranet.who.int/sph/simulation-exercise>] Accessed 11 May 2021

[2] World Health Organisation. September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia - Mission Report". [<http://apps.who.int/iris/bitstream/10665/255268/1/WHO-WHE-CPI-2017.23-eng.pdf?ua=1>]. Accessed 11 May 2021

[3] Centers for Disease Control and Prevention. "Faster, Smarter Outbreak Response in Liberia."

[[https://www.cdc.gov/globalhealth/security/stories/faster\\_smarter\\_response\\_in\\_liberia.html](https://www.cdc.gov/globalhealth/security/stories/faster_smarter_response_in_liberia.html)] Accessed 11 May 2021

[4] Ministry of Health Liberia. [<https://moh.gov.lr/>] Accessed 11 May 2021

[5] Ministry of Health Liberia. Ministry of Health and National Public Health Institute of Liberia. Final Interim Guidelines for COVID-19. [<https://moh.gov.lr/documents/policy/2020/final-interim-guidance-for-covid-19/>]. Accessed 11 May 2021

### 3.2.1b

**Is there evidence that the country in the past year has identified a list of gaps and best practices in response (either through an infectious disease response or a biological-threat focused exercise) and developed a plan to improve response capabilities?**

Yes, the country has developed and published a plan to improve response capacity = 2 , Yes, the country has developed a plan to improve response capacity, but has not published the plan = 1 , No = 0

**Current Year Score: 0**

Liberia has not undergone an exercise to identify a list of gaps and best practices through an after-action review nor has it conducted a biological threat-focused IHR exercise with the WHO in the past year. No evidence of either was found via the World Health Organisation (WHO) Strategic Partnerships Portal, Liberia's WHO country page, or the Ministry of Health website. [1,2,3]

[1] WHO Strategic Partnership Portal. "After Action Review". [<https://extranet.who.int/sph/after-action-review>]. Accessed 13 November 2020.

[2] World Health Organization. "Liberia: Country Profiles." [[https://www.who.int/gho/countries/lbr/country\\_profiles/en/](https://www.who.int/gho/countries/lbr/country_profiles/en/)]. Accessed 13 November 2020.

[3] Ministry of Health. [<https://moh.gov.lr/>]. Accessed 13 November 2020.

## 3.2.2 Private sector engagement in exercises

### 3.2.2a

**Is there evidence that the country in the past year has undergone a national-level biological threat-focused exercise that has included private sector representatives?**

Yes = 1 , No = 0

**Current Year Score: 0**

Liberia has not conducted a national-level biological threat-focused exercise that has included private sector representatives with the WHO in the past year. [1] There is no evidence on the Ministry of Health or the WHO country page for Liberia. [2,3]

[1] World Health Organization. Simulation Exercise. [<https://extranet.who.int/sph/simulation-exercise>] Accessed 12 November 2020.

[2] Ministry of Health. [<https://moh.gov.lr/>] Accessed 12 November 2020.

[3] World Health Organization. "Liberia: Country Profiles." [[https://www.who.int/gho/countries/lbr/country\\_profiles/en/](https://www.who.int/gho/countries/lbr/country_profiles/en/)]. Accessed 12 November 2020.

## 3.3 EMERGENCY RESPONSE OPERATION

### 3.3.1 Emergency response operation

#### 3.3.1a

**Does the country have in place an Emergency Operations Center (EOC)?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient evidence that a emergency operations centres (EOCs) in place in Liberia. According to Liberia's Joint External Evaluation Report, conducted in September 2016, Liberia has EOCs along with incident management systems (IMS) at the national level as well as for all 15 counties. [1] No additional information could be found from the Ministry of Health. [2]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 13 November 2020.

[2] Ministry of Health Liberia. [<http://moh.gov.lr>]. Accessed 13 November 2020.

#### 3.3.1b

**Is the Emergency Operations Center (EOC) required to conduct a drill for a public health emergency scenario at least once per year or is there evidence that they conduct a drill at least once per year?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that Liberia's Emergency Operations Centre (EOC) is required to conduct a drill at least once per year or that EOC has conducted an annual health focused drill. There is no evidence in Liberia's Joint External Evaluation Report, conducted in September 2016. [1] The National Technical Guidelines for Integrated Disease Surveillance & Response (adapted June 2016) mentions simulation exercises in response to emergencies in general, but there is no evidence or a requirement for an annual health focused drill or that such a drill is conducted annually. [2] However, draft UNDP project documents indicate that a simulation is planned to be conducted as part of future annual training on the national contingency plan, which may include EOC members. [3] The Ministry of Health's information on the National EOC does not indicate future plans or requirements for drills. [4] The Ministry of Health's Operational Plan for the 2016-17 year includes simulation exercises for rapid response teams, but it is not clear that this extends to drills for the EOC. [5]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 11 May 2021

[2] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [<https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance>]. Accessed 11 May 2021

[3] UNDP. "Draft Results framework - DRM Project in Liberia". [<https://info.undp.org/docs/pdc/Documents/LBR/DRM%20Programme%20in%20Liberia%20-%202018%20December%20version%20complete1.docx>]. Accessed 11 May 2021.

[4] Ministry of Health Liberia. 2018. "NEOC". [<http://moh.gov.lr/neoc/>]. Accessed 11 May 2021.

[5] Ministry of Health Liberia. September 2016. "Consolidated Operational Plan 2016-2017". [[http://moh.gov.lr/wp-content/uploads/2017/04/Operational-Plan\\_FY-17\\_-martin.pdf](http://moh.gov.lr/wp-content/uploads/2017/04/Operational-Plan_FY-17_-martin.pdf)]. Accessed 11 May 2021.

### 3.3.1c

**Is there public evidence to show that the Emergency Operations Center (EOC) has conducted within the last year a coordinated emergency response or emergency response exercise activated within 120 minutes of the identification of the public health emergency/scenario?**

Yes = 1, No = 0

**Current Year Score: 0**

There is no public evidence to show that the Emergency Operations Centres can conduct, or have conducted within the last year, a coordinated emergency response or emergency response exercise activated within 120 minutes of the identification of the public health emergency/scenario. There is no evidence in Liberia's Joint External Evaluation Report, conducted in September 2016, or on the websites of the Ministry of Health or the National Disaster Management Agency of Liberia (NDMA). [1,2,3]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 13 November 2020.

[2] Ministry of Health Liberia. [<http://moh.gov.lr>]. Accessed 13 November 2020.

[3] National Disaster Management Agency of Liberia (NDMA). [<http://ndmaliberia.org>]. Accessed 31 November 2020

## 3.4 LINKING PUBLIC HEALTH AND SECURITY AUTHORITIES

### 3.4.1 Public health and security authorities are linked for rapid response during a biological event

#### 3.4.1a

**Does the country meet one of the following criteria?**

- Is there public evidence that public health and national security authorities have carried out an exercise to respond to a potential deliberate biological event (i.e., bioterrorism attack)?
- Are there publicly available standard operating procedures, guidelines, memorandums of understanding (MOUs), or other agreements between the public health and security authorities to respond to a potential deliberate biological event (i.e., bioterrorism attack)?

Needs to meet at least one of the criteria to be scored a 1 on this measure., Yes for both = 1, Yes for one = 1, No for both = 0

**Current Year Score: 0**

There is no public evidence that public health and national security authorities have carried out an exercise to respond to a potential deliberate biological event and there are no publicly available standard operating procedures, guidelines, MOUs or other agreements between the public health and security authorities to respond to a potential deliberate biological event. According to Liberia's Joint External Evaluation Report, conducted in September 2016, Liberia has experiences of linking public health and security authorities in Liberia; however, the report also states that "there is a need for further legal, policy and operational instruments (MoU, SOP) to support and sustain the coordination within the security services and with those in public health nationally and internationally". [1] The Liberian army has also included Health Care in Danger and international humanitarian law recommendations in their training manual in order to better collaborate with the health

sector. [2] However, no additional evidence of MOUs or SOPs were found via the websites of the Ministry of Health or the National Disaster Management Agency of Liberia (NDMA). [3,4]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 13 November 2020.

[2] International Committee of the Red Cross. December 2015. "Liberian army sets out to protect health-care workers". [<https://www.icrc.org/en/document/liberian-army-sets-out-protect-health-care-workers>]. Accessed 13 November 2020.

[3] Ministry of Health Liberia. [<http://moh.gov.lr>]. Accessed 13 November 2020.

[4] National Disaster Management Agency of Liberia (NDMA). [<http://ndmaliberia.org>]. Accessed 13 November 2020.

## 3.5 RISK COMMUNICATIONS

### 3.5.1 Public communication

#### 3.5.1b

**Does the risk communication plan (or other legislation, regulation or strategy document used to guide national public health response) outline how messages will reach populations and sectors with different communications needs (eg different languages, location within the country, media reach)?**

Yes = 1 , No = 0

**Current Year Score: 1**

There is some evidence that the national epidemic preparedness and response plan outlines how messages will reach populations and sectors with different communications needs. According to Liberia's Joint External Evaluation (JEE) Report, conducted in September 2016, risk communication is a core part of the national epidemic preparedness and response plan. Communities are educated on public health risk reduction through outreach programs. Though the contents of the plan could not be found through desk research, the JEE notes the risk communication and epidemic preparedness and response plan "addresses issues of formal community-level engagement, with partners and stakeholders identified and involved", and that "messages are shared with the community before, during, and after outbreaks in vernacular languages". No additional information was found on from the Ministry of Health. [2]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 13 November 2020.

[2] Ministry of Health Liberia. [<http://moh.gov.lr>]. Accessed 13 November 2020.

### 3.5.1 Risk communication planning

#### 3.5.1a

**Does the country have in place, either in the national public health emergency response plan or in other legislation, regulation, or strategy documents, a section detailing a risk communication plan that is specifically intended for use during a public health emergency?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient evidence that Liberia has in place a section detailing a risk communication plan that is specifically intended for use during a public health emergency, in their national epidemic preparedness and response plan, according to Liberia's Joint External Evaluation Report (JEE), conducted in September 2016. The JEE states that risk communication is a core part of the national epidemic preparedness and response plan and details roles played by stakeholders in addition to the Ministry of Health, such as the Ministry of Information and the media. Communities are educated on public health risk reduction through outreach programs. [1,2] The Ministry of Health's National Technical Guidelines for Integrated Disease Surveillance & Response mention that a National Risk Communication Plan was approved in June 2016, but this could not be located. [3]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 13 November 2020

[2] Republic of Liberia. "Joint National Action Plan for Health Security (NAPHS) 2018 - 2022". [<https://extranet.who.int/sph/sites/default/files/document-library/document/20062018%20Liberia%20NAPHS%20Final%20version.pdf>]. Accessed 14 November 2020

[3] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [[http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical\\_Guidelines\\_20161128.pdf](http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical_Guidelines_20161128.pdf)]. Accessed 13 November 2020

### 3.5.1c

**Does the risk communication plan (or other legislation, regulation or strategy document used to guide national public health response) designate a specific position within the government to serve as the primary spokesperson to the public during a public health emergency?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Liberia has in place a risk communication plan that designates a specific position within the government to serve as the primary spokesperson to the public during a public health emergency. Liberia's Joint External Evaluation Report (JEE), conducted in September 2016, mentions a national epidemic preparedness and response plan, but this plan is not publicly available. The JEE states that risk communication is a core part of the national epidemic preparedness and response plan and details roles played by stakeholders in addition to the Ministry of Health, such as the Ministry of Information and the media. Communities are educated on public health risk reduction through outreach programs. [1,2] The Ministry of Health's National Technical Guidelines for Integrated Disease Surveillance & Response mention that a National Risk Communication Plan was approved in June 2016, but this could not be located. [3]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 13 November 2020

[2] Republic of Liberia. "Joint National Action Plan for Health Security (NAPHS) 2018 - 2022". [<https://extranet.who.int/sph/sites/default/files/document-library/document/20062018%20Liberia%20NAPHS%20Final%20version.pdf>]. Accessed 14 November 2020

[3] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [[http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical\\_Guidelines\\_20161128.pdf](http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical_Guidelines_20161128.pdf)]. Accessed 13 November 2020

## 3.5.2 Public communication

### 3.5.2a

**In the past year, is there evidence that the public health system has actively shared messages via online media platforms (e.g. social media, website) to inform the public about ongoing public health concerns and/or dispel rumors, misinformation or disinformation?**

Public health system regularly shares information on health concerns = 2, Public health system shares information only during active emergencies, but does not regularly utilize online media platforms = 1, Public health system does not regularly utilize online media platforms, either during emergencies or otherwise = 0

**Current Year Score: 2**

There is evidence that in the past year, Liberia's public health system has actively shared messages via online media platforms (e.g. social media, website) to inform the public about ongoing public health concerns and/or dispel rumors, misinformation or disinformation. The Ministry of Health has a public announcements webpage where the latest health news is reported and an active Facebook account. [1,2] The National Public Health Institute of Liberia is also active on Facebook, sharing COVID-19 case numbers and statistics as well as messages such as "Play your part, wear a mask." as well as other information on lassa fever. [3] The National Technical Guidelines for Integrated Disease Surveillance & Response includes the importance of involving media in public health emergencies. [4]

[1] Ministry of Health Liberia. "Public Announcements". [<http://moh.gov.lr/category/public-announcements/>]. Accessed 13 November 2020.

[2] Facebook. "Ministry of Health, Republic of Liberia". [<https://www.facebook.com/www.moh.gov.lr/>]. Accessed 13 November 2020.

[3] Facebook. National Public Health Institute of Liberia. [<https://www.facebook.com/National-Public-Health-Institute-of-Liberia-NPHIL-164280647325112/>] Accessed 12 November 2020.

[4] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical\\_Guidelines\\_20161128.pdf](http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical_Guidelines_20161128.pdf). Accessed 13 November 2020.

### 3.5.2b

**Is there evidence that senior leaders (president or ministers) have shared misinformation or disinformation on infectious diseases in the past two years?**

No = 1, Yes = 0

**Current Year Score: 1**

There is insufficient evidence to say whether senior leaders have shared misinformation or disinformation on infectious diseases in the past two years in Liberia. It was reported in March 2020 that Liberia's president George Weah accused one of his ministers, Nathaniel Blama, of violating screening protocols at Roberts International Airport when he entered Liberia from Switzerland. Blama was the first confirmed case of COVID-19 in Liberia, but denied skirting any preventative health protocols. It is unclear whether President Weah falsely accused Blama of not following protocol. Weah has since threatened to shut down media outlets that spread misinformation about the virus. [1] Misinformation and the spread of fake news on social media are considered highly problematic in Liberia, with the director of the National Public Health Institute of Liberia issuing an appeal to Liberians not to spread misinformation online regarding the COVID-19 outbreak during early 2020. [2]

[1] African Freedom of Expression Exchange. "How Liberia's Coronavirus Misinformation Spread Far More than the Virus Itself." [<https://www.africafex.org/access-to-information/how-liberias-coronavirus-misinformation-spread-far-more-than-the-virus-itself>] Accessed 12 November 2020.

[2] Front Page Africa. "Liberia: How Fake News, Rumor, Misinformation Undercut Public Health Interventions During Outbreak." [<https://frontpageafricaonline.com/news/liberia-how-fake-news-rumor-misinformation-undercut-public-health-interventions-during-outbreak/>]. Accessed 12 November 2020.

## 3.6 ACCESS TO COMMUNICATIONS INFRASTRUCTURE

### 3.6.1 Internet users

#### 3.6.1a

Percentage of households with Internet

Input number

Current Year Score: 7.98

2019

International Telecommunication Union (ITU)

### 3.6.2 Mobile subscribers

#### 3.6.2a

Mobile-cellular telephone subscriptions per 100 inhabitants

Input number

Current Year Score: 56.57

2019

International Telecommunication Union (ITU)

### 3.6.3 Female access to a mobile phone

#### 3.6.3a

Percentage point gap between males and females whose home has access to a mobile phone

Input number

Current Year Score: 12

2019

Gallup; Economist Impact calculation

### 3.6.4 Female access to the Internet

#### 3.6.4a

Percentage point gap between males and females whose home has access to the Internet

Input number

Current Year Score: 18

2019

Gallup; Economist Impact calculation

## 3.7 TRADE AND TRAVEL RESTRICTIONS

### 3.7.1 Trade restrictions

#### 3.7.1a

**In the past year, has the country issued a restriction, without international/bilateral support, on the export/import of medical goods (e.g. medicines, oxygen, medical supplies, PPE) due to an infectious disease outbreak?**

Yes = 0, No = 1

Current Year Score: 1

There is no publicly available evidence that Liberia has issued a restriction on the export/import of medical goods due to the risk posed by an infectious disease outbreak, in the past year. No information was found via the WHO Disease Outbreak News or the and OIE Weekly disease information. [1,2] No information was found via the websites of the Ministry of Health, the Ministry of Agriculture or the Ministry of Foreign Affairs. [3,4,5]

[1] World Health Organisation. "WHO Disease Outbreak News". [<http://www.who.int/csr/don/en/>]. Accessed 13 November 2020.

[2] World Health Organisation for Animal Health (OIE). "OIE Weekly disease information". [[https://www.oie.int/wahis\\_2/public/wahid.php/Diseaseinformation/WI](https://www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/WI)]. Accessed 13 November 2020.

[3] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 13 November 2020.

[4] Ministry of Agriculture, Republic of Liberia. [<http://www.moa.gov.lr/>]. Accessed 14 November 2020.

[5] Ministry of Foreign Affairs. [<https://www.mofa.gov.lr/public2/index.php>] Accessed 2 December 2020.

#### 3.7.1b

**In the past year, has the country issued a restriction, without international/bilateral support, on the export/import of non-medical goods (e.g. food, textiles, etc) due to an infectious disease outbreak?**

Yes = 0, No = 1

Current Year Score: 1

There is no publicly available evidence that Liberia has issued a restriction on the export/import of goods from another country, stating that was due to the risk posed by an infectious disease outbreak, in the past year. No information was found via the WHO Disease Outbreak News or the and OIE Weekly disease information. [1,2] No information was found via the websites of the Ministry of Health or Ministry of Agriculture. [3,4] While Liberian authorities temporarily closed the border with Guinea in March 2016 after an Ebola flare-up in Guinea and sent a surveillance team to the border, no evidence can be found of a restriction on the movement of people or goods in the past year. [5,6] The 2017 list of goods prohibited imports into Liberia on the US Department of Commerce has remained the same as in previous years but does not mention that they were due to risk imposed by an infectious disease outbreak. [7] There is no relevant information on the Ministry of Foreign Affairs website. [8]

- [1] World Health Organisation. "WHO Disease Outbreak News". [<http://www.who.int/csr/don/en/>]. Accessed 13 November 2020.
- [2] World Health Organisation for Animal Health (OIE). "OIE Weekly disease information". [[https://www.oie.int/wahis\\_2/public/wahid.php/Diseaseinformation/WI](https://www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/WI)]. Accessed 13 November 2020.
- [3] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 13 November 2020.
- [4] Ministry of Agriculture, Republic of Liberia. [<http://www.moa.gov.lr/>]. Accessed 14 November 2020.
- [5] The Guardian. March 2016. "Ebola deaths in Guinea prompt Liberia to close border". [<https://www.theguardian.com/world/2016/mar/23/ebola-deaths-in-guinea-prompt-liberia-to-close-border>]. Accessed 13 November 2020.
- [6] VOA News Africa. March 2016. "Liberia Closes Border With Guinea After Ebola Flare-up". [<https://www.voanews.com/a/liberia-closes-boerder-with-guinea-after-ebola-flareup/3249034.html>]. Accessed 13 November 2020.
- [7] International Trade Administration, US Department of Commerce. "Liberia - Prohibited & Restricted Imports". [<https://www.export.gov/article?id=Liberia-Prohibited-Restricted-Imports>]. Accessed 13 November 2020.
- [8] Ministry of Foreign Affairs. [<https://www.mofa.gov.lr/public2/index.php>] Accessed 2 December 2020.

## 3.7.2 Travel restrictions

### 3.7.2a

**In the past year, has the country implemented a ban, without international/bilateral support, on travelers arriving from a specific country or countries due to an infectious disease outbreak?**

Yes = 0, No = 1

**Current Year Score: 1**

There is not sufficient evidence to confirm that Liberia introduced a ban, without international/bilateral support, on travelers arriving from a specific country or countries due to an infectious disease outbreak in the past year. The U.S. Embassy in Liberia reports that the country has introduced some restrictions on travel, such as requiring temperature checks and negative COVID-19 test results in the past year, but not any outright bans on travel. [1] There is no further information on either the Ministry of Health or the Liberia Immigration Service websites. [2,3] There is no relevant information on the Ministry of Foreign Affairs website. [4]

- [1] U.S. Embassy in Liberia. "COVID-19 Information." [<https://lr.usembassy.gov/covid-19-information/>] Accessed 12 November 2020.
- [2] Ministry of Health. [<https://moh.gov.lr/>] Accessed 12 November 2020.
- [3] Liberia Immigration Service. [<https://lis.gov.lr/>] Accessed 12 November 2020.
- [4] Ministry of Foreign Affairs. [<https://www.mofa.gov.lr/public2/index.php>] Accessed 2 December 2020.

## Category 4: Sufficient and robust health sector to treat the sick and protect health workers

### 4.1 HEALTH CAPACITY IN CLINICS, HOSPITALS, AND COMMUNITY CARE CENTERS

#### 4.1.1 Available human resources for the broader healthcare system

##### 4.1.1a

Doctors per 100,000 people

Input number

Current Year Score: 3.76

2015

WHO; national sources

##### 4.1.1b

Nurses and midwives per 100,000 people

Input number

Current Year Score: 53.21

2018

WHO; national sources

##### 4.1.1c

Does the country have a health workforce strategy in place (which has been updated in the past five years) to identify fields where there is an insufficient workforce and strategies to address these shortcomings?

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence to confirm that Liberia has a public workforce strategy in place (which has been updated in the past five years) to identify fields where there is an insufficient workforce and strategies to address these shortcomings. Liberia's Joint External Evaluation (JEE) report, conducted in September 2016 states that a health-care workforce strategy exists, which is considered a strength in their report. However, no details are provided on the content of this report, and the JEE gives Liberia a score of only 2 for its workforce strategy, indicating "a healthcare workforce strategy exists but does not include public health professions (e.g. epidemiologists, veterinarians and laboratory technicians)". [1,2] In 2016, the Government of Liberia launched the National Community Health Assistant (CHA) program, with the specific aim of deploying more than 4,000 health workers to communities more than 5km away from a health facility. However, there are insufficient details available on this program to confirm that it identifies workforce shortcomings and has strategies to address them. [3] The National Health and Social Welfare Policy 2011-2021, does discuss some shortcomings of the health workforce. It

focused on mental health while committing to "improve the coherence between strengthening the existing workforce, producing additional workers with the right skills mix and effectively deploying and retaining the workforce where it is needed." However, more details that would confirm the existence of a workforce strategy (as opposed to a statement of goals) are not included. Further, the Human Resources policy, whose development is referenced in the National Health and Welfare Policy, could not be found. [4] There is no other relevant information shared via a public website by the Ministry of Health. [5] As of November 2020, neither the Ministry of Labour nor the Ministry of Education had functioning websites.

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 12 November 2020

[2] World Health Organisation (WHO). 2016. "Joint External Evaluation Tool". [[https://apps.who.int/iris/bitstream/handle/10665/204368/9789241510172\\_eng.pdf?sequence=1](https://apps.who.int/iris/bitstream/handle/10665/204368/9789241510172_eng.pdf?sequence=1)]. Accessed 22 November 2020.

[3] Last Mile Health. 24 July 2016. "Government of Liberia Launches Historic National Health Worker Plan to Reach 1.2 Million". [<http://lastmilehealth.org/government-liberia-launches-historic-plan/>]. Accessed 31 November 2020.

[4] Ministry of Health Liberia. 2017. "National Health and Social Welfare Policy and Plan 2011-2021". [[http://moh.gov.lr/wp-content/uploads/2017/03/2011-2021-National-Health-Policy-Plan\\_MOH.pdf](http://moh.gov.lr/wp-content/uploads/2017/03/2011-2021-National-Health-Policy-Plan_MOH.pdf)]. Accessed 14 November 2020.

[5] Ministry of Health. [<http://moh.gov.lr/>]. Accessed 22 November 2020.

## 4.1.2 Facilities capacity

### 4.1.2a

#### Hospital beds per 100,000 people

Input number

**Current Year Score: 80**

2010

WHO/World Bank; national sources

### 4.1.2b

#### Does the country have the capacity to isolate patients with highly communicable diseases in a biocontainment patient care unit and/or patient isolation room/unit located within the country?

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient evidence to confirm that Liberia has the capacity to isolate patients with highly communicable diseases in a biocontainment patient care unit and/or patient isolation facility located in the country. The country has used isolation units in response to highly communicable disease outbreaks, and has also issued detailed guidelines for their construction which are up to international standards. However, it is not possible to specifically document that the isolation units actually meet the prescribed standards--though there is also not evidence that the units fell short of these standards. Liberia's Joint External Evaluation Report, conducted in September 2016 states that "Permanent isolation sites need to be created and/or improved and capacity built, with subsequent improvements in the safety of health workers". Despite this assessment, Liberia has been improving its isolation capacities since the 2014/2015 Ebola outbreak accelerated the country's development in addressing the containment of this disease (and consequently, other highly pathogenic diseases). [1] During

the 2014 Ebola outbreak in Liberia, the country, through support of the international community, built 21 Ebola isolation units, expanding its isolation capacity. [2] In June 2017, the World Bank published a report detailing the development of 24 triage isolation facilities in rural hospitals and health centres, and the renovation of existing isolation facilities in three major hospitals with funding from the World Bank. [3] There is no additional information shared via the public website of the Ministry of Health. [4] The John F. Kennedy Memorial Medical Centre, the country's largest hospital, does not share relevant information about existing isolation facilities via a public website. [5]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 14 November 2020.

[2] National Public Radio (NPR). 2015. "What Should Liberia Do With Its Empty Ebola Treatment Units?". [<http://www.npr.org/sections/goatsandsoda/2015/05/15/406982308/what-should-liberia-do-with-its-empty-ebola-treatment-units>]. Accessed 31 November 2020.

[3] The World Bank. 7 June 2017. "After Ebola, Liberia's Health System on Path to Recovery". [<http://www.worldbank.org/en/news/feature/2017/06/07/after-ebola-liberias-health-system-on-path-to-recovery>]. Accessed 15 November 2020.

[4] Ministry of Health. [<http://moh.gov.lr/>]. Accessed 22 November 2020.

[5] John F. Kennedy Memorial Medical Centre. [<http://jfkmc.gov.lr/>]. Accessed 12 November 2020.

#### 4.1.2c

**Does the country meet one of the following criteria?**

**- Is there evidence that the country has demonstrated capacity to expand isolation capacity in response to an infectious disease outbreak in the past two years?**

**- Is there evidence that the country has developed, updated or tested a plan to expand isolation capacity in response to an infectious disease outbreak in the past two years?**

Yes = 1, No = 0

**Current Year Score: 1**

There is evidence that Liberia has demonstrated capacity to expand isolation capacity in response to an infectious disease outbreak in the past two years but there is no evidence that the country has developed, updated or tested a plan to expand isolation capacity in response to an infectious disease outbreak in the past two years. In light of the present COVID 19 pandemic, there is evidence that isolation centers were set up in and around the capital city for suspected cases with support from international organizations such as Medecins Sans Frontieres (MSF) and Partners in Health (PIH). [1,2] No further evidence is seen under the Ministry of Health website or the National Disaster Management Agency of Liberia Facebook page. [3,4] There is no evidence that the country has developed, updated or tested a plan to expand isolation capacity in response to an infectious outbreak in the past two years under the Ministry of Health or the National Disaster Management Agency. [3,4]

[1] Medecins Sans Frontieres (MSF). 04 May 2020. MSF supports efforts to treat COVID-19 in Liberia.

[<https://www.msf.org/msf-supports-efforts-treat-covid-19-liberia>] Accessed 11 May 2021

[2] Partners In Health (PIH). 05 June 2020. PIH Liberia, Government Partners establish new Covid-19 center.

[<https://www.pih.org/article/pih-liberia-government-partners-establish-new-covid-19-center>] Accessed 11 May 2021

[3] Ministry of Health Liberia. [<https://moh.gov.lr/>] Accessed 11 May 2021

[4] Facebook. National Disaster Management Agency of Liberia. [<https://www.facebook.com/www.ndmaliberia.org/>] Accessed 11 May 2021

## 4.2 SUPPLY CHAIN FOR HEALTH SYSTEM AND HEALTHCARE WORKERS

### 4.2.1 Routine health care and laboratory system supply

#### 4.2.1a

**Is there a national procurement protocol in place which can be utilized by the Ministries of Health and Agriculture for the acquisition of laboratory supplies (e.g. equipment, reagents and media) and medical supplies (e.g. equipment, PPE) for routine needs?**

Yes for both laboratory and medical supply needs = 2, Yes, but only for one = 1, No = 0

**Current Year Score: 0**

There is no evidence of a procurement protocol in place which can be utilised by the Ministries of Health and Agriculture for the acquisition of laboratory supplies and medical supplies. Liberia's Joint External Evaluation Report, conducted in September 2016, does not contain information relevant to procurement except for a recommendation to strengthen the supply chain for laboratory commodities and equipment. [1] A PowerPoint presentation by the Ministry of Health's Supply Chain Management Unit (SCMU) given between 3-4 November 2011 and called the "Supply Chain Master Plan", alludes to a Liberian Supply Chain Master Plan, but information on the unit could not be found, and this master plan could also not be found. In any case, the presentation does not contain information relevant to procurement protocols. [2] No additional evidence was found via the Ministry of Health, the Ministry of Agriculture or the National Public Health Institute websites. [3,4,5] The draft 2015 Supply Chain Strategy of the Ministry of Health discusses a national procurement plan, which covers procurement procedures for all medical supplies and equipment. Though still in draft form, the plan implies the process can be used by ministries in the absence of a formal protocol. [6] There is no evidence this plan has been implemented under the Ministry of Health or the Ministry of Agriculture.[3,4]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 11 May 2021

[2] Ministry of Health, Supply Chain Management Unit (SCMU). 3-4 November 2011. "Supply Chain Master Plan". [[http://www.ghsc-2012.com/ghsc\\_2012/pdfs\\_ppts/\\_julius\\_la\\_presentation\\_julius\\_25.pdf](http://www.ghsc-2012.com/ghsc_2012/pdfs_ppts/_julius_la_presentation_julius_25.pdf)]. Accessed 11 May 2021

[3] Ministry of Health Liberia. "Policy Documents". [<http://moh.gov.lr/category/policies/>]. Accessed 11 May 2021

[4] Ministry of Agriculture, Republic of Liberia. "Planning & Development".

[<http://www.moa.gov.lr/content.php?content&main=6&related=6&pg=mp>]. Accessed 11 May 2021

[5] National Public Health Institute of Liberia. [<http://nationalphil.org/>]. Accessed 11 May 2021.

[6] Liberia Ministry of Health and Social Welfare. July 2010. "Supply Chain Strategy 2015 Draft for Review".

[<http://liberiamohsw.org/Policies%20&%20Plans/SCMP%20Strategy%20Plan%20final%20draft%20070910.docx>]. Accessed 11 May 2021

### 4.2.2 Stockpiling for emergencies

#### 4.2.2a

**Does the country have a stockpile of medical supplies (e.g. MCMs, medicines, vaccines, medical equipment, PPE) for national use during a public health emergency?**

Yes = 2, Yes, but there is limited evidence about what the stockpile contains = 1, No = 0

**Current Year Score: 2**

There is sufficient evidence that the country has a stockpile of medical supplies (e.g. MCMs, medicines, vaccines, medical equipment, PPE) for national use during a public health emergency. According to Liberia's Joint External Evaluation (JEE) Report, conducted in September 2016, there is evidence that the country has stockpiles of the Ebola vaccine. The Ebola vaccine has been tested and used in Liberia to prevent potential EVD. Since the country initially acquired the vaccine, the stockpiles have been transferred to the Ministry of Health. The Government has increased its ability to respond actively to outbreaks and has prepositioned MCMs in all 15 counties. The last three outbreaks were managed by the counties, and the response was initiated within the first 24 hours. However, other than the Ebola vaccine there is no mention of other MCMs or other medical supplies like medical equipments or PPE. The JEE further notes that sustainability of the current MCM stockpiles and infrastructure is likely to be a challenge without donor support because of insufficient resources. Liberia needs to develop a long-term MCM sustainability strategy. [1] No additional information was found on the websites of the Ministry of Health or Ministry of Defence. [2,3]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 11 May 2021

[2] Ministry of Health Liberia. [<http://moh.gov.lr>]. Accessed 11 May 2021.

[3] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 May 2021

**4.2.2b**

**Does the country have a stockpile of laboratory supplies (e.g. reagents, media) for national use during a public health emergency?**

Yes = 2, Yes, but there is limited evidence about what the stockpile contains = 1, No = 0

**Current Year Score: 0**

There is not sufficient evidence to say whether Liberia maintains a stockpile of laboratory supplies for national use during a public health emergency. While Liberia has national guidelines for receiving drug donations and has logistical capacity to manage and distribute medical supplies and laboratory supplies, sustainability of current stockpiles is noted as a potential challenge without donor support, and there is no mention of an agreement(s) with manufacturers. [1] No additional information was found on the websites of the Ministry of Health or Ministry of Defence. [2,3]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 13 November 2020.

[2] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 November 2020.

[3] Ministry of Health Liberia. [<http://moh.gov.lr>]. Accessed 14 November 2020.

**4.2.2c**

**Is there evidence that the country conducts or requires an annual review of the national stockpile to ensure the supply is sufficient for a public health emergency?**

Yes = 1, No = 0

**Current Year Score: 0**

There is no evidence that the country conducts or requires an annual review of the national stockpile to ensure the supply is sufficient for a public health emergency. No evidence for such a review is seen in Liberia's Joint External Evaluation (JEE) Report, conducted in September 2016 by the World Health Organization (WHO). [1] No further evidence is found on the websites of the Ministry of Health or Ministry of Defence. [2,3]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 11 May 2021

[2] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 11 May 2021.

[3] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 May 2021

## 4.2.3 Manufacturing and procurement for emergencies

### 4.2.3a

Does the country meet one of the following criteria?

- Is there evidence of a plan/agreement to leverage domestic manufacturing capacity to produce medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency?
- Is there evidence of a plan/mechanism to procure medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency?

Needs to meet at least one of the criteria to be scored a 1 on this measure., Yes for both = 1, Yes for one = 1, No for both = 0

**Current Year Score: 0**

There is no evidence of a plan/agreement to leverage domestic manufacturing capacity to produce medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency and there is no evidence of a plan/mechanism to procure medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency. No information was found on the websites of the Ministry of Health or Ministry of Defence. [1,2] There is no relevant information in the World Health Organization's Joint External Evaluation report for Liberia, conducted by the World Health Organization (WHO) in 2016, or on the website of the Liberia Medicines and Health Products Regulatory Authority (LMHRA). [3,4]

[1] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 11 May 2021.

[2] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 May 2021.

[3] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia." [<https://www.who.int/ihr/publications/WHO-WHE-CPI-2017.23/en/>]. Accessed 11 May 2021

[4] Liberia Medicines and Health Products Regulatory Authority. [<https://lmhra.gov.lr/>]. Accessed 11 May 2021

### 4.2.3b

Does the country meet one of the following criteria?

- Is there evidence of a plan/agreement to leverage domestic manufacturing capacity to produce laboratory supplies (e.g. reagents, media) for national use during a public health emergency?
- Is there evidence of a plan/mechanism to procure laboratory supplies (e.g. reagents, media) for national use during a public health emergency?

Needs to meet at least one of the criteria to be scored a 1 on this measure., Yes for both = 1, Yes for one = 1, No for both = 0

**Current Year Score: 0**

There is no evidence of a plan or agreement to leverage domestic manufacturing capacity to produce laboratory supplies for national use during a public health emergency in Liberia. There is no publicly available plan or mechanism to procure laboratory supplies for national use during a public health emergency. No additional information was found on the websites of the Ministry of Health or Ministry of Defence.[1,2] There is no relevant information on the World Health Organization Joint External Evaluation report for Liberia, published in 2016, or the website of the Liberia Medicines and Health Products Regulatory Authority. [3,4]

[1] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 November 2020.

[2] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 14 November 2020.

[3] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia." [<https://www.who.int/ihr/publications/WHO-WHE-CPI-2017.23/en/>] Accessed 2 December 2020.

[4] Liberia Medicines and Health Products Regulatory Authority. [<https://lmhra.gov.lr/>]. Accessed 2 December 2020.

## 4.3 MEDICAL COUNTERMEASURES AND PERSONNEL DEPLOYMENT

### 4.3.1 System for dispensing medical countermeasures (MCM) during a public health emergency

#### 4.3.1a

**Does the country have a plan, program, or guidelines in place for dispensing medical countermeasures (MCM) for national use during a public health emergency (i.e., antibiotics, vaccines, therapeutics and diagnostics)?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient evidence to confirm that Liberia has a plan/program/guidelines in place for dispensing medical countermeasures for national use during a public health emergency. According to Liberia's Joint External Evaluation (JEE) Report, conducted in September 2016, "Liberia has developed policy documents and has created the necessary political will for the deployment of medical countermeasures." [1] However, there is no mention of a plan specifically for dispensing medical countermeasures, and the policy documents referred to by the JEE do not appear to be publicly available from the websites of the Ministry of Health or Ministry of Defence. [2,3]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 13 November 2020.

[2] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 13 November 2020.

[3] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 November 2020.

### 4.3.2 System for receiving foreign health personnel during a public health emergency

#### 4.3.2a

**Is there a public plan in place to receive health personnel from other countries to respond to a public health emergency?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that Liberia has a plan in place to receive health personnel from other countries to respond to a public health emergency. Neither the National Technical Guidelines for Integrated Disease Surveillance & Response nor the Ministry of Health documents mention any plan to receive health personnel from other countries during a public health emergency. [1, 2] While there is no evidence of a formal plan in place, Liberia's Joint External Evaluation Report, conducted in September 2016, notes that Liberia is a member of AFENET, a regional partnership that facilitates rapid exchange of personnel in public health emergencies. During the last EVD flare-up in April 2016, Liberia successfully received foreign medical teams and coordinated their deployment, monitored their work, and facilitated their licensing. The JEE notes that the bodies created by policies on medical countermeasures are responsible for overseeing the deployment of medical personnel during an emergency and manage foreign teams. No further information found via the Ministry of Health or Ministry of Defence websites. [2, 3]

[1] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [[http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical\\_Guidelines\\_20161128.pdf](http://moh.gov.lr/wp-content/uploads/2016/12/IDSRTechnical_Guidelines_20161128.pdf)]. Accessed 14 November 2020.

[2] Ministry of Health Liberia. [<http://moh.gov.lr>]. Accessed 13 November 2020.

[3] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 13 November 2020.

[4] Ministry of Defence, Republic of Liberia. [<http://mod.gov.lr/>]. Accessed 11 November 2020.

## 4.4 HEALTHCARE ACCESS

### 4.4.1 Access to healthcare

#### 4.4.1a

**Does the constitution explicitly guarantee citizens' right to medical care?**

Guaranteed free = 4, Guaranteed right = 3, Aspirational or subject to progressive realization = 2, Guaranteed for some groups, not universally = 1, No specific provision = 0

**Current Year Score: 0**

2020

World Policy Analysis Center

#### 4.4.1b

**Access to skilled birth attendants (% of population)**

Input number

**Current Year Score: 61.1**

2013

WHO/World Bank/United Nations Children's Fund (UNICEF)

#### 4.4.1c

**Out-of-pocket health expenditures per capita, purchasing power parity (PPP; current international \$)**

Input number

**Current Year Score: 47.63**

2017

WHO Global Health Expenditure database

## 4.4.2 Paid medical leave

### 4.4.2a

**Are workers guaranteed paid sick leave?**

Paid sick leave = 2, Unpaid sick leave = 1, No sick leave = 0

**Current Year Score: 2**

2020

World Policy Analysis Center

## 4.4.3 Healthcare worker access to healthcare

### 4.4.3a

**Has the government issued legislation, a policy, or a public statement committing to provide prioritized healthcare services to healthcare workers who become sick as a result of responding to a public health emergency?**

Yes = 1, No = 0

**Current Year Score: 0**

There is no publicly available evidence that Liberia has issued legislation, a policy or a public statement committing to provide prioritised health care services to healthcare workers who become sick as a result of responding to a public health emergency. There is no information on such legislation, policy nor public statement in Liberia's Joint External Evaluation Report, conducted in September 2016. [1] There is no evidence found via the Ministry of Health website or the National Health and Social Welfare Policy and Plan 2011-2021, but Objective 4 of this plan commits to improved safety, security, and well-being of staff but does not indicate that prioritised health care services will be made available in the event of illness. [2,3] A WHO study on how Ebola affected health care workers does not mention any measures taken to provide prioritised health care services to healthcare workers who became sick. It notes the need for health worker protection and support is one of the lessons learned. [4]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 14 November 2020

[2] Ministry of Health Liberia. "Policy Documents". [<http://moh.gov.lr/category/policies/>]. Accessed 14 November 2020

[3] Ministry of Health Liberia. 2017. "National Health and Social Welfare Policy and Plan 2011-2021". [[http://moh.gov.lr/wp-content/uploads/2017/03/2011-2021-National-Health-Policy-Plan\\_MOH.pdf](http://moh.gov.lr/wp-content/uploads/2017/03/2011-2021-National-Health-Policy-Plan_MOH.pdf)]. Accessed 14 November 2020

[4] World Health Organisation. May 2015. "Health worker Ebola infections in Guinea, Liberia and Sierra Leone: A Preliminary Report". [[http://apps.who.int/iris/bitstream/10665/171823/1/WHO\\_EVD\\_SDS\\_REPORT\\_2015.1\\_eng.pdf?ua=1&ua=1](http://apps.who.int/iris/bitstream/10665/171823/1/WHO_EVD_SDS_REPORT_2015.1_eng.pdf?ua=1&ua=1)].

Accessed 14 November 2020.

## 4.5 COMMUNICATIONS WITH HEALTHCARE WORKERS DURING A PUBLIC HEALTH EMERGENCY

### 4.5.1 Communication with healthcare workers

#### 4.5.1a

**Is there a system in place for public health officials and healthcare workers to communicate during a public health emergency?**

Yes = 1 , No = 0

**Current Year Score: 1**

There is evidence of a system in place for public health officials and healthcare workers to communicate during a public health emergency in Liberia. Liberia's Joint External Evaluation Report, conducted in September 2016 states that "risk communication is a core component of the EPR [Epidemic Preparedness and Response] plan in Liberia". [1] The National Health and Social Welfare Policy and Plan 2011-2021 also addresses communications. [2] The Integrated Disease Surveillance and Response technical guidelines elaborates on the reporting lines in the Liberian public health system. At the time of a public health emergency the line of reporting is as follows: Community Health Assistants, Community Health Volunteers, Port Health Officers, and Environmental Health Officers report to the Surveillance Focal Point (normally the OIC) at the Health Care Facility, the Surveillance Focal Point (SFP) at health facilities report to the District Surveillance Officer (DSO), the DSO provides district level data to the County Surveillance Officer (CSO) or other identified member of the County Health Team (CHT), e.g. data manager or Monitoring & Evaluation officer, the CHT provides County level data to the Ministry of Health. It is highlighted that at each point a two way communication place. [3]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 13 May 2021

[2] Ministry of Health Liberia. 2017. "National Health and Social Welfare Policy and Plan 2011-2021". [[http://moh.gov.lr/wp-content/uploads/2017/03/2011-2021-National-Health-Policy-Plan\\_MOH.pdf](http://moh.gov.lr/wp-content/uploads/2017/03/2011-2021-National-Health-Policy-Plan_MOH.pdf)]. Accessed 13 May 2021

[3] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [<https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance>]. Accessed 13 May 2021

#### 4.5.1b

**Does the system for public health officials and healthcare workers to communicate during an emergency encompass healthcare workers in both the public and private sector?**

Yes = 1 , No = 0

**Current Year Score: 1**

The system for public health officials and healthcare workers to communicate during an emergency encompass healthcare workers in both the public and private sector. The Integrated Disease Surveillance and Response technical guidelines elaborates on the reporting lines in the Liberian public health system. At the time of a public health emergency the line of reporting is as follows: Community Health Assistants, Community Health Volunteers, Port Health Officers, and Environmental Health Officers report to the Surveillance Focal Point (normally the OIC) at the Health Care Facility, the Surveillance Focal

Point (SFP) at health facilities report to the District Surveillance Officer (DSO), the DSO provides district level data to the County Surveillance Officer (CSO) or other identified member of the County Health Team (CHT), e.g. data manager or Monitoring & Evaluation officer, the CHT provides County level data to the Ministry of Health. It is highlighted that at each point a two way communication place. The guidelines list both public and private sector stakeholders as members of the epidemic preparedness and response coordinating committees. It specifically states that data about local catchment areas (community and surrounding area) should be regularly reviewed and updated for planning and reporting purposes. This activity should be in the Health Team work plan at district and county levels and will always include the community key informants and workers. Major public health activities in the catchment area include public, private, and non-governmental organizations (NGO) among others. [1]

[1] Ministry of Health Liberia. June 2016. "National Technical Guidelines for Integrated Disease Surveillance & Response". [<https://www.afro.who.int/publications/ministry-health-liberia-national-technical-guidelines-integrated-disease-surveillance>]. Accessed 13 May 2021

## 4.6 INFECTION CONTROL PRACTICES AND AVAILABILITY OF EQUIPMENT

### 4.6.1 Healthcare associated infection (HCAI) prevention and control programs

#### 4.6.1a

**Is there evidence that the national public health system is monitoring for and tracking the number of healthcare associated infections (HCAI) that take place in healthcare facilities?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient evidence that the national public health system is monitoring for and tracking the number of health care associated infections that take place in healthcare facilities in Liberia. According to Liberia's Joint External Evaluation Report, conducted in September 2016, after the Ebola outbreak, a national programme on health care associated infection prevention and control was launched and established in all health care settings. Frontline health workers have been trained in infection prevention and control (IPC) practices, and there are designated IPC focal points [1] The World Health Organisation's Infection Prevention and Control Recovery Plans and Implementation: Guinea, Liberia, and Sierra Leone Inter-country Meeting Final Report highlights Liberia's commitment to monitoring hospital acquired infections. [2] The World Health Organisation published an article on 31 May 2018 on the validation of Liberia's National Infection Prevention and Control Guidelines. [3] However, there is no public evidence that the national public health system monitoring for and tracking the number of health care associated infections that take place in healthcare facilities. In light of the current covid-19 pandemic, the government websites do not have evidence of a public system to monitor or track the number of health care workers who have been affected by Covid-19 through their work. [4]

[1] World Health Organisation (WHO). September 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Liberia". [<http://apps.who.int/iris/bitstream/handle/10665/255268/WHO-WHE-CPI-2017.23-eng.pdf?sequence=1>]. Accessed 13 May 2021

[2] World Health Organisation. July 2015. "Infection Prevention and Control Recovery Plans and Implementation: Guinea, Liberia, and Sierra Leone Inter-country Meeting Final Report" [[http://apps.who.int/iris/bitstream/10665/204370/1/WHO\\_HIS\\_SDS\\_2015.23\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/204370/1/WHO_HIS_SDS_2015.23_eng.pdf)]. Accessed 13 May 2021

[3] World Health Organisation. 31 May 2018. "Ministry of Health validates Liberia's first National Infection Prevention and Control Guidelines to promote quality healthcare and patient safety".

[<https://web.archive.org/web/20190809003519/http://www.afro.who.int/news/ministry-health-validates-liberias-first-national-infection-prevention-and-control-guidelines>]. Accessed 13 May 2021

[4] Ministry of Health Liberia. [<http://moh.gov.lr>]. Accessed 13 May 2021

## 4.7 CAPACITY TO TEST AND APPROVE NEW MEDICAL COUNTERMEASURES

### 4.7.1 Regulatory process for conducting clinical trials of unregistered interventions

#### 4.7.1a

**Is there a national requirement for ethical review (e.g., from an ethics committee or via Institutional Review Board approval) before beginning a clinical trial?**

Yes = 1 , No = 0

**Current Year Score: 1**

There is a national requirement for ethical review before beginning a clinical trial in Liberia. The Liberia Medicines & Health Products Regulatory Authority (LMHRA) requires approval from the Medicines and Health Products Ethics Committee as part of the application process before beginning a clinical trial. [1] These are detailed in the 2010 Medicines & Health Products Regulatory Authority (LMHRA) Act and the Guideline for Application to Conduct of Clinical Trials in Liberia published in February 2014. [2, 3] Further, the Research Unit in the Ministry of Health requires all health related research in the country to have ethics approval. The two ethics committees in the country can provide ethical approval for health research activities: Liberia Institute for Biomedical Research-Ethics Committee (LIBR-EC) and University of Liberia Institutional Review Board (ULIRB). [4]

[1] National Institute of Allergy and Infectious Diseases. 24 August 2018. [<https://clinregs.niaid.nih.gov/country/liberia>]. Accessed 14 November 2020.

[2] Liberia Medicines & Health Products Regulatory Authority (LMHRA). 2010. Medicines & Health Products Regulatory Authority (LMHRA) Act. [[https://www.unodc.org/res/cld/document/lbr/medicines-and-health-products-regulatory-authority-act\\_html/Liberia\\_Medicines\\_and\\_Health\\_Products\\_Regulatory\\_Authority\\_LMHRA\\_Act.pdf](https://www.unodc.org/res/cld/document/lbr/medicines-and-health-products-regulatory-authority-act_html/Liberia_Medicines_and_Health_Products_Regulatory_Authority_LMHRA_Act.pdf)]. Accessed 14 November 2020.

[3] Liberia Medicines & Health Products Regulatory Authority (LMHRA). February 2014. "Guideline for Application to Conduct of Clinical Trials in Liberia". [<https://clinregs.niaid.nih.gov/sites/default/files/documents/liberia/G-LibClinTrial.pdf>]. Accessed 14 November 2020.

[4] Bawo, Luke L., Ministry of Health & Social Welfare Liberia. February 2012. "Research for Health in Liberia". [<http://www.cohred.org/wp-content/uploads/2012/02/Research-for-Health-in-Liberia.pdf>]

[5] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 14 November 2020

#### 4.7.1b

**Is there an expedited process for approving clinical trials for unregistered medical countermeasures (MCM) to treat ongoing epidemics?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient evidence of an expedited process for approving clinical trials for unregistered medical countermeasures to treat ongoing pandemics in Liberia. The Medicines & Health Products Regulatory Authority (LMHRA) Act (published in

2010) regulates clinical trials. It also stated that "In the case of emergency or disaster, the Authority may expedite or, as necessary, waive the registration of donated medicines or health products". However, there is no explicit reference to clinical trials themselves being eligible for a fast-tracked process in the case of a health emergency. [1] No further information was found via the Ministry of Health website. [2] Liberia does not have a ministry of research.

[1] Liberia Medicines & Health Products Regulatory Authority (LMHRA). 2010. Medicines & Health Products Regulatory Authority (LMHRA) Act. [[https://www.unodc.org/res/cld/document/lbr/medicines-and-health-products-regulatory-authority-act\\_html/Liberia\\_Medicines\\_and\\_Health\\_Products\\_Regulatory\\_Authority\\_LMHRA\\_Act.pdf](https://www.unodc.org/res/cld/document/lbr/medicines-and-health-products-regulatory-authority-act_html/Liberia_Medicines_and_Health_Products_Regulatory_Authority_LMHRA_Act.pdf)]. Accessed 14 November 2020.  
[2] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 14 November 2020

## 4.7.2 Regulatory process for approving medical countermeasures

### 4.7.2a

**Is there a government agency responsible for approving new medical countermeasures (MCM) for humans?**

Yes = 1 , No = 0

**Current Year Score: 1**

There is a government agency responsible for approving new medical countermeasures for humans in Liberia. This is the Liberia Medicines & Health Products Regulatory Authority (LMHRA) which is responsible for approving the registration of medicines and health products upon recommendation of the medicines evaluation committee. [1,2] No further information on medical countermeasures was found via the Ministry of Health. [3]

[1] Liberia Medicines & Health Products Regulatory Authority (LMHRA). 2010. Medicines & Health Products Regulatory Authority (LMHRA) Act. [[https://www.unodc.org/res/cld/document/lbr/medicines-and-health-products-regulatory-authority-act\\_html/Liberia\\_Medicines\\_and\\_Health\\_Products\\_Regulatory\\_Authority\\_LMHRA\\_Act.pdf](https://www.unodc.org/res/cld/document/lbr/medicines-and-health-products-regulatory-authority-act_html/Liberia_Medicines_and_Health_Products_Regulatory_Authority_LMHRA_Act.pdf)]. Accessed 14 November 2020.  
[2] Liberia Medicines & Health Products Regulatory Authority (LMHRA). February 2014. "Guideline for Application to Conduct of Clinical Trials in Liberia". [<https://clinregs.niaid.nih.gov/sites/default/files/documents/liberia/G-LibClinTrial.pdf>]. Accessed 14 November 2020.  
[3] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 14 November 2020

### 4.7.2b

**Is there an expedited process for approving medical countermeasures (MCM) for human use during public health emergencies?**

Yes = 1 , No = 0

**Current Year Score: 1**

There is an expedited process for approving medicines and health products for human use during public health emergencies in Liberia. The Medicines & Health Products Regulatory Authority (LMHRA) Act states under Section 7, "In the case of emergency or disaster, the Authority may expedite or, as necessary, waive the registration of donated medicines or health products." [1,2] No further information found on the Ministry of Health website. [3]

[1] Liberia Medicines & Health Products Regulatory Authority (LMHRA). 2010. "Medicines & Health Products Regulatory Authority (LMHRA) Act." [[https://www.unodc.org/res/cld/document/lbr/medicines-and-health-products-regulatory-authority-act\\_html/Liberia\\_Medicines\\_and\\_Health\\_Products\\_Regulatory\\_Authority\\_LMHRA\\_Act.pdf](https://www.unodc.org/res/cld/document/lbr/medicines-and-health-products-regulatory-authority-act_html/Liberia_Medicines_and_Health_Products_Regulatory_Authority_LMHRA_Act.pdf)]. Accessed 14 November 2020.

[2] Liberia Medicines & Health Products Regulatory Authority (LMHRA). February 2014. "Guideline for Application to Conduct of Clinical Trials in Liberia". [<https://clinregs.niaid.nih.gov/sites/default/files/documents/liberia/G-LibClinTrial.pdf>]. Accessed 14 November 2020.

[3] Ministry of Health Liberia. [<http://moh.gov.lr>]. Accessed 14 November 2020

## Category 5: Commitments to improving national capacity, financing plans to address gaps, and adhering to global norms

### 5.1 INTERNATIONAL HEALTH REGULATIONS (IHR) REPORTING COMPLIANCE AND DISASTER RISK REDUCTION

#### 5.1.1 Official IHR reporting

##### 5.1.1a

Has the country submitted IHR reports to the WHO for the previous calendar year?

Yes = 1 , No = 0

Current Year Score: 1

2020

World Health Organization

#### 5.1.2 Integration of health into disaster risk reduction

##### 5.1.2a

Are epidemics and pandemics integrated into the national risk reduction strategy or is there a standalone national disaster risk reduction strategy for epidemics and pandemics?

Yes = 1 , No = 0

Current Year Score: 1

There is evidence that pandemics are integrated into the national risk reduction strategy in Liberia. The National Disaster Management policy was published in October 2012 by the National Disaster Management Agency in Liberia. This policy mandates that the Ministry of Health sit on the National Disaster Management Agency Board to deal with epidemics and other health hazards. Health emergencies are identified throughout the strategy as one area of focus, including epidemics.

[1] No further information was found via the Ministry of Health website. [2]

[1] National Disaster Management Agency, Republic of Liberia. October 2012. "National Disaster Management policy". [<http://www.mia.gov.lr/doc/Web%201%20National%20Disaster%20Risk%20Management%20Policy-clean-12102012.pdf>]. Accessed 15 November 2020.

[2] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 14 November 2020

## 5.2 CROSS-BORDER AGREEMENTS ON PUBLIC HEALTH AND ANIMAL HEALTH EMERGENCY RESPONSE

### 5.2.1 Cross-border agreements

#### 5.2.1a

**Does the country have cross-border agreements, protocols, or MOUs with neighboring countries, or as part of a regional group, with regards to public health emergencies?**

Yes = 2, Yes, but there is evidence of gaps in implementation = 1, No = 0

**Current Year Score: 2**

There is publicly available evidence that Liberia has cross-border agreements, protocols or MOUs with neighbouring countries, or as part of a regional group, with regards to public health emergencies. There is no evidence of gaps in implementation. The Mano River Union, consisting of Liberia, Sierra Leone, Guinea, and Ivory Coast, has developed agreements and a laboratory network. [1] Since the Ebola outbreak, they have agreed to establish an integrated sub-regional Centre for Disease Control, as well as surveillance and health management information systems. This is intended to increase sub-regional capacity to respond quickly and effectively in the event of a health emergency. The World Bank-funded Regional Disease Surveillance Systems Enhancement Project (REDISSE), also established as a result of Ebola, focuses on strengthening surveillance and cross-border information sharing across West Africa. [2] It gives coordination responsibility to the West African Health Organisation (WAHO) and the Regional Animal Health Center (RAHC), both affiliated with the Economic Community of West African States (ECOWAS). The three Ebola affected countries (Liberia, Sierra Leone, and Guinea) held an infection prevention and control (IPC) regional meeting in 2015, during which they agreed to share lessons learned and collaborate on IPC. [3] Other regional affiliations include the African Vaccine Regulatory Forum and the Africa Field Epidemiology Network (AFENET). [4, 5]

[1] Mano River Union. April 2015. "Post-Ebola Socio-economic Recovery Programme - Final Draft" [[http://ebolaresponse.un.org/sites/default/files/mru\\_sub-regional\\_socioeconomic\\_strategy\\_090715\\_en.pdf](http://ebolaresponse.un.org/sites/default/files/mru_sub-regional_socioeconomic_strategy_090715_en.pdf)]. Accessed 15 November 2020.

[2] The World Bank. June 2016. "Project Appraisal Document for a Regional Disease Surveillance Systems Enhancement Project in West Africa". [<http://documents.worldbank.org/curated/en/965001467305866621/pdf/PAD1752-PAD-P154807-OUO-9-IDA-R2016-0154-1-Box396265B.pdf>]. Accessed 15 November 2020.

[3] World Health Organisation. July 2015. "Infection Prevention and Control Recovery Plans and Implementation: Guinea, Liberia, and Sierra Leone Inter-country Meeting Final Report". [[http://apps.who.int/iris/bitstream/10665/204370/1/WHO\\_HIS\\_SDS\\_2015.23\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/204370/1/WHO_HIS_SDS_2015.23_eng.pdf)]. Accessed 15 November 2020.

[4] World Health Organisation. November 2014. "African regulators' meeting looking to expedite approval of vaccines and therapies for Ebola". [[http://www.who.int/medicines/news/AFR\\_reg\\_meet/en/](http://www.who.int/medicines/news/AFR_reg_meet/en/)]. Accessed 15 November 2020.

[5] African Field Epidemiology Network (AFENET). September 2017. "African Field Epidemiology Network (AFENET)". [<http://www.afenet.net/>]. Accessed 15 November 2020.

#### 5.2.1b

**Does the country have cross-border agreements, protocols, or MOUs with neighboring countries, or as part of a regional group, with regards to animal health emergencies?**

Yes = 2, Yes, but there is evidence of gaps in implementation = 1, No = 0

**Current Year Score: 0**

There is no publicly available evidence that Liberia has cross-border agreements, protocols or MOUs with neighbouring countries, or as part of a regional group, with regards to animal health emergencies. No information was found via the Ministry of Health website. [1] Liberia is a member of the Economic Community of West African States (ECOWAS) which is a "15-member regional group with a mandate of promoting economic integration in all fields of activity of the constituting countries." However no mention of cross-border agreements with regards to animal health emergencies could be found. [2]

[1] Ministry of Health Liberia. [<http://moh.gov.lr/>]. Accessed 14 November 2020

[2] Economic Community of West African States (ECOWAS). [<http://www.ecowas.int/about-ecowas/basic-information/>]. Accessed 14 November 2018

## 5.3 INTERNATIONAL COMMITMENTS

### 5.3.1 Participation in international agreements

#### 5.3.1a

**Does the county have signatory and ratification (or same legal effect) status to the Biological Weapons Convention?**

Signed and ratified (or action having the same legal effect) = 2, Signed = 1, Non-compliant or not a member = 0

**Current Year Score: 2**

2021

Biological Weapons Convention

#### 5.3.1b

**Has the country submitted confidence building measures for the Biological Weapons Convention in the past three years?**

Yes = 1, No = 0

**Current Year Score: 0**

2021

Biological Weapons Convention

#### 5.3.1c

**Has the state provided the required United Nations Security Council Resolution (UNSCR) 1540 report to the Security Council Committee established pursuant to resolution 1540 (1540 Committee)?**

Yes = 1, No = 0

**Current Year Score: 1**

2021

Biological Weapons Convention

### 5.3.1d

Extent of United Nations Security Council Resolution (UNSCR) 1540 implementation related to legal frameworks and enforcement for countering biological weapons:

Very good (60+ points) = 4, Good (45–59 points) = 3, Moderate (30–44 points) = 2, Weak (15–29 points) = 1, Very weak (0–14 points) or no matrix exists/country is not party to the BWC = 0

Current Year Score: 1

2021

Biological Weapons Convention

## 5.3.2 Voluntary memberships

### 5.3.2a

Does the country meet at least 2 of the following criteria?

- Membership in Global Health Security Agenda (GHSA)
- Membership in the Alliance for Country Assessments for Global Health Security and IHR Implementation (JEE Alliance)
- Membership in the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction (GP)
- Membership in the Australia Group (AG)
- Membership in the Proliferation Security Initiative (PSI)

Needs to meet at least two of the criteria to be scored a 1 on this measure. , Yes for five = 1 , Yes for four = 1 , Yes for three = 1 , Yes for two = 1 , Yes for one = 0 , No for all = 0

Current Year Score: 1

2021

Global Health Security Agenda; JE Alliance; Global Partnership; Australia Group; PSI

## 5.4 JOINT EXTERNAL EVALUATION (JEE) AND PERFORMANCE OF VETERINARY SERVICES PATHWAY (PVS)

### 5.4.1 Completion and publication of a Joint External Evaluation (JEE) assessment and gap analysis

#### 5.4.1a

Has the country completed a Joint External Evaluation (JEE) or precursor external evaluation (e.g., GHSA pilot external assessment) and published a full public report in the last five years?

Yes = 1 , No = 0

Current Year Score: 1

2021

WHO Strategic Partnership for IHR and Health Security (SPH); Global Health Security Agenda

#### 5.4.1b

Has the country completed and published, within the last five years, either a National Action Plan for Health Security (NAPHS) to address gaps identified through the Joint External Evaluation (JEE) assessment or a national GHSA roadmap that sets milestones for achieving each of the GHSA targets?

Yes = 1, No = 0

Current Year Score: 1

2021

WHO Strategic Partnership for IHR and Health Security (SPH); Global Health Security Agenda

### 5.4.2 Completion and publication of a Performance of Veterinary Services (PVS) assessment and gap analysis

#### 5.4.2a

Has the country completed and published a Performance of Veterinary Services (PVS) assessment in the last five years?

Yes = 1, No = 0

Current Year Score: 0

2021

OIE PVS assessments

#### 5.4.2b

Has the country completed and published a Performance of Veterinary Services (PVS) gap analysis in the last five years?

Yes = 1, No = 0

Current Year Score: 0

2021

OIE PVS assessments

## 5.5 FINANCING

### 5.5.1 National financing for epidemic preparedness

#### 5.5.1a

Is there evidence that the country has allocated national funds to improve capacity to address epidemic threats within the past three years?

Yes = 1, No = 0

Current Year Score: 0

There is insufficient evidence to say that Liberia has allocated national funds to improve capacity to address epidemic threats within the past three years. The Liberian health sector's 2015-2021 Investment Plan lays out ambitious spending goals for

epidemic preparedness, but the projections are heavily reliant on donor financing. [1] The Ministry of Finance and Development Planning's Draft National Budget 2020/2021 indicates that a key function of the National Public Health Institute of Liberia, established in 2016, is to "establish multi-sectoral epidemic and response capacities," but the budget document does not break down how much money will be spent on these activities specifically nor the source of this funding. [2] Liberia has in the past received finances to improve its domestic capacity to address epidemic threats from the World Bank-financed Ebola Emergency Response Project and countries such as Germany. [3,4]

[1] Ministry of Health. Investment Plan for Building a Resilient Health System, Liberia.

[<http://pubdocs.worldbank.org/en/865131479921763514/Liberia-Investment-Plan-Final-May-15.pdf>] Accessed 12 November 2020.

[2] Ministry of Finance and Development Planning. Draft National Budget FY2020-2021.

[<https://www.mfdp.gov.lr/index.php/docs/the-national-budget>]. Accessed 12 November 2020.

[3] World Bank. December 2017. "Pandemic Financing Facility".

[<http://pubdocs.worldbank.org/en/119961516647620597/PEF-Operational-Brief-Dec-2017.pdf>]. Accessed 12 November 2018

[4] Georgetown Infectious Disease Atlas. "Germany-Liberia". [<https://tracking.ghscosting.org/#analysis/DE/LR>]. Accessed 22 November 2020.

## 5.5.2 Financing under Joint External Evaluation (JEE) and Performance of Veterinary Services (PVS) reports and gap analyses

### 5.5.2a

**Does the Joint External Evaluation (JEE) report, National Action Plan for Health Security (NAPHS), and/or national GHSA roadmap allocate or describe specific funding from the national budget (covering a time-period either in the future or within the past five years) to address the identified gaps?**

Yes = 1 , No/country has not conducted a JEE = 0

**Current Year Score: 1**

2021

WHO Strategic Partnership for IHR and Health Security (SPH); Global Health Security Agenda

### 5.5.2b

**Does the Performance of Veterinary Services (PVS) gap analysis and/or PVS assessment allocate or describe specific funding from the national budget (covering a time-period either in the future or within the past five years) to address the identified gaps?**

Yes = 1 , No/country has not conducted a PVS = 0

**Current Year Score: 0**

2021

OIE PVS assessments

### 5.5.3 Financing for emergency response

#### 5.5.3a

Is there a publicly identified special emergency public financing mechanism and funds which the country can access in the face of a public health emergency (such as through a dedicated national reserve fund, an established agreement with the World Bank pandemic financing facility/other multilateral emergency funding mechanism, or other pathway identified through a public health or state of emergency act)?

Yes = 1, No = 0

**Current Year Score: 1**

There is a publicly identified special emergency public financing mechanism and funds which the country can access in the face of a public health emergency. Liberia is eligible to receive International Development Association (IDA) resources. [1] Therefore, Liberia is also able to borrow from the newly launched World Bank's Pandemic Emergency Financing Facility. [2,3]

[1] International Development Association (IDA). "Borrowing Countries". [<http://ida.worldbank.org/about/borrowing-countries>]. Accessed 15 November 2020

[2] World Bank. December 2017. "Pandemic Financing Facility". [<http://pubdocs.worldbank.org/en/119961516647620597/PEF-Operational-Brief-Dec-2017.pdf>]. Accessed 12 November 2018

[3] World Bank. 2017. "Pandemic Emergency Financing Facility: Frequently Asked Questions". [<http://www.worldbank.org/en/topic/pandemics/brief/pandemic-emergency-facility-frequently-asked-questions>]. Accessed 12 November 2020.

### 5.5.4 Accountability for commitments made at the international stage for addressing epidemic threats

#### 5.5.4a

Is there evidence that senior leaders (president or ministers), in the past three years, have made a public commitment either to:

- Support other countries to improve capacity to address epidemic threats by providing financing or support?
- Improve the country's domestic capacity to address epidemic threats by expanding financing or requesting support to improve capacity?

Needs to meet at least one of the criteria to be scored a 1 on this measure., Yes for both = 1, Yes for one = 1, No for both = 0

**Current Year Score: 0**

There is insufficient evidence that Liberian senior leaders have, in the past three years, made a public commitment to improve its own domestic capacity or support other countries to address epidemic threats. While Liberian leaders have spoken frequently about the importance of national capacity building for epidemic disease resilience in the wake of the Ebola outbreak, this was more than three years prior. The UN reports that President Sirleaf, along with the other two presidents of the Ebola-affected countries, requested an \$8 billion "Marshall Plan" from the European Union in Brussels in early 2015, from the World Bank at their annual April meetings in DC, and from the donor community at a UN-organised donor conference in July in New York in the same year. The Minister of Health, Dr. Bernice Dahn, said this funding would include support for an emergency preparedness and response structure. The President went so far as to criticize the donor community for not providing enough support for preparedness. [1,2,3,4] There is evidence in commitments to improving the health system, but insufficient evidence of efforts to invest in capacity to respond to outbreaks with pandemic potential. According to an article published on 28 May 2018 on the Ministry of Health website, the Health Minister, Wilhelmina Jallah "expressed the need to

learn from the people of Cuba about the skills and knowledge to eliminate malaria in their country, which she said was her key priority. She further appealed to the Government of Cuba to build the skills of Liberians studying in that country in specialized areas, which would greatly help her country." [5] In August 2018, the Chief Medical Officer for Liberia also led an appeal for Liberia to the World Health Organisation (WHO) to provide assistance in bridging the financial gap in the health sector. [6] There is no evidence that Liberia senior leaders have made commitments to support other countries to improve capacity to address epidemic threats in the past three years. There is no evidence on either the website of the Ministry of Health, the Ministry of Foreign Affairs or the World Health Organization.[7,8,9]

- [1] United Nations Africa Renewal. August 2015. "Billions now required to save depleted healthcare systems." [http://www.un.org/africarenewal/magazine/august-2015/billions-now-required-save-depleted-healthcare-systems]. Accessed 12 November 2020.
- [2] Scientific American. March 2015. "West Africa Unprepared for Future Health Crises Despite Ebola Aid". [https://www.scientificamerican.com/article/west-africa-unprepared-for-future-health-crises-despite-ebola-aid]. Accessed 12 November 2020.
- [3] AllAfrica. August 2015. "Liberia: Ellen Complains to UN". [http://allafrica.com/stories/201508110530.html]. Accessed 12 November 2020.
- [4] World Health Organization. July 2015. "Strengthening Primary Health Care through Community Health Workers: Investment Case and Financing Recommendations". [http://www.who.int/hrh/news/2015/CHW-Financing-FINAL-July-15-2015.pdf]. Accessed 12 November 2020.
- [5] Ministry of Health Liberia. 28 May 2018. "CUBA Offers More Assistance to Liberia's Health Sector." [http://moh.gov.lr/news/2018/cuba-offers-more-assistance-to-liberias-health-sector/]. Accessed 14 November 2020.
- [6] Ministry of Health Liberia. 30 August 2018. "Liberia appeals to WHO to bridge financial gap". [http://moh.gov.lr/news/2018/liberia-appeals-to-who-to-bridge-financial-gap/]. Accessed 14 November 2020.
- [7] Ministry of Health. [https://moh.gov.lr/] Accessed 2 December 2020.
- [8] Ministry of Foreign Affairs. [https://www.mofa.gov.lr/public2/index.php] Accessed 2 December 2020.
- [9] World Health Organization. "Liberia: Country Profiles." [https://www.who.int/gho/countries/lbr/country\_profiles/en/] Accessed 2 December 2020.

### 5.5.4b

Is there evidence that the country has, in the past three years, either:

- Provided other countries with financing or technical support to improve capacity to address epidemic threats?
- Requested financing or technical support from donors to improve the country's domestic capacity to address epidemic threats?

Needs to meet at least one of the criteria to be scored a 1 on this measure., Yes for both = 1, Yes for one = 1, No for both = 0

**Current Year Score: 1**

There is no evidence that the country has, in the past three years provided other countries with financing or technical support to improve capacity to address epidemic threats, but there is evidence that Liberia has requested financing or technical support from donors to improve the country's domestic capacity to address epidemic threats. There is evidence via the Global Health Security Funding Tracker that Liberia has received and invested donor funds by several international organizations. The tracker notes that Liberia has received funding from multiple donors to enhance their capacity on preparedness, emergency response operations, real time surveillance, zoonotic diseases among others. Some specific examples are from US Agency For International Development (USAID) for Maternal and Child Survival Program, Linkages Across the Continuum of HIV Services for Key Populations Affected by HIV (LINKAGES) Project, Global Health Support Initiatives III (GHSI-III), PREDICT II between 2014 to 2020, from World Bank for Post-Ebola Socioeconomic Recovery between 2014 to 2020, from International Development Association for Sahel Malaria and Neglected Tropical Diseases and Regional

Disease Surveillance Systems Enhancement (REDISSE) between 2014 to 2020 etc. [1] Additionally, the Liberian health sector's 2015-2021 Investment Plan includes donor commitments to epidemic preparedness.[2,3] There is no evidence that Liberia has, in the past three years, invested finances or provided support to other countries to improve capacity to address epidemic threats on either the Ministry of Health, the Ministry of Foreign Affairs, the Georgetown Infectious Disease Atlas (GIDA) Global Health Security Tracker websites or the World Health Organization (WHO) Country page for Liberia. [4,5,1,6]

[1] Global Health Security Tracker. Liberia. 2021.[ <https://tracking.ghscosting.org/table/985/recipient>] Accessed 13 May 2021

[2] Global health Security Agenda(GHSA), "Global Health Security Agenda Roadmap for Liberia", 2015.

[<https://www.ghsagenda.org/docs/default-source/ghsa-roadmaps/ghsa-liberia-roadmap.pdf>]. Accessed 13 May 2021.

[3] The White House, "FACT SHEET: United States Leadership to Advance the Global Health Security Agenda: 55 countries show concrete commitment to prevent, detect, and respond", [<https://obamawhitehouse.archives.gov/the-press-office/2016/10/12/fact-sheet-united-states-leadership-advance-global-health-security>]. Accessed 13 May 2021

[4] Ministry of Health.[<https://moh.gov.lr/>] Accessed 13 May 2021

[5] Ministry of Foreign Affairs. [<https://www.mofa.gov.lr/public2/index.php>] Accessed 13 May 2021.

[6] World Health Organization(WHO).2021. Liberia.[ <https://www.afro.who.int/countries/liberia>] Accessed 13 May 2021

#### 5.5.4c

**Is there evidence that the country has fulfilled its full contribution to the WHO within the past two years?**

Yes = 1 , No = 0

**Current Year Score: 1**

2021

Economist Impact analyst qualitative assessment based on official national sources, which vary by country

## 5.6 COMMITMENT TO SHARING OF GENETIC AND BIOLOGICAL DATA AND SPECIMENS

### 5.6.1 Commitment to sharing genetic data, clinical specimens, and/or isolated specimens (biological materials) in both emergency and nonemergency research

#### 5.6.1a

**Is there a publicly available plan or policy for sharing genetic data, clinical specimens, and/or isolated specimens (biological materials) along with the associated epidemiological data with international organizations and/or other countries that goes beyond influenza?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence of a publicly available plan or policy for sharing genetic data, clinical specimens, and/or isolated specimens (biological materials) along with the associated epidemiological data with international organizations and/or other countries that goes beyond influenza. Neither the Ministry of Health nor the Ministry of Agriculture share any relevant documents. [1,2] Liberia has a National Research Ethics Board which is guided by the World Medical Association of Helsinki, as well as the International Guidelines for Biomedical Research Involving Human Subjects, but the board does not appear to have published a publicly available policy or plan. [3] In 2019, The Telegraph and other news outlets reported that hundreds

of thousands of blood samples taken from Ebola patients in Liberia were shipped overseas without the patients' knowledge or consent, possibly to pharmaceutical companies in Western Europe and the United States. [4]

[1] Ministry of Health. [<https://moh.gov.lr/>] Accessed 12 November 2020.

[2] Ministry of Agriculture. [<https://www.moa.gov.lr/>]. Accessed 12 November 2020.

[3] National Institutes of Health (NIH). National Institute of Allergy and Infectious Diseases (IAID) ClinRegs. "Operational Guidelines (Amended Version 2019) National Research Ethics Board of Liberia (NREB) Republic of Liberia."

[<https://clinregs.niaid.nih.gov/sites/default/files/documents/liberia/G-NREB-revised.pdf>] Accessed 13 November 2020.

[4] The Telegraph. 6 February 2019. "Ebola's lost blood: row over samples flown out of Africa as 'big pharma' set to cash in."

[<https://www.telegraph.co.uk/global-health/science-and-disease/ebolas-lost-blood-row-samples-flown-africa-big-pharma-set-cash/>]. Accessed 14 November 2020.

### 5.6.1b

**Is there public evidence that the country has not shared samples in accordance with the Pandemic Influenza Preparedness (PIP) framework in the past two years?**

Yes = 0, No = 1

**Current Year Score: 1**

There is no public evidence that Liberia has not shared samples in accordance with the PIP framework in the past two years. There is no evidence found in WHO media coverage or on the WHO Pandemic Influenza Preparedness webpage. [1,2,3,4] The WHO Comparison of Current Influenza Surveillance Data with Historic Data does not display any data for Liberia from 1997 to the present, but it is not clear why no data is displayed. [5]

[1] World Health Organisation. "Pandemic Influenza Preparedness (PIP)". [<http://www.who.int/influenza/pip/en/>]. Accessed 12 November 2020.

[2] World Health Organisation. "Emergencies preparedness, response".

[<http://www.who.int/csr/don/archive/country/lbr/en/>]. Accessed 12 November 2020.

[3] World Health Organisation. "Influenza surveillance outputs". [<http://www.who.int/influenza/resources/charts/en/>]. Accessed 12 November 2020.

[4] World Health Organisation. "Influenza Updates". [[http://www.who.int/influenza/surveillance\\_monitoring/updates/en/](http://www.who.int/influenza/surveillance_monitoring/updates/en/)]. Accessed 12 November 2020.

[5] World Health Organisation. Comparison of current influenza surveillance data with historic data.

[<https://app.powerbi.com/view?r=eyJrIjoimTEyZmMONGitNjU3OS00YzgZLTgwMDYtNjQ0WJlNjNkMGZhlwiidCI6ImY2MTBjMGI3LWJkMjQ0OS00MTBiLTNkYzI4MGFmYjU5MCI3ImMiOj9>] Accessed 12 November 2020.

### 5.6.1c

**Is there public evidence that the country has not shared pandemic pathogen samples during an outbreak in the past two years?**

Yes = 0, No = 1

**Current Year Score: 1**

There is no public evidence that Liberia has not shared pandemic pathogen samples during an outbreak in the past two years. No evidence was found via World Health Organisation webpages [1,2]. A WHO update on the impact of COVID-19 in Africa published in August 2019 does not mention any withholding of samples. [3] Additionally, no evidence of withholding samples was found on the top international and local media outlet websites. In 2019, The Telegraph and other news outlets reported

that hundreds of thousands of blood samples taken from Ebola patients in Liberia were shipped overseas without the patients' knowledge or consent, possibly to pharmaceutical companies in Western Europe and the United States. [4]

[1] World Health Organisation. "Emergencies preparedness, response".

[<http://www.who.int/csr/don/archive/country/lbr/en/>]. Accessed 14 November 2020

[2] World Health Organisation. "Disease Outbreak News (DONs)". [<http://www.who.int/csr/don/en/>]. Accessed 14 November 2020.

[3] World Health Organisation. 26 August 2020. "Covid-19: Situation update for the WHO African Region."

[[https://apps.who.int/iris/bitstream/handle/10665/334003/SITREP\\_COVID-19\\_WHOAFRO\\_20200826-eng.pdf](https://apps.who.int/iris/bitstream/handle/10665/334003/SITREP_COVID-19_WHOAFRO_20200826-eng.pdf)]. Accessed 14 November 2020.

[4] The Telegraph. 6 February 2019. "Ebola's lost blood: row over samples flown out of Africa as 'big pharma' set to cash in."

[<https://www.telegraph.co.uk/global-health/science-and-disease/ebolas-lost-blood-row-samples-flown-africa-big-pharma-set-cash/>]. Accessed 14 November 2020.

## Category 6: Overall risk environment and vulnerability to biological threats

### 6.1 POLITICAL AND SECURITY RISK

#### 6.1.1 Government effectiveness

##### 6.1.1a

Policy formation (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 2

2020

Economist Intelligence

##### 6.1.1b

Quality of bureaucracy (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 0

2020

Economist Intelligence

##### 6.1.1c

Excessive bureaucracy/red tape (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 0

2020

Economist Intelligence

### **6.1.1d**

Vested interests/cronyism (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 0

2020

Economist Intelligence

### **6.1.1e**

Country score on Corruption Perception Index (0-100, where 100=best)

Input number

Current Year Score: 28

2020

Transparency International

### **6.1.1f**

Accountability of public officials (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 2

2020

Economist Intelligence

### **6.1.1g**

Human rights risk (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 1

2020

Economist Intelligence

## 6.1.2 Orderly transfers of power

### 6.1.2a

**How clear, established, and accepted are constitutional mechanisms for the orderly transfer of power from one government to another?**

Very clear, established and accepted = 4, Clear, established and accepted = 3, One of the three criteria (clear, established, accepted) is missing = 2, Two of the three criteria (clear, established, accepted) are missing = 1, Not clear, not established, not accepted = 0

**Current Year Score: 2**

2021

Economist Intelligence

## 6.1.3 Risk of social unrest

### 6.1.3a

**What is the risk of disruptive social unrest?**

Very low: Social unrest is very unlikely = 4, Low: There is some prospect of social unrest, but disruption would be very limited = 3, Moderate: There is a considerable chance of social unrest, but disruption would be limited = 2, High: Major social unrest is likely, and would cause considerable disruption = 1, Very high: Large-scale social unrest on such a level as to seriously challenge government control of the country is very likely = 0

**Current Year Score: 2**

2021

Economist Intelligence

## 6.1.4 Illicit activities by non-state actors

### 6.1.4a

**How likely is it that domestic or foreign terrorists will attack with a frequency or severity that causes substantial disruption?**

No threat = 4, Low threat = 3, Moderate threat = 2, High threat = 1, Very high threat = 0

**Current Year Score: 2**

2021

Economist Intelligence

### 6.1.4b

**What is the level of illicit arms flows within the country?**

4 = Very high, 3 = High, 2 = Moderate, 1 = Low, 0 = Very low

**Current Year Score: 3**

2020

UN Office of Drugs and Crime (UNODC)

### 6.1.4c

**How high is the risk of organized criminal activity to the government or businesses in the country?**

Very low = 4, Low = 3, Moderate = 2, High = 1, Very high = 0

**Current Year Score: 2**

2021

Economist Intelligence

## 6.1.5 Armed conflict

### 6.1.5a

**Is this country presently subject to an armed conflict, or is there at least a moderate risk of such conflict in the future?**

No armed conflict exists = 4, Yes; sporadic conflict = 3, Yes; incursional conflict = 2, Yes, low-level insurgency = 1, Yes; territorial conflict = 0

**Current Year Score: 3**

2021

Economist Intelligence

## 6.1.6 Government territorial control

### 6.1.6a

**Does the government's authority extend over the full territory of the country?**

Yes = 1, No = 0

**Current Year Score: 1**

2021

Economist Intelligence

## 6.1.7 International tensions

### 6.1.7a

**Is there a threat that international disputes/tensions could have a negative effect?**

No threat = 4, Low threat = 3, Moderate threat = 2, High threat = 1, Very high threat = 0

**Current Year Score: 3**

2021

Economist Intelligence

## 6.2 SOCIO-ECONOMIC RESILIENCE

### 6.2.1 Literacy

#### 6.2.1a

Adult literacy rate, population 15+ years, both sexes (%)

Input number

Current Year Score: 48.3

2017

United Nations Development Programme (UNDP); United Nations Educational, Scientific and Cultural Organization (UNESCO);  
The Economist Intelligence Unit

### 6.2.2 Gender equality

#### 6.2.2a

United Nations Development Programme (UNDP) Gender Inequality Index score

Input number

Current Year Score: 0.35

2018

United Nations Development Programme (UNDP); The Economist Intelligence Unit

### 6.2.3 Social inclusion

#### 6.2.3a

Poverty headcount ratio at \$1.90 a day (2011 PPP) (% of population)

Input number

Current Year Score: 14.5

2016

World Bank; Economist Impact

#### 6.2.3b

Share of employment in the informal sector

Greater than 50% = 2, Between 25-50% = 1, Less than 25% = 0

**Current Year Score: 2**

The share of employment in the informal sector in Liberia is 93.4%, with 96.7% for women and 90.3% for men, according to 2014 International Labour Organization statistics. [1]

[1] International Labour Organization. ILOSTAT Country Profiles, Liberia. [<https://ilostat.ilo.org/data/country-profiles/>]. Accessed 18 November 2020.

### 6.2.3c

#### Coverage of social insurance programs (% of population)

Scored in quartiles (0-3, where 3=best)

**Current Year Score: 0**

2016, or latest available

World Bank; Economist Impact calculations

## 6.2.4 Public confidence in government

### 6.2.4a

#### Level of confidence in public institutions

Input number

**Current Year Score: 0**

2021

Economist Intelligence Democracy Index

## 6.2.5 Local media and reporting

### 6.2.5a

Is media coverage robust? Is there open and free discussion of public issues, with a reasonable diversity of opinions?

Input number

**Current Year Score: 2**

2021

Economist Intelligence Democracy Index

## 6.2.6 Inequality

### 6.2.6a

#### Gini coefficient

Scored 0-1, where 0=best

Current Year Score: 0.35

Latest available.

World Bank; Economist Impact calculations

## 6.3 INFRASTRUCTURE ADEQUACY

### 6.3.1 Adequacy of road network

#### 6.3.1a

What is the risk that the road network will prove inadequate to meet needs?

Very low = 4, Low = 3, Moderate = 2, High = 1, Very high = 0

Current Year Score: 0

2021

Economist Intelligence

### 6.3.2 Adequacy of airports

#### 6.3.2a

What is the risk that air transport will prove inadequate to meet needs?

Very low = 4, Low = 3, Moderate = 2, High = 1, Very high = 0

Current Year Score: 1

2021

Economist Intelligence

### 6.3.3 Adequacy of power network

#### 6.3.3a

What is the risk that power shortages could be disruptive?

Very low = 4, Low = 3, Moderate = 2, High = 1, Very high = 0

Current Year Score: 0

2021

Economist Intelligence

## 6.4 ENVIRONMENTAL RISKS

### 6.4.1 Urbanization

#### 6.4.1a

Urban population (% of total population)

Input number

Current Year Score: 51.62

2019

World Bank

### 6.4.2 Land use

#### 6.4.2a

Percentage point change in forest area between 2006–2016

Input number

Current Year Score: -3.14

2008-2018

World Bank; Economist Impact

### 6.4.3 Natural disaster risk

#### 6.4.3a

What is the risk that the economy will suffer a major disruption owing to a natural disaster?

Very low = 4, Low = 3, Moderate = 2, High = 1, Very high = 0

Current Year Score: 3

2021

Economist Intelligence

## 6.5 PUBLIC HEALTH VULNERABILITIES

### 6.5.1 Access to quality healthcare

#### 6.5.1a

Total life expectancy (years)

Input number

Current Year Score: 63.73

2018

United Nations; World Bank, UNICEF; Institute for Health Metrics and Evaluation (IHME); Central Intelligence Agency (CIA)  
World Factbook

**6.5.1b**

**Age-standardized NCD mortality rate (per 100 000 population)**

Input number

**Current Year Score: 506.4**

2019

WHO

**6.5.1c**

**Population ages 65 and above (% of total population)**

Input number

**Current Year Score: 3.29**

2019

World Bank

**6.5.1d**

**Prevalence of current tobacco use (% of adults)**

Input number

**Current Year Score: 8.4**

2018

World Bank

**6.5.1e**

**Prevalence of obesity among adults**

Input number

**Current Year Score: 9.9**

2016

WHO

## 6.5.2 Access to potable water and sanitation

### 6.5.2a

Percentage of homes with access to at least basic water infrastructure

Input number

Current Year Score: 72.95

2017

UNICEF; Economist Impact

### 6.5.2b

Percentage of homes with access to at least basic sanitation facilities

Input number

Current Year Score: 16.97

2017

UNICEF; Economist Impact

## 6.5.3 Public healthcare spending levels per capita

### 6.5.3a

Domestic general government health expenditure per capita, PPP (current international \$)

Input number

Current Year Score: 3180.74

2018

WHO Global Health Expenditure database

## 6.5.4 Trust in medical and health advice

### 6.5.4a

Trust medical and health advice from the government

Share of population that trust medical and health advice from the government , More than 80% = 2, Between 60-80%, or no data available = 1, Less than 60% = 0

Current Year Score: 1

2018

Wellcome Trust Global Monitor 2018

**6.5.4b**

**Trust medical and health advice from medical workers**

Share of population that trust medical and health advice from health professionals , More than 80% = 2, Between 60-80%, or no data available = 1, Less than 60% = 0

**Current Year Score: 2**

2018

Wellcome Trust Global Monitor 2018