

# Lebanon

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

<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	14
1.4 Biosafety	22
1.5 Dual-use research and culture of responsible science	24
1.6 Immunization	28
<b>CATEGORY 2: EARLY DETECTION AND REPORTING FOR EPIDEMICS OF POTENTIAL INTERNATIONAL CONCERN</b>	<b>28</b>
2.1 Laboratory systems strength and quality	28
2.2 Laboratory supply chains	31
2.3 Real-time surveillance and reporting	32
2.4 Surveillance data accessibility and transparency	35
2.5 Case-based investigation	41
2.6 Epidemiology workforce	44
<b>CATEGORY 3: RAPID RESPONSE TO AND MITIGATION OF THE SPREAD OF AN EPIDEMIC</b>	<b>46</b>
3.1 Emergency preparedness and response planning	46
3.2 Exercising response plans	49
3.3 Emergency response operation	51
3.4 Linking public health and security authorities	53
3.5 Risk communications	54
3.6 Access to communications infrastructure	58

3.7 Trade and travel restrictions	59
-----------------------------------	----

**CATEGORY 4: SUFFICIENT AND ROBUST HEALTH SECTOR TO TREAT THE SICK AND PROTECT HEALTH WORKERS 61**

4.1 Health capacity in clinics, hospitals, and community care centers	61
---	----

4.2 Supply chain for health system and healthcare workers	64
---	----

4.3 Medical countermeasures and personnel deployment	69
--	----

4.4 Healthcare access	70
-----------------------	----

4.5 Communications with healthcare workers during a public health emergency	72
---	----

4.6 Infection control practices and availability of equipment	73
---	----

4.7 Capacity to test and approve new medical countermeasures	74
--	----

**CATEGORY 5: COMMITMENTS TO IMPROVING NATIONAL CAPACITY, FINANCING PLANS TO ADDRESS GAPS, AND ADHERING TO GLOBAL NORMS 77**

5.1 International Health Regulations (IHR) reporting compliance and disaster risk reduction	77
---	----

5.2 Cross-border agreements on public health and animal health emergency response	78
---	----

5.3 International commitments	79
-------------------------------	----

5.4 Joint External Evaluation (JEE) and Performance of Veterinary Services Pathway (PVS)	81
--	----

5.5 Financing	82
---------------	----

5.6 Commitment to sharing of genetic and biological data and specimens	86
--	----

**CATEGORY 6: OVERALL RISK ENVIRONMENT AND VULNERABILITY TO BIOLOGICAL THREATS 88**

6.1 Political and security risk	88
---------------------------------	----

6.2 Socio-economic resilience	91
-------------------------------	----

6.3 Infrastructure adequacy	93
-----------------------------	----

6.4 Environmental risks	94
-------------------------	----

6.5 Public health vulnerabilities	95
-----------------------------------	----

## 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 evidence that Lebanon has a national Antimicrobial Resistance (AMR) plan for the surveillance, detection and reporting of priority AMR pathogens. The Ministry of Public Health (MoPH) has a National Antibiotic Resistance Committee and AMR taskforce that works on AMR surveillance and awareness, however there is no evidence that the taskforce has established a plan. The Joint External Evaluation (JEE) report for Lebanon, published in July 2016, states that the taskforce "includes experts in infectious diseases, microbiology, pharmacy, paediatrics, and veterinary medicine, as well as representatives from the MoPH, Ministry of Agriculture, and the World Health Organization Country Office. In 2015, the committee drafted a national AMR plan, which needs to be finalized and officially approved." [1,2] No new or updated evidence was found of a published and finalized plan. A more recent publication, posted in 2017 on the website of AMR CONTROL, confirmed that the plan had not been finalized yet stating that the committee "has been working for more than a decade to develop a national plan of action to combat the emergence of antibiotic resistance. Despite the WHO guidelines in this regard, the plan is yet to emerge". [3] The MoPH antimicrobial resistance page and the WHO library of national action plans do not include an AMR plan for Lebanon [4,5]. Despite the lack of AMR plan in Lebanon, according to the JEE report, ongoing surveillance of AMR pathogens is conducted in some health-care facilities. For example, national data on bacterial susceptibility patterns in humans have been analysed over the past decade in tertiary care centers. These data are being used by experts in the national AMR committee with a view to developing standard treatment guidelines as part of a national antimicrobial stewardship (AMS) programme [2]

[1] Ministry of Public Health. October 2015. "Antimicrobial Resistance Surveillance in Lebanon, A Bird Eye View".

[<https://www.moph.gov.lb/userfiles/files/Education/AMRSurveillanceBirdEye.pdf>]. Accessed 9 September 2020.

[2] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 9 September 2020.

[3] Resistance Control website. Salameh, P., Sacre, H., Hallit, S., Hajj, A. July 2017. "Antibiotic Resistance in Lebanon."

[<http://resistancecontrol.info/2017/antibiotic-resistance-in-lebanon/>]. Accessed 3rd February 2019.

[4] Ministry of Public Health website. October 2015. "Antimicrobial Resistance."

[<https://www.moph.gov.lb/en/Pages/11/2607/antimicrobial-resistance>]. Accessed 9 September 2020.

[5] World Health Organization. "Antimicrobial Resistance - Library of National Action Plans."

[<https://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]. Accessed 9 September 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: 2**

Lebanon has a national laboratory/laboratory system that tests for priority Antimicrobial Resistance (AMR) pathogens. According to the Joint External Evaluation (JEE) report for Lebanon, published in July 2016, mentions that using Clinical and Laboratory Standards Institute breakpoints, human laboratories in the country have the capacity to detect and report on all 7+1 priority AMR pathogens listed by WHO including *Escherichia coli*, *Klebsiella pneumoniae*, *Staphylococcus aureus*, *Streptococcus pneumoniae*, *Salmonella spp.*, *Shigella spp.*, and *Neisseria gonorrhoeae* and *Mycobacterium tuberculosis*. The same source mentions that the American University Hospital is a referral laboratory for human AMR pathogens; given that it is part of the national AMR committee, the laboratory supports the Ministry of Public Health by working with 33 major health-care facilities to identify methods used for AMR testing. Also, the JEE report states that Mériex laboratory at the University St Joseph (USJ) is the second national reference laboratory for AMR in Lebanon. [1] The American University of Beirut Medical Center's AMR susceptibility report, published in 2014, further confirms that Lebanon has the capacity to detect and report on priority AMR pathogens [2]. In April 2017, Lebanon became a member of the World Health Organizations' (WHO) Global Antimicrobial Resistance Surveillance System (GLASS). The GLASS Lebanon country profile on the WHO website, mentions that these two reference laboratories conduct surveillance and Antibiotic Susceptibility Testing and providing this data to GLASS [3].

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 9 September 2020.

[2] Moghnieh, R., Araj, G.F., Awad, L. et al. "A Compilation of Antimicrobial Ausceptibility Data from a Network of 13 Lebanese Hospitals Reflecting the National Situation During 2015-2016." [<https://aricjournal.biomedcentral.com/articles/10.1186/s13756-019-0487-5#citeas>]. Accessed 9 September 2020.

[3] World Health Organization. 2016-2017. "Global Antimicrobial Resistance Surveillance System (GLASS) Report, Early Implementation." [<https://reliefweb.int/sites/reliefweb.int/files/resources/9789241513449-eng.pdf>]. Accessed 9 September 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 the Lebanese government conducts environmental detection or surveillance (e.g., in soil, waterways) for antimicrobial residues on antimicrobial resistance (AMR) organisms. Although the Lebanese Agricultural Research Institute (LARI), a governmental institute under the Ministry of Agriculture conducts soil testing to protect against environmental hazards resulting from excessive fertilizer applications and other agricultural practices, as well as drinking and irrigation water analysis to assess water quality based on chemical and microbial contents, there is no mention that the institute conducts surveillance of antimicrobial residues or AMR organisms. [1] The National Centre for Marine Sciences (NCMS) runs several seawater monitoring programs, including physical, chemical, hydrological and microbiological parameters, the Centre nonetheless does not conduct surveillance on antimicrobial residues or organisms. [2] The websites of the Ministry of Agriculture, Ministry of Environment and Ministry of Public Health do not include relevant

information on environmental detection or surveillance (e.g., in soil, waterways) for antimicrobial residues on antimicrobial resistance (AMR) organisms. [3,4,5] Lebanon does not have a publicly available national action plan on antimicrobial resistance. [6]

[1] Lebanese Agricultural Research Institute (LARI). [<http://www.lari.gov.lb/about>]. Accessed 9 September 2020.

[2] ECODIT-led Consortium. May 2015. "Strategic Environmental Assessment for the New Water Sector Strategy for Lebanon - Final Sea Report."

[<http://www.databank.com.lb/docs/Strategic%20environmental%20assessment%20report%20of%20the%20water%20strategy%20for%20Lebanon-Ministry%20of%20Environment%202015.pdf>]. Accessed 9 September 2020.

[3] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 9 September 2020.

[4] Ministry of Environment. [<http://www.moe.gov.lb/?lang=en-us>]. Accessed 9 September 2020.

[5] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 9 September 2020.

[6] World Health Organization. "Antimicrobial Resistance: Library of National Action Plans."

[<https://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]. Accessed 9 September 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: 1**

There is publicly available evidence that Lebanon has national legislation or regulation in place requiring prescriptions for antibiotic use for humans, but there is evidence of gaps in enforcement. In accordance with Law no. 367 issued in 1994, specifically article 43, in addition to Law no.91 amended articles 46 and 47, pharmacies in Lebanon are not allowed to dispense any medicine without medical prescription; this nonetheless excludes a list of medicines established by the Orders of Pharmacists and Physicians. [1] The most recent edition of the list does not include any antibiotics. [2] However, the Joint External Evaluation (JEE) report for Lebanon, published in July 2016, mentions that a pilot survey showed that despite the existing antibiotic dispensing regulations, around 42% of the population buy antibiotics from pharmacies without prescriptions in Beirut and its suburbs. The report does not include information about prescription law being enforced. [3] A report by Resistance Control, published in 2017, also confirms that dispensing antibiotics without prescriptions is common in Lebanon. [4] The website of the Ministry of Public Health does not include information about enforcing the law of medical prescriptions. [5]

[1] Ministry of Public Health. "National OTC Medicines List."

[<https://www.moph.gov.lb/en/Pages/3/3010/pharmaceuticals#/en/view/3531/national-otc-medicines-list>]. Accessed 10 September 2020.

[2] Ministry of Public Health. "National OTC Medicines List - First Edition

2018." [<https://www.moph.gov.lb/userfiles/files/HealthCareSystem/Pharmaceuticals/OTCMedicineList/OTC2018-FirstEdition%20for%20web.pdf>]. Accessed 10 September 2020.

[3] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<http://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 10 September 2020.

[4] Salameh, P., Sacre, H., Hallit, S., Hajj, A. "Antibiotic Resistance in Lebanon." [<http://resistancecontrol.info/2017/antibiotic-resistance-in-lebanon/>]. Accessed 10 September 2020.

[5] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 10 September 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 that Lebanon has national legislation or regulation in place requiring prescriptions for antibiotic use for animals. The Joint External Evaluation (JEE) report for Lebanon, published in July 2016, states that the draft national antimicrobial resistance (AMR) plan should restrict antibiotic use without prescription for human and animal sectors, especially because antibiotics are still used illegally without a prescription, particularly for growth promotion. The report, however, does not refer to existing regulations or legislation on this matter. [1] Although the Lebanon National Agriculture Strategy 2015-2019 strategy states that the animal health and animal production sector suffers from the irrational use of antibiotics and chemicals, [2] the 2020-2025 strategy does not include information on national legislation or regulation requiring prescriptions for antibiotic use for animals. [3] The websites of the Ministry of Public Health and the Ministry of Agriculture do not include information on this matter. [4,5]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 10 September 2020.

[2] Ministry of agriculture. "The Lebanon National Agriculture Strategy 2015-2019."

[<http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/Strategy-2015-2019/MoA-Strategy-2015-19-Arabic-for-printing.pdf?lang=ar-LB>]. Accessed 10 September 2020.

[3] Ministry of agriculture. "The Lebanon National Agriculture Strategy 2020-2025."

[<http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB>]. Accessed 10 September 2020.

[4] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 10 September 2020.

[5] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 10 September 2020.

## 1.2 ZOOONOTIC 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 publicly available evidence that Lebanon has national legislation, plan or equivalent strategy documents on zoonotic disease. The Joint External Evaluation (JEE) report for Lebanon, published in July 2016, states that surveillance systems are in place to detect at least five priority zoonotic diseases identified between the Ministry of Agriculture (MoA) and the Ministry of Public Health (MoPH). For some priority zoonotic diseases, the animal and human health sectors have joint preparedness and response plans, surveillance systems, and specific joint committees that meet regularly. The report, nonetheless, indicates that while disease-specific plans are available, there is no comprehensive multisectoral plan or strategy for preparedness, surveillance, detection, assessment, and response to zoonotic diseases in Lebanon, which in turn results in

preventative and containment responses frequently happening on an ad hoc basis. [1] In 2014, The MoPH Communicable Disease Department published guidelines on conducting surveillance and response measures including tests to be done, reference laboratories and case management guidelines for several priority and zoonotic diseases such as pertussis, leishmania and the MERS CoV. [2] The Ministry of Public Health (MoPH) also published operational guidelines on identifying suspected and confirmed cases of priority non-communicable diseases in humans, including several zoonotic diseases such as Brucellosis, Hydatid Disease and rabies amongst others [3,4]. The websites of the Ministry of Environment and the Ministry of Public Health do not include information on an a national plan or strategy on zoonotic diseases. [5,6]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 10 September 2020.

[2] Ministry of Public Health. "Guidelines for Medical Center, Dispensary and Field Medical Unit Based Surveillance and Response." [https://www.moph.gov.lb/DynamicPages/download\_file/1088]. Accessed 10 September 2020.

[3] Ministry of Public Health. "Epidemiological Surveillance - Brucellosis." [https://www.moph.gov.lb/userfiles/files/Esu\_resources/Esu\_cade/cade\_bru.pdf]. Accessed 10 September 2020.

[4] Ministry of Public Health. "Epidemiological Surveillance -Hydatid Disease (Cystic) or Cystic Echinococcosis." [https://www.moph.gov.lb/userfiles/files/Esu\_resources/Esu\_cade/cade\_hyd.pdf]. Accessed 10 September 2020.

[5] Ministry of Environment. [http://www.moe.gov.lb/]. Accessed 10 September 2020.

[6] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 10 September 2020.

### 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: 0**

There is no public evidence that Lebanon has plans or equivalent strategy document(s) which include measures for risk identification and reduction for zoonotic disease spillover events from animals to humans.

According to the Joint External Evaluation (JEE) report for Lebanon, published in July 2016, the country has a zoonotic surveillance system in place, with limited capacity for wildlife disease monitoring. The report, however, does not mention any plans or equivalent strategy document(s) regarding risk identification and reduction of zoonotic disease spillover from animals to humans. [1] In 2014, the Ministry of Public Health (MoPH) Communicable Disease Department published guidelines on conducting surveillance and response measures for several priority and zoonotic diseases; the document touches on zoonotic diseases in animals but does not include measures for risk identification and reduction for zoonotic disease spillover events from animals to humans. [2]

The MoPH also published operational guidelines on identifying suspected and confirmed cases of priority non-communicable diseases in humans, including several zoonotic diseases such as Brucellosis. The guidelines for suspected and confirmed Brucellosis cases take into account suspected/confirmed animal cases or contaminated animal products; nonetheless, the guidelines do not provide further information on risk identification and reduction for zoonotic disease spillover from animals to humans. [3] The Ministry of Agriculture's (MoA) 2020 - 2025 strategy and the websites of the MoA and MoPH do not include any further evidence. [4,5,6]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1].



Accessed 10 September 2020.

[2] Ministry of Public Health. "Guidelines for Medical Center, Dispensary and Field Medical Unit Based Surveillance and Response." [https://www.moph.gov.lb/DynamicPages/download\_file/1088]. Accessed 22 October 2020.

[3] Ministry of Public Health. "Epidemiological Surveillance - Brucellosis." https://www.moph.gov.lb/userfiles/files/Esu\_resources/Esu\_cade/cade\_bru.pdf. Accessed 22 October 2020.

[4] Ministry of Agriculture. "The Lebanon National Agriculture Strategy 2020-2025." [http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB]. Accessed 10 September 2020.

[5] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 10 September 2020.

[6] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 10 September 2020.

### 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**

There is publicly available evidence that Lebanon has national national legislation, plans, or guidelines that account for the surveillance and control of multiple zoonotic pathogens of public health concern. The Joint External Evaluation (JEE) report for Lebanon, published in July 2016, mentions that the country has surveillance systems in place to detect at least five priority zoonotic diseases identified by the Ministry of Agriculture (MoA) and the Ministry of Public Health (MoPH). The report further recommends strengthening both the epidemiological capacity and the animal health diagnostics capacity of the MoA, and introducing more routinized forms of inter-ministerial communication for planning and assessing surveillance of zoonotic diseases as these still happen on an ad hoc basis. [1] In 2014, the Communicable Disease Department of the MoPH published guidelines on conducting surveillance and response measures including tests to be done, reference laboratories and case management guidelines for several priority and zoonotic diseases such as pertussis, leishmania and the MERS CoV. [2] The Ministry of Public Health (MoPH) also published operational guidelines on identifying suspected and confirmed cases of priority non-communicable diseases in humans, including several zoonotic diseases such as Brucellosis, Hydatid Disease and rabies amongst others. [3,4]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 10 September 2020.

[2] Ministry of Public Health. "Guidelines for Medical Center, Dispensary and Field Medical Unit Based Surveillance and Response." [https://www.moph.gov.lb/en/view/3781/communicable-diseases-guidelines-surveillance-and-response]. Accessed 10 September 2020.

[3] Ministry of Public Health. "Epidemiological Surveillance - Brucellosis." https://www.moph.gov.lb/userfiles/files/Esu\_resources/Esu\_cade/cade\_bru.pdf. Accessed 10 September 2020.

[4] Ministry of Public Health. "Epidemiological Surveillance -Hydatid Disease (Cystic) or Cystic Echinococcosis." [https://www.moph.gov.lb/userfiles/files/Esu\_resources/Esu\_cade/cade\_hyd.pdf]. Accessed 10 September 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 publicly available evidence that Lebanon has department, agency, or similar unit dedicated to zoonotic disease that functions across ministries. According to the External Evaluation (JEE) report for Lebanon, published in July 2016, although formal disease-specific collaboration takes place when necessary, there has not been a department, agency, or similar unit for routine collaboration since the dissolution in 2009 of the Standing Committee for Zoonotic Diseases. The same source mentions that the Ministry of Public Health (MoPH) and the Ministry of Agriculture (MoA) under which the Department of Animal Health is located, engage in rapid and effective communication and collaboration where relevant documents and information are shared upon request. Nonetheless, the country lacks a standard mechanism for routine inter-ministerial communication. Accordingly, the Lebanese JEE report recommends establishing and implementing a standardized mechanism to enable regular coordination and data sharing related to zoonotic diseases between MoPH and MoA, as their communication and collaboration still largely happens on an ad hoc basis. [1] The MoA's 2020 - 2025 strategy and the websites of the MoA and MoPH do not include information on department, agency, or similar unit dedicated to animal or zoonotic diseases. [2,3,4]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 10 September 2020.

[2] Ministry of Agriculture. "The Lebanon National Agriculture Strategy 2020-2025." [http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB]. Accessed 10 September 2020.

[3] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 10 September 2020.

[4] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 10 September 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 Lebanon has a national mechanism (either voluntary or mandatory) for owners of livestock to conduct and report on disease surveillance to a central government agency. According to the website of the Ministry of Public health (MoPH), the ministry conducts epidemiological surveillance on communicable diseases in humans; however, there is no evidence of surveillance activities of such diseases in animals nor is there an evidence of a reporting mechanism for owners of livestock. [1] A report published by the International Fund for Agriculture Development (IFAD) in 2017, mentions that the influx of livestock that entered Lebanon with Syrian refugees exerted additional logistical and budgetary pressure on national surveillance and control of animal diseases, in particular Transboundary Animal Diseases (TADs) which have the potential to rapidly spread over borders. According to the same source, the control of TADS is under the responsibility of the National Veterinary Services who regularly undertake vaccination campaigns free of charge for farmers, however the national veterinary services are largely understaffed and their ability to control disease outbreaks are hindered by the lack of a functional animal database and disease information or an animal identification system [2] The Food and Agriculture Organization (FAO) also reported that risk of outbreaks amongst livestock is a constant threat in Lebanon especially with the limited disease surveillance and reporting. [3] The websites of the Ministry of Agriculture and MoPH do

not include information on this matter. [4,5]

[1] Ministry of Public Health. "Epidemiological Surveillance." [https://www.moph.gov.lb/en/Pages/2/193/esu]. Accessed 10 September 2020.

[2] International Fund for Agricultural Development. "Republic of Lebanon: Harmonised Actions for Livestock Enhanced Production and Processing (HALEPP)." [https://webapps.ifad.org/members/lapse-of-time/docs/english/EB-2017-LOT-P-11-Project-Design-Report.pdf]. Accessed 10 September 2020.

[3] Food and Agriculture Organization of the United Nations. 2016. "Emergency Vaccination Against Transboundary Animal Diseases in Lebanon." [http://www.fao.org/3/a-i5746e.pdf]. Accessed 10 September 2020.

[4] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 10 September 2020.

[5] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 10 September 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 that Lebanon has legislation and/or regulations that safeguard the confidentiality of information generated through surveillance activities for animals (for owners). Lebanon does not have an overarching data protection law but confidentiality articles are included in certain laws. None of the laws/articles, however, address confidentiality of information generated through surveillance activities for owners of animals. For example, Law 140/1999 on the protection of secrecy of communications, stipulates that the right to secrecy of communications, both internal and external, is guaranteed and protected by law and cannot be subjected to any forms of tapping, surveillance, interception or violation except in cases of extreme urgency and upon obtaining a judicial or administrative order [1]. Article 579 of the Penal code states that those who obtain confidential knowledge by means of their profession and expose such information without a legitimate reason or for personal gain will be imprisoned for up to one year and will pay fine. The Right to Access Information Law ratified in 2017 also prevents public institutions from providing unauthorized people with private and personal information about Lebanese citizens [2,3]. The Right to Privacy in Lebanon report, published in 2015 by the Universal Periodic Review (UPR) also provides a comprehensive review of privacy regulations and laws in the country; the report does not include information on legislation and/or regulations that safeguard the confidentiality of information generated through surveillance activities for animals (for owners). [4] The websites of the Ministry of Agriculture and Ministry of Public Health do not include information on this matter either. [5,6]

[1] Privacy International. "State of Privacy in Lebanon." [https://privacyinternational.org/state-privacy/1081/state-privacy-lebanon#commssurveillance]. Accessed 10 September 2020.

[2] Executive Magazine. "A Step Toward Transparency: Obstacles, Benefits and the Need for Anti-Corruption Commission." [http://www.executive-magazine.com/special-feature/a-step-toward-transparency]. Accessed 10 September 2020.

[3] Transparency Lebanon. "Right to Access Information Law." [http://transparency-lebanon.org/Modules/PressRoom/News/UploadFile/4811\_Ar\_20,01,YYAti-law.pdf]. Accessed 10 September 2020.

[4] Universal Periodic Review. "The Right to Privacy in Lebanon." [https://www.upr-lebanon.org/wp-content/uploads/2015/10/Lebanon\_UPR\_23rd\_session\_Joint\_Stakeholder\_submission\_0.pdf]. Accessed 10 September 2020.

[5] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 10 September 2020.

[6] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 10 September 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: 0**

There is no publicly available evidence that Lebanon conducts surveillance of zoonotic disease in wildlife (e.g., wild animals, insects, other disease vectors). The Department of Ecosystems of the Ministry of Environment is responsible for the protection of wildlife in the country, however, there is no evidence that the Ministry conducts surveillance of zoonotic diseases in wildlife. [1,2] The Ministry of Agriculture's website does not mention any surveillance activities in wildlife, nor does the Lebanon National Agriculture Strategy 2020 - 2025. [3,4] The website of the Ministry of Public Health does not include information on surveillance of zoonotic disease in wildlife in Lebanon. [5] According to Lebanon's Joint External Evaluation assessment, published in July 2016, the country has a limited capacity in terms of surveillance of wildlife without including details about diseases in wildlife. [6]

[1] Ministry of Environment. "Department of Ecosystems." [<http://www.moe.gov.lb/الوزارة/About-the-ministry/-الهيكلية>]. Accessed 12 September 2020.

[2] Ministry of Environment. [<http://www.moe.gov.lb/?lang=en-us>]. Accessed 12 September 2020.

[3] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 10 September 2020.

[4] Ministry of Agriculture. "The Lebanon National Agriculture Strategy 2020-2025." [<http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB>]. Accessed 12 September 2020.

[5] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 10 September 2020.

[6] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 12 September 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: 0

There is no publicly available evidence that Lebanon has 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. The External Evaluation (JEE) report for Lebanon, published in July 2016, mentions that "in serious outbreaks of priority zoonotic disease (with or without human cases), there has previously been rapid, effective, coordinated, multisectoral response supported by the Prime Minister, the Ministry of Public Health (MoPH), Ministry of Agriculture (MoA), and other relevant governmental and private stakeholders, as was demonstrated during the 2016 H5N1 avian influenza outbreak." However, the report does not mention or refer to any formal mechanisms for working with the private sector in controlling or responding to such diseases in the country. [1] Neither the Ministry of Agriculture's website nor the Lebanon National Agriculture Strategy 2020 - 2025 mention that the country has a national plan on zoonotic disease or any other mechanisms for working with the private sector in controlling or responding to zoonoses. [2,3] The website of the Ministry of Public Health does not include information on this matter. [4]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 12 September 2020.

[2] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 10 September 2020.

[3] Ministry of Agriculture. "The Lebanon National Agriculture Strategy 2020-2025."

[<http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB>]. Accessed 12 September 2020.

[4] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 10 September 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 no publicly available evidence that Lebanon has a record in place, 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. The External Evaluation (JEE) report for Lebanon, published in July 2016, states that the country does not have inventory of facilities in which dangerous pathogens and toxins are stored. [1] The websites for the Ministry of Defense, the Ministry of Public Health (MoPH), the Ministry of Agriculture, the Lebanon National Agriculture Strategy 2020 - 2025, and the Lebanese Agricultural Research Institute (LARI) do not include information on a centralized record of facilities housing especially dangerous pathogens and toxins in Lebanon. [2,3,4,5,6] The websites of Rodolphe Mérieux Laboratory of Beirut, Rafik Hariri University Hospital and American University of Beirut Medical Center do not include relevant information either. [7,8,9] The VERTIC database for Lebanon does not include information on such records. [10] Although, Lebanon has submitted a Confidence Building Measures report under the Biological Weapons Convention report in 2019, the report is not accessible to the public, and it remains unknown if it includes information on this matter. [11]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 12 September 2020.

[2] Ministry of Defense. [http://www.mod.gov.lb]. Accessed 12 September 2020.

[3] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 12 September 2020.

[4] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 10 September 2020.

[5] Ministry of Agriculture. "The Lebanon National Agriculture Strategy 2020-2025."

[http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB]. Accessed 12 September 2020.

[6] Lebanese Agricultural Research Institute (LARI). [http://www.lari.gov.lb/about]. Accessed 12 September 2020.

[7] Rodolphe Mérieux Laboratory of Beirut. [https://www.fondation-merieux.org/en/what-we-do/increasing-access-to-diagnostics/developing-infrastructure/rodolphe-merieux-laboratory-of-lebanon/]. Accessed 12 September 2020.

[8] Rafik Hariri University Hospital [http://www.bguh.gov.lb/Home.aspx#.XDYKOc8zbOQ]. Accessed 12 September 2020.

[9] American University of Beirut Medical Center - Pathology and Laboratory Medicine.

[https://labmed.aub.edu.lb/plm/index.php?a=scope]. Accessed 12 September 2020.

[10] VERTIC. "Lebanon." [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/]. Accessed 22 October 2020.

[11] Biological Weapons Convention - Lebanon. [https://bwc-ecbm.unog.ch/state/lebanon]. Accessed 12 September 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 Lebanon has a legislation and/or regulation in place 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 the Joint External Evaluation (JEE) report for Lebanon, published in July 2016, the country does not have biosafety and biosecurity regulation as of yet, although a biosecurity system does exist. The report further explains that the country's existing biosafety and biosecurity system is of limited capacity (score 2 out of 5), where mandatory licensing for human medical laboratories, for both public and private laboratories, include biosecurity concepts. However, and according to the same source, national authorities do not carry out formal supervision ensuring ongoing compliance with the requirements, and multiple laboratories that work with dangerous pathogens and toxins are not registered with the government. [1] In 2017, the MoPH released Good Laboratory Practices for Pharmaceutical Quality Control Laboratories in Lebanon report including some security guidelines such as restricting access to laboratories to authorized personnel, and standard operating procedures for electronic data protection. However, the guidelines are not deemed to be enforceable regulations. [2] The websites the Ministry of Defense, the Ministry of Public Health (MoPH), the Ministry of Agriculture, the Lebanon National Agriculture Strategy 2020 - 2025, and the Lebanese Agricultural Research Institute (LARI) do not include information on national legislation and/or regulations related to biosecurity. [3,4,5,6,7] The VERTIC database for Lebanon does not include regulations relevant to this matter. [8] Although Lebanon submitted a Confidence Building Measures under the Biological Weapons Convention report in 2019, the report is not accessible to the public, and it remains unknown if it includes information on this matter. [9]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 12 September 2020.

[2] Ministry of Public Health. "Good Laboratory Practices for Pharmaceutical Quality Control Laboratories in Lebanon." [<https://moph.gov.lb/userfiles/files/HealthCareSystem/Pharmaceuticals/QualityAssuranceofPharmaceuticalProducts/GLPGuidelines-2017.pdf>]. Accessed 12 September 2020.

[3] Ministry of Defense. [<http://www.mod.gov.lb>]. Accessed 12 September 2020.

[4] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 12 September 2020.

[5] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 10 September 2020.

[6] Ministry of Agriculture. "The Lebanon National Agriculture Strategy 2020-2025." [<http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB>]. Accessed 12 September 2020.

[7] Lebanese Agricultural Research Institute (LARI). [<http://www.lari.gov.lb/about>]. Accessed 12 September 2020.

[8] VERTIC. "Lebanon." [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>]. Accessed 22 October 2020.

[9] Biological Weapons Convention - Lebanon. [<https://bwc-ecbm.unog.ch/state/lebanon>]. Accessed 12 September 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 publicly available evidence that there is an established agency (or agencies) responsible for the enforcement of biosecurity legislation and regulations in Lebanon. According to the Joint External Evaluation (JEE) report for Lebanon, published in July 2016, the country does not have biosafety and biosecurity regulation as of yet, and hence, there is no agency responsible for the enforcement of such regulations. [1] In 2017, the MoPH released Good Laboratory Practices for Pharmaceutical Quality Control Laboratories in Lebanon report which includes biosecurity guidelines such as restricting access to laboratories to authorized personnel, and standard operating procedures for electronic data protection. However, the guidelines are not enforceable regulations. [2] The websites the Ministry of Defense, the Ministry of Public Health (MoPH), the Ministry of Agriculture, the Lebanon National Agriculture Strategy 2020 - 2025, and the Lebanese Agricultural Research Institute (LARI) do not include information on national legislation and/or regulations related to biosecurity. [3,4,5,6,7] The VERTIC database for Lebanon does not include evidence relevant to this matter. [8] Although Lebanon submitted a Confidence Building Measures under the Biological Weapons Convention report in 2019, the report is not accessible to the public, and it remains unknown if it includes information on this matter. [9]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 12 September 2020.

[2] Ministry of Public Health. "Good Laboratory Practices for Pharmaceutical Quality Control Laboratories in Lebanon." [https://moph.gov.lb/userfiles/files/HealthCareSystem/Pharmaceuticals/QualityAssuranceofPharmaceuticalProducts/GLPGuidelines-2017.pdf]. Accessed 12 September 2020.

[3] Ministry of Defense. [http://www.mod.gov.lb]. Accessed 12 September 2020.

[4] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 12 September 2020.

[5] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 10 September 2020.

[6] Ministry of Agriculture. "The Lebanon National Agriculture Strategy 2020-2025." [http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB]. Accessed 12 September 2020.

[7] Lebanese Agricultural Research Institute (LARI). [http://www.lari.gov.lb/about]. Accessed 12 September 2020.

[8] VERTIC. "Lebanon." [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/1/]. Accessed 22 October 2020.

[9] Biological Weapons Convention - Lebanon. [https://bwc-ecbm.unog.ch/state/lebanon]. Accessed 12 September 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 publicly available evidence that Lebanon took action to consolidate its inventories of especially dangerous pathogens and toxins into a minimum number of facilities. The Joint External Evaluation (JEE) report for Lebanon, published in July 2016, states that the country does not have inventory of facilities in which dangerous pathogens and toxins are stored; the report further recommends establishing a central public health laboratory and a well-defined national laboratory network. The report also mentions that the Ministry of Public Health (MoPH) established contractual agreements with multiple private and public laboratories to act as reference laboratories such as the Rafik Hariri University Hospital and the American University of Beirut Medical Center, however, there is no evidence indicating that there is a centralized record of facilities or their inventories in place. Hence, there is no evidence that inventory consolidation for dangerous pathogens took



place. [1] The websites the Ministry of Defense, MoPH, the Ministry of Agriculture, the Lebanon National Agriculture Strategy 2020 - 2025, the VERTIC database for Lebanon, and the Lebanese Agricultural Research Institute (LARI) do not include information on consolidation of inventories of especially dangerous pathogens and toxins into a minimum number of facilities in Lebanon. [2,3,4,5,6,7] Although Lebanon submitted a Confidence Building Measures under the Biological Weapons Convention report in 2019, the report is not accessible to the public, and it remains unknown if it includes information on this matter. [8]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 12 September 2020.

[2] Ministry of Defense. [http://www.mod.gov.lb]. Accessed 12 September 2020.

[3] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 12 September 2020.

[4] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 12 September 2020.

[5] Ministry of Agriculture. "The Lebanon National Agriculture Strategy 2020-2025."

[http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB]. Accessed 12 September 2020.

[6] VERTIC. "Lebanon." [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/]. Accessed 22 October 2020.

[7] Lebanese Agricultural Research Institute (LARI). [http://www.lari.gov.lb/about]. Accessed 12 September 2020.

[7] Rodolphe Mérieux Laboratory of Beirut. [https://www.fondation-merieux.org/en/what-we-do/increasing-access-to-diagnostics/developing-infrastructure/rodolphe-merieux-laboratory-of-lebanon/]. Accessed 12 September 2020.

[8] Biological Weapons Convention - Lebanon. [https://bwc-ecbm.unog.ch/state/lebanon]. Accessed 12 September 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: 0**

There is no publicly available evidence that Lebanon has an in-country capacity to conduct Polymerase Chain Reaction (PCR)-based diagnostic testing for anthrax and/or Ebola, which would preclude culturing a live pathogen. The Joint External Evaluation (JEE) report for Lebanon, published in July 2016, states that "the animal health laboratory has polymerase chain reaction (PCR) or serology for avian influenza, peste des petits ruminants, blue tongue, rabies, anthrax, and hand, foot and mouth disease," without explicitly mentioning that PCR testing can be conducted for anthrax. [1] The Guidelines for Medical center, Dispensary and Field Medical Unit Based Surveillance and Response, prepared in 2014 by the Communicable Disease Department of the Ministry of Public Health (MoPH), mention that PCR testing for Ebola is done outside of Lebanon in France. [2] Published in 2015, the MoPH's document on Surveillance Standard Operating Procedures - for immediately notifiable communicable diseases, states that suspected cases of anthrax should be tested at "supranational reference laboratories" such as Namru3 which is located in Cairo , Egypt. [3,4] The websites the Ministry of Defense, the Ministry of Agriculture, and the Lebanon National Agriculture Strategy 2020 - 2025 do not include information on in-country capacity to conduct Polymerase Chain Reaction (PCR)-based diagnostic testing for anthrax and/or Ebola. [5,6,7]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 12 September 2020.

[2] Ministry of Public Health. "Guidelines for Medical Center, Dispensary and Field Medical Unit Based Surveillance and

Response."[[https://www.moph.gov.lb/DynamicPages/download\\_file/1088](https://www.moph.gov.lb/DynamicPages/download_file/1088)]. Accessed 12 September 2020.

[3] Ministry of Public Health - Epidemiology Surveillance Program. "Surveillance Standard Operating Procedures: Part [1] : Immediately Notifiable Communicable

Diseases."[[https://www.moph.gov.lb/userfiles/files/Esu\\_resources/Esu\\_guidelines/g\\_sop1\\_2015\\_e.pdf](https://www.moph.gov.lb/userfiles/files/Esu_resources/Esu_guidelines/g_sop1_2015_e.pdf)]. Accessed 12 September 2020.

[4] Naval Medical Research and Development. [<https://www.med.navy.mil/sites/nmrc/cairo/Pages/HomeCairo.aspx>]. Accessed 12 September 2020.

[5] Ministry of Defense. [<http://www.mod.gov.lb>]. Accessed 12 September 2020.

[6] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 12 September 2020.

[7] Ministry of Agriculture. "The Lebanon National Agriculture Strategy 2020-2025."

[<http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB>]. Accessed 12 September 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 Lebanon 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. According to the Joint External Evaluation (JEE) report for Lebanon, published in July 2016, the country has a limited capacity in terms of biosafety and biosecurity training and practices; the report states that "there is in-house training on biosafety at all human health facilities, but more training is needed, including on biosecurity, at all levels to ensure the implementation of standardized protocols at all facilities working with dangerous agents and pathogens, including in animal health laboratories." The same source, nonetheless, does not mention or refer to any existing standardized, required approach, such as through a common curriculum or a train-the-trainer program for the available bio-security trainings. [1] The Good Laboratory Practices for Pharmaceutical Quality Control Laboratories in Lebanon report, developed by the Ministry of Public Health (MoPH) in 2017, includes some generic guidelines on trainings without any specific mention of biosecurity trainings. [2] The websites the Ministry of Defense, the Ministry of Agriculture, and the Lebanon National Agriculture Strategy 2020 - 2025 do not include information on biosecurity trainings and a standardized or a required approach of training programs for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential[3,4,5] Lebanon's database on VERTIC website does not include information on a biosecurity training requirement in the country. [6] Although Lebanon submitted a Confidence Building Measures under the Biological Weapons Convention report in 2019, the report is not accessible to the public, and it remains unknown if it includes information on this matter. [7]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 12 September 2020.

[2] Ministry of Public Health. "Good Laboratory Practices for Pharmaceutical Quality Control Laboratories in Lebanon". [<https://moph.gov.lb/userfiles/files/HealthCareSystem/Pharmaceuticals/QualityAssuranceofPharmaceuticalProducts/GLPGuidelines-2017.pdf>]. Accessed 12 September 2020.

- [3] Ministry of Defense. [<http://www.mod.gov.lb>]. Accessed 12 September 2020.
- [4] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 12 September 2020.
- [5] Ministry of Agriculture. "The Lebanon National Agriculture Strategy 2020-2025." [<http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB>]. Accessed 12 September 2020.
- [6] VERTIC. "Lebanon." [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>]. Accessed 22 October 2020.
- [7] Biological Weapons Convention - Lebanon. [<https://bwc-ecbm.unog.ch/state/lebanon>]. Accessed 12 September 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 that Lebanon has regulations or licensing conditions specifying 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. The Good Laboratory Practices for Pharmaceutical Quality Control Laboratories in Lebanon report, developed by the Ministry of Public Health (MoPH) in 2017, states that "the laboratory should have sufficient personnel with the necessary education, training, technical knowledge and experience for their assigned functions" and that "laboratory management shall ensure the competency of all who operate specific equipment, who perform tests and / or calibrations, evaluate results and sign test reports and calibration certificates." The report nonetheless, does not refer to any regulations or licensing conditions on this matter, neither does it elaborate on tests and checks for security and other personnel with access to especially dangerous pathogens, toxins, or biological materials with pandemic potential. [1] The websites the Ministry of Public Health, the Ministry of Defense, the Ministry of Agriculture, and the Lebanon National Agriculture Strategy 2020 - 2025 do not include information on this matter [2,3,4,5] The Lebanese regulations published on the VERTIC database does not include information on licensing conditions. [6] Although Lebanon submitted a Confidence Building Measures under the Biological Weapons Convention report in 2019, the report is not accessible to the public, and it remains unknown if it includes information on regulations or licensing conditions specifying security and other personnel with access to especially dangerous pathogens, toxins, or biological materials with pandemic potential. [7]

- [1] Ministry of Public Health. "Good Laboratory Practices for Pharmaceutical Quality Control Laboratories in Lebanon". [<https://moph.gov.lb/userfiles/files/HealthCareSystem/Pharmaceuticals/QualityAssuranceofPharmaceuticalProducts/GLPGuidelines-2017.pdf>]. Accessed 14 September 2020.
- [2] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 14 September 2020.
- [3] Ministry of Defense. [<http://www.mod.gov.lb>]. Accessed 12 September 2020.
- [4] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 12 September 2020.
- [5] Ministry of Agriculture. "The Lebanon National Agriculture Strategy 2020-2025." [<http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB>]. Accessed 12 September 2020.
- [6] VERTIC. "Lebanon." [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>].

Accessed 22 October 2020.

[7] Biological Weapons Convention - Lebanon. [<https://bwc-ecbm.unog.ch/state/lebanon>]. Accessed 12 September 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 evidence that Lebanon has publicly available information on national regulations on the safe and secure transport of infectious substances (specifically including Categories A and B). According to the Joint External Evaluation (JEE) report for Lebanon, published in July 2016, the country has a system for transporting human specimens to national laboratories using designated staff and local courier services; the report however does not specifically mention Categories A and B substances. [1] Published in 2015, the Ministry of Public Health's (MoPH) document on Surveillance Standard Operating Procedures - for immediately notifiable communicable diseases, includes transportation protocols for specific diseases including acute flaccid paralysis, novel influenza and rubella; however, the protocols are presented as generic guidance rather than national regulations. The JEE also states that trained staff at surveillance sites for human and animal health are able to coordinate sample collection in case of emergency and outbreak situations, however there is no national standard operating procedures and guidelines for specimen collection, packaging and transport. [2] The websites the Ministry of Public Health, the Ministry of Defense, the Ministry of Agriculture, and the Lebanon National Agriculture Strategy 2020 - 2025 do not include information on this matter. [3,4,5,6] The Lebanese regulations published on the VERTIC database, although touch upon transportation of imported goods, do not include any information on the safe and secure transport of infectious substances. [7] Although Lebanon submitted a Confidence Building Measures under the Biological Weapons Convention report annually, and most recently in 2019, the report is not accessible to the public, and it remains unknown if it includes further evidence. [8]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 14 September 2020.

[2] Ministry of Public Health - Epidemiology Surveillance Program. "Surveillance Standard Operating Procedures: Part [1] : Immediately Notifiable Communicable Diseases." [[https://www.moph.gov.lb/userfiles/files/Esu\\_resources/Esu\\_guidelines/g\\_sop1\\_2015\\_e.pdf](https://www.moph.gov.lb/userfiles/files/Esu_resources/Esu_guidelines/g_sop1_2015_e.pdf)]. Accessed 14 September 2020.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 14 September 2020.

[4] Ministry of Defense. [<http://www.mod.gov.lb>]. Accessed 12 September 2020.

[5] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 12 September 2020.

[6] Ministry of Agriculture. "The Lebanon National Agriculture Strategy 2020-2025."

[<http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB>]. Accessed 12 September 2020.

[7] VERTIC. "Lebanon." [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/1/>]. Accessed 22 October 2020.

[8] Biological Weapons Convention - Lebanon. [<https://bwc-ecbm.unog.ch/state/lebanon>]. Accessed 12 September 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 that Lebanon has 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. According to the External Evaluation (JEE) report for Lebanon, published in July 2016, states that there is a system in place to transport human specimens to national laboratories across the country for advanced diagnostics, in addition to laboratories abroad for specialized testing not available in Lebanon; however, the report does not include information regarding end-user screening. [1] Although Lebanon does not have publicly available national legislation or regulation for end-user screening of especially dangerous pathogens, specific guidelines are in place to oversee the cross-border transfer of some dangerous pathogens. For example, the Ministry of Public Health's (MoPH) document on Surveillance Standard Operating Procedures - for immediately notifiable communicable diseases, published in 2015, states that suspected cases of anthrax should be tested at "supranational reference laboratories" such as NAMRU3 - located in Cairo, Egypt - and elaborates that specimen shipment should follow IATA requirements. [2,3] The document also provides cross-border transfer guidelines for acute flaccid paralysis' labelling, quantity and container type, prior to shipment to the regional reference laboratories in Egypt or Jordan. [2] The websites the Ministry of Public Health, the Ministry of Defense, the Ministry of Agriculture, and the Lebanon National Agriculture Strategy 2020 - 2025 do not include information on this matter. [4,5,6,7] The VERTIC database for Lebanon does not include relevant information either. [8] Although Lebanon submitted a Confidence Building Measures under the Biological Weapons Convention report annually, and most recently in 2019, the report is not accessible to the public, and it remains unknown if it includes further evidence. [9]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 14 September 2020.

[2] Ministry of Public Health - Epidemiology Surveillance Program. "Surveillance Standard Operating Procedures: Part [1] : Immediately Notifiable Communicable Diseases."

[https://www.moph.gov.lb/userfiles/files/Esu\_resources/Esu\_guidelines/g\_sop1\_2015\_e.pdf]. Accessed 14 September 2020.

[3] Naval Medical Research and Development. [https://www.med.navy.mil/sites/nmrc/cairo/Pages/HomeCairo.aspx].

Accessed 14 September 2020.

[4] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 14 September 2020.

[5] Ministry of Defense. [http://www.mod.gov.lb]. Accessed 12 September 2020.

[6] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 12 September 2020.

[7] Ministry of Agriculture. "The Lebanon National Agriculture Strategy 2020-2025."

[http://www.agriculture.gov.lb/getattachment/Ministry/Ministry-Strategy/strategy-2020-2025/NAS-web-Eng-7Sep2020.pdf?lang=ar-LB]. Accessed 12 September 2020.

[8] VERTIC. "Lebanon." [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/]. Accessed 22 October 2020.

[9] Biological Weapons Convention - Lebanon. [https://bwc-ecbm.unog.ch/state/lebanon]. Accessed 12 September 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 publicly available evidence that Lebanon has in place national biosafety legislation and/or regulation. According to the Joint External Evaluation (JEE) report for Lebanon, published in July 2016, human health laboratories in the country, few of which are ISO 17025-certified, have extensive biosafety policies. Laboratory biosafety manuals, SOPs, good laboratory practice guidelines, fire drills and personal protective equipment are in place, nonetheless, they are neither fully comprehensive nor deemed to be national legislation and/or regulations. The same source mentions that licensing is mandatory for human medical laboratories by the Lebanese Ministry of Public Health (MoPH) for both public and private laboratories, and requires some biosafety elements; however, no formal supervision is carried out by the national authorities following licensure to ensure ongoing compliance with requirements. [1] The MoPH's Good Laboratory Practices for Pharmaceutical Quality Control Laboratories in Lebanon document, published in 2017, includes biosafety measures for laboratories presented as guidelines rather than enforceable regulations. [2] Lebanon has submitted Confidence Building Measures under the Biological Weapons Convention in 2018, but it is not accessible to the public [3]. The regulations published on the VERTIC database for Lebanon do not include national biosafety legislation and regulation. [4] The websites of the MoPH and the Ministry of Agriculture do not include any further evidence on this matter. [5,6]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 20 September 2020.

[2] Ministry of Public Health. "Good Laboratory Practices for Pharmaceutical Quality Control Laboratories in Lebanon." [https://moph.gov.lb/userfiles/files/HealthCareSystem/Pharmaceuticals/QualityAssuranceofPharmaceuticalProducts/GLPGuidelines-2017.pdf]. Accessed 20 September 2020.

[3] Biological Weapons Convention. [https://bwc-ecbm.unog.ch/state/lebanon] Accessed 20 September 2020.

[4] VERTIC. "Lebanon." [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/]. Accessed 22 October 2020.

[5] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 20 September 2020.

[6] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 20 September 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 Lebanon has an established agency responsible for the enforcement of biosafety legislation and regulations. According to the Joint External Evaluation (JEE) report for Lebanon, published in July 2016, the country does not have biosafety legislation or regulations, but merely laboratory biosafety manuals, SOPs, good laboratory practice guidelines, fire drills and personal protective equipment. The report further states that while certain biosafety elements constitute part of the licensing process for laboratories, no formal supervision is carried out by the national

authorities following licensure to ensure ongoing compliance with requirements. [1] The Ministry of Public Health's document on Good Laboratory Practices for Pharmaceutical Quality Control Laboratories in Lebanon, published in 2017, although includes biosafety guidelines, does not mention any information on agency responsible for the enforcement of those guidelines. [2] Lebanon has submitted Confidence Building Measures under the Biological Weapons Convention in 2018, but it is not accessible to the public. [3] The VERTIC database for Lebanon does not include regulations and legislations about biosafety. [4] The websites of the MoPH and the Ministry of Agriculture do not include any further evidence on this matter. [5,6]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 20 September 2020.

[2] Ministry of Public Health. "Good Laboratory Practices for Pharmaceutical Quality Control Laboratories in Lebanon." [https://moph.gov.lb/userfiles/files/HealthCareSystem/Pharmaceuticals/QualityAssuranceofPharmaceuticalProducts/GLPGuidelines-2017.pdf]. Accessed 20 September 2020.

[3] Biological Weapons Convention. [https://bwc-ecbm.unog.ch/state/lebanon] Accessed 20 September 2020.

[4] VERTIC. "Lebanon." [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/]. Accessed 22 October 2020.

[5] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 20 September 2020.

[6] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 20 September 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 Lebanon requires 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. The Joint External Evaluation (JEE) report for Lebanon, published in July 2016, while in-house biosafety and biosecurity trainings by major human health laboratories and academic institutions, training certificates are only offered by two private universities. However, there is no formal follow-up on the level and quality of staff training. The report does not further mention any standardized or required approach, such as through a common curriculum or a train-the-trainer program. [1] The Ministry of Public Health's document on Good Laboratory Practices for Pharmaceutical Quality Control Laboratories in Lebanon, published in 2017, recommends the provision of regular in-service trainings including biosafety trainings without further elaboration on whether such trainings already exist or not. [2] The VERTIC database for Lebanon does not include regulations or legislations on biosafety. [4] Lebanon has submitted Confidence Building Measures under the Biological Weapons Convention in 2019, but it is not accessible to the public. [3] The websites of the MoPH and the Ministry of Agriculture do not include any further evidence on this matter. [5,6]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 20 September 2020.



[2] Ministry of Public Health. "Good Laboratory Practices for Pharmaceutical Quality Control Laboratories in Lebanon." [https://moph.gov.lb/userfiles/files/HealthCareSystem/Pharmaceuticals/QualityAssuranceofPharmaceuticalProducts/GLPGuidelines-2017.pdf]. Accessed 20 September 2020.

[3] Biological Weapons Convention. [https://bwc-ecbm.unog.ch/state/lebanon] Accessed 20 September 2020.

[4] VERTIC. "Lebanon." [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/]. Accessed 22 October 2020.

[5] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 20 September 2020.

[6] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 20 September 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 that Lebanon 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. A report published by the Syndicate of Hospitals Lebanon in 2014 states that in decree number 569/2 published in 1996, the Ministry of Public Health (MoPH) limited the conduct of clinical research to teaching hospitals or hospitals affiliated with medical schools. According to the same report, the MoPH allowed 24 teaching hospitals to conduct clinical research. Most of these hospitals established their own institutional review boards (IRBs) or research ethics committees (RECs) to ensure ethical compliance of researchers and sponsors in the conduct of clinical trials. [1] The MoPH oversees these IRBs and RECs and issued guidelines on the necessary requirements of obtaining the MoPH's authorization. However, there is no evidence on any assessments carried out to determine whether ongoing research is occurring or not. [2] The MoPH issued decree number 1159/1 in 2014 concerning health-related research with human participants regulating the process of such research. [2,3] Lebanon submitted Confidence Building Measures under the Biological Weapons Convention in 2019, but it is not accessible to the public. [4] The VERTIC database for Lebanon, and the websites of the MoPH, the Ministry of Agriculture and the Ministry of Defense do not include any evidence on assessments in Lebanon to determine whether ongoing research is occurring on especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research. [5,6,7,8]

[1] Hamra, R. 2014. "Role of the Ministry of Public Health in Clinical Research in Lebanon: History, Present Situation, and Plans for the Future." Syndicate of Hospitals Lebanon.

[https://www.syndicateofhospitals.org.lb/Content/uploads/SyndicateMagazinePdfs/4642\_8-9eng.pdf]. Accessed 22 September 2020.

[2] Ministry of Public Health. "Clinical Trials." [https://www.moph.gov.lb/en/Pages/3/4760/clinical-trial-regulations]. Accessed 22 September 2020.

[3] Ministry of Public Health. June 2014. "Decree No. 1159/1 Concerning Clinical Trial Regulations." [https://www.moph.gov.lb/userfiles/files/HealthCareSystem/Pharmaceuticals/ClinicalTrial/Decision1159-2014.pdf]. Accessed 22 September 2020.

[4] Biological Weapons Convention. [https://bwc-ecbm.unog.ch/state/lebanon] Accessed 22 September 2020.

[5] VERTIC. "Lebanon." [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/]. Accessed 22 October 2020.

[6] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 22 September 2020.

[7] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 22 September 2020.

[8] Ministry of Defense. [http://www.mod.gov.lb]. Accessed 22 September 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 that Lebanon has legislation and/or regulation requiring oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research. A report published by the Syndicate of Hospitals Lebanon in 2014 states that many of the hospitals authorized by the Ministry of Public Health (MoPH) to conduct research, established their own institutional review boards (IRBs) or research ethics committees (RECs) to ensure ethical compliance of researchers and sponsors in the conduct of clinical trials. [1] Although there is no evidence of legislation and/or regulation requiring oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research, the MoPH oversees these IRBs and RECs and issued guidelines on the necessary requirements of obtaining the MoPH's authorization. [2] The World Health Organization's 'National Health Research System Mapping in the Eastern Mediterranean' study, published in 2008, states that Lebanon requires researchers to comply with ethical principles, however, the study does provide information on research oversight. [3] The website of the National Council for Scientific Research (CNRS) including the organization's charter of ethics published in 2016, does not include information on policies requiring oversight of dual use research in Lebanon. [4,5] Although Lebanon submits a Confidence Building Measures under the Biological Weapons Convention report annually, and most recently in 2019, the report is not accessible to the public, and it remains unknown if it includes evidence on legislation and/or regulation requiring oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research. [6] The VERTIC database for Lebanon and the websites of the MoPH, the Ministry of Agriculture and the Ministry of Defense do not include information on this matter. [7,8,9,10]

[1] Hamra, R. 2014. "Role of the Ministry of Public Health in Clinical Research in Lebanon: History, Present Situation, and Plans for the Future." Syndicate of Hospitals Lebanon.

[https://www.syndicateofhospitals.org.lb/Content/uploads/SyndicateMagazinePdfs/4642\_8-9eng.pdf]. Accessed 22 September 2020.

[2] Ministry of Public Health. "Clinical Trials." [https://www.moph.gov.lb/en/Pages/3/4760/clinical-trial-regulations]. Accessed 22 September 2020.

[3] The World Health Organization Regional Office for the Eastern Mediterranean. "National Health Research System Mapping in the Eastern Mediterranean Region - A Study of Ten Countries." [http://www.cohred.org/wp-content/uploads/2011/05/NHRS-in-EMRO-study-2008.pdf]. Accessed 22 September 2020.

[4] National Council for Scientific Research. [http://www.cnrs.edu.lb/english/home]. Accessed 22 September 2020.

[5] National Council for Scientific Research. "Charter of Ethics and Guiding Principles of Scientific Research in Lebanon." [http://www.cnrs.edu.lb/Library/Files/Uploaded%20Files/Charter\_of\_Ethics\_En.pdf]. Accessed 22 September 2020.

[6] Biological Weapons Convention. [https://bwc-ecbm.unog.ch/state/lebanon] Accessed 22 September 2020.

[7] VERTIC. "Lebanon." [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/]. Accessed 22 October 2020.

[8] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 22 September 2020.

[9] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 22 September 2020.

[10] Ministry of Defense. [<http://www.mod.gov.lb>]. Accessed 22 September 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 that there is an agency responsible for oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research in Lebanon. Although according to the World Health Organization's 'National health research system mapping in the Eastern Mediterranean' study, published in 2008, the Board of Administrators of the National Council for Scientific Research (CNRS), appointed by the Council of Ministers, carries out the governance function for the national research system the CNRS's website does not suggest that Lebanon has an agency responsible for oversight of dual-use research. [1] The CNRS organization's charter of ethics, published in 2016 on their website does not include information on dual-use research oversight either. [2] A report published by the Syndicate of Hospitals Lebanon in 2014 states that many of the hospitals authorized by the Ministry of Public Health (MoPH) to conduct research, established their own institutional review boards (IRBs) or research ethics committees (RECs) to ensure ethical compliance of researchers and sponsors in the conduct of clinical trials. [3] Although the MoPH oversees these IRBs and RECs, no mention is made of dual use research. [4] Although Lebanon submits a Confidence Building Measures under the Biological Weapons Convention report annually, and most recently in 2019, the report is not accessible to the public, and it remains unknown if it includes evidence on an agency responsible for oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research in Lebanon. [5] The VERTIC database for Lebanon, and the websites of the MoPH, the Ministry of Agriculture and the Ministry of Defense do not include information on this matter. [6,7,8,9]

[1] The World Health Organization Regional Office for the Eastern Mediterranean. "National Health Research System Mapping in the Eastern Mediterranean Region - A Study of Ten Countries." [<http://www.cohred.org/wp-content/uploads/2011/05/NHRS-in-EMRO-study-2008.pdf>]. Accessed 22 September 2020.

[2] National Council for Scientific Research. "Charter of Ethics and Guiding Principles of Scientific Research in Lebanon." [[http://www.cnrs.edu.lb/Library/Files/Uploaded%20Files/Charter\\_of\\_Ethics\\_En.pdf](http://www.cnrs.edu.lb/Library/Files/Uploaded%20Files/Charter_of_Ethics_En.pdf)]. Accessed 22 September 2020.

[3] Hamra, R. 2014. "Role of the Ministry of Public Health in Clinical Research in Lebanon: History, Present Situation, and Plans for the Future." Syndicate of Hospitals Lebanon.

[[https://www.syndicateofhospitals.org.lb/Content/uploads/SyndicateMagazinePdfs/4642\\_8-9eng.pdf](https://www.syndicateofhospitals.org.lb/Content/uploads/SyndicateMagazinePdfs/4642_8-9eng.pdf)]. Accessed 22 September 2020.

[4] Ministry of Public Health. "Clinical Trials." [<https://www.moph.gov.lb/en/Pages/3/4760/clinical-trial-regulations>]. Accessed 22 September 2020.

[5] Biological Weapons Convention. [<https://bwc-ecbm.unog.ch/state/lebanon>] Accessed 22 September 2020.

[6] VERTIC. "Lebanon." [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>]. Accessed 22 October 2020.

[7] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 22 September 2020.

[8] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 22 September 2020.

[9] Ministry of Defense. [<http://www.mod.gov.lb>]. Accessed 22 September 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 Lebanon has legislation and/or regulation requiring the screening of synthesized DNA (deoxyribonucleic acid) against lists of known pathogens and toxins before it is sold. Regulations issued by the Ministry of Public Health (MoPH), the Ministry of Economy and Trade, and the Ministry of Environment do not provide information on requirements for the screening of synthesized DNA before it is sold. [1,2,3] The websites of the Ministry of Agriculture and the Ministry of Defence and the Ministry of Public Works and Transportation do not provide information on this matter either. [4,5,6] A report issued by the Library of Congress in 2015 indicated that Lebanon has not adopted policies or legislation on genetically modified organisms (GMOs) as of yet, despite having issued the Convention on Biological Diversity, Law No. 360 of 1994, and the Cartagena Protocol on Biosafety to the Convention on Biological Diversity, Law No. 31 of 2008. [7] The National Biodiversity Strategy and Action Plan for Lebanon, published in 2015, includes objectives on genetic biodiversity such as the protection of the natural ecosystems and indigenous genetic biodiversity from the purposeful introduction or accidental release of exotic or genetically engineered plant and animal species; but no information is provided on screening of synthesized DNA before it is sold. [8] The VERTIC database for Lebanon does not include information on this matter. [9] Although Lebanon submits a Confidence Building Measures under the Biological Weapons Convention report annually, and most recently in 2019, the report is not accessible to the public, and it remains unknown if it includes information relevant to this matter. [10]

[1] Ministry of Public Health. "Laws and Regulations." [<https://www.moph.gov.lb/en/laws#/Laws/view/8>]. Accessed 22 September 2020.

[2] Ministry of Economy and Trade. "Consumer Protection Legislation." [<https://www.economy.gov.lb/en/services/consumer-protection/legislation>]. Accessed 22 September 2020.

[3] Ministry of Environment. "Circulars." [<http://www.moe.gov.lb/getattachment/191a0aff-30a4-45d4-8c57-a828d01b76a8/Policy-Summary-for-Jan-2018.aspx>]. Accessed 22 September 2020.

[4] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 22 September 2020.

[5] Ministry of Defense. [<http://www.mod.gov.lb>]. Accessed 22 September 2020.

[6] Ministry of Public Works and Transportation. [[www.transportation.gov.lb](http://www.transportation.gov.lb)]

[7] Library of Congress. June 2015. "Restrictions on Genetically Modified Organisms: Lebanon." [[https://www.loc.gov/law/help/restrictions-on-gmos/lebanon.php#\\_ftn1](https://www.loc.gov/law/help/restrictions-on-gmos/lebanon.php#_ftn1)]. Accessed 22 September 2020.

[8] Convention on Biological Diversity. August 2015. "Fifth National Report on Lebanon to the Convention on Biological Diversity." [<https://www.cbd.int/doc/world/lb/lb-nr-05-en.pdf>]. Accessed 22 September 2020.

[9] VERTIC. "Lebanon." [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/l/>]. Accessed 22 October 2020.

[10] Biological Weapons Convention. [<https://bwc-ecbm.unog.ch/state/lebanon>] Accessed 22 September 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: 2

There is publicly available evidence that national laboratory system in Lebanon has the capacity to conduct diagnostic tests for at least 5 of the 10 WHO-defined core tests. The Joint External Evaluation (JEE) report for Lebanon, published in July 2016, states that core tests for six IHR-mandatory diseases are available in the country with adequate detection capacity and standard operating procedures; this however, excludes virus culture for polio where samples are referred to the national

polio reference laboratory in Amman, Jordan. According to the same source, the specific tests include PCR testing for influenza virus, serology for HIV, microscopy for M. tuberculosis, rapid diagnostic testing for Plasmodium spp., and bacterial culture for S. enterica serotype Typhi. Additionally, five other core tests (Brucella spp. culture and PCR, Vibrio cholerae culture, H. influenzae type b culture, Listeria monocytogenes culture and hepatitis A serology) have been chosen by Lebanon on the basis of national public health concerns. The JEE report for Lebanon further states that animal influenza and Brucella testing are available from the animal health laboratory and salmonella testing from the food laboratories. [1] The websites of the Ministry of Public Health and the Ministry of Agriculture, however, do not include relevant information. [2,3]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 22 September 2020.

[2] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 22 September 2020.

[3] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 22 September 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 insufficient evidence that Lebanon has 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. In 2012, the Ministry of Public Health (MoPH) published the Emergency Health Plan that includes a section about preventing, monitoring and controlling outbreaks. The plan further elaborates that response to outbreaks include epidemic investigations and control of source of pathogen. The plan nonetheless, does not provide recommendations for testing for novel pathogens, neither does it provide information on scaling capacity. [1] The MoPH website and the Ministry of Agriculture websites do not include further information. [2, 3]

[1] Ministry of Public Health. "Emergency Health Contingency Plan."

[https://www.moph.gov.lb/DynamicPages/download\_file/550]. Accessed 29 September 2020.

[2] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 29 September 2020.

[3] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 29 September 2020.

## 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 publicly available evidence that Lebanon has a national laboratory that serves as a reference facility which is internationally accredited. With reference to the Joint External Evaluation (JEE) report for Lebanon, published in July 2016,

the Ministry of Public Health (MoPH) established contractual agreements with main laboratories from the public and private sectors to carry out the public health functions of a central public health laboratory. The report further elaborates that "The [Industrial Research Institute] IRI and the Food Safety Laboratory at [Lebanese Agricultural Research Institute] LARI are ISO 17025-certified, and the AUBMC medical Laboratory, accredited by the College of American Pathologists (CAP), serves as a referral lab for tuberculosis culture and subtyping of Salmonella and Shigella infective bacteria." [1] The websites of the Ministry of Public Health and the Ministry of Agriculture, however, do not include relevant information. [2,3]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 22 September 2020.

[2] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 22 September 2020.

[3] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 22 September

### 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: 1**

There is publicly available evidence confirming that Lebanon has a national laboratory that serves as a reference facility which is subject to external quality assurance review (EQA). According to the Global Antimicrobial Resistance Surveillance System (GLASS) Report Early implementation, 2016-2017, Lebanon has a national reference laboratory that follows the Antimicrobial susceptibility testing standards and is subject to EQA. The report does not provide further information about this facility in terms of area or location. [1] The Joint External Evaluation (JEE) report for Lebanon, published in July 2016, states that "the Mériex laboratory at the University St Joseph (USJ) has been designated a national reference laboratory" without elaborating on whether it is subject to EQA program or not. According to a special report published by the Mériex laboratory in June 2019, the laboratory was working on the ISO 15189:2012 accreditation on quality and assurance at the time of writing the report. [2] No updated evidence was found that the accreditation was achieved since the writing of the report. The JEE continues to say that the country lacks EQA program and the quality of human laboratory testing remains a concern. Despite there not being an official EQA system, the JEE does state that "quality assurance for hospital-based laboratories is integrated in the national laboratory accreditation and licensing system, although there is no national quality office that oversees quality control and quality assurance following licensure, or coordinates an EQA programme for all laboratories at all levels". [2] A review of the websites of two reference laboratories in Lebanon, that perform EQAa, namely, Al-Karim Medical Laboratory and Diagnostic Products Corporation, do not include any information on their EQA systems. [3,4] The American National Standards Institute (ANSI) National Accreditation Board's directory of accredited laboratories also does not list any laboratories in Lebanon that have ISO 15189:2012 accreditation. [5] There seems to have been a movement in the early 2000s to establish an internal EQA system called the Lebanese External Quality Assessment Scheme (LEQAS), which was put in place using accreditation standards from seven international hospital accreditation systems, and aimed to help "nourish an environment of continuous quality improvement by developing an external evaluation system with particular emphasis on safety, indicators and data reporting". Feedback provided on the system was varied where there was "much concern about the worthiness of accreditation in lieu of its associated expenses". [6] The websites of the Ministry of Public Health and the Ministry of Agriculture, however, do not include relevant information. [7,8]

[1] World Health Organization. Global Antimicrobial Resistance Surveillance System (GLASS) Report Early implementation 2016-2017. "Lebanon." [https://reliefweb.int/sites/reliefweb.int/files/resources/9789241513449-eng.pdf]. Accessed 27 October 2020.

[2] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report:



25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 22 September 2020.

[3] Al Karim Medical Laboratory. [<http://www.alkarimlab.com/business/alkarimlab>]. Accessed 20 October 2020.

[4] Diagnostic Products Corporation. [<https://www.dpclab.com>]. Accessed 20 October 2020.

[5] American National Standards Institute (ANSI) National Accreditation Board. "Director of Accredited Organizations". [<http://search.anab.org/>]. Accessed 26 October 2020.

[6] International Journal for Quality in Health Care. 2013. "Accreditation of hospitals in Lebanon: is it a worthy investment?" [<https://academic.oup.com/intqhc/article/25/3/284/1814839>]. Accessed 27 October 2020.

[7] Hallak, G. 2005. "The Lebanese Quality Assessment Scheme for Laboratories: Was it Worth Establishing?" [<https://pubmed.ncbi.nlm.nih.gov/16398207/>]. Accessed 22 September 2020.

[8] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 22 September 2020.

[8] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 22 September 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: 1**

There is publicly available evidence that Lebanon has a nationwide specimen transport system. According to the Joint External Evaluation (JEE) report for Lebanon, published in July 2016, "a system is in place to transport human specimens to national laboratories from anywhere in the country for advanced diagnostics as well as to outside the country for specialized testing not available in Lebanon." The system, according to the report, is of demonstrated capacity with a score 4 out of 5. [1] Additionally, the Acute Flaccid Paralysis Surveillance Guidelines document, published by the Ministry of Public Health in 2015 provides an example specific transport systems for certain diseases; for example transportation of acute flaccid paralysis specimens from hospitals or households to the Ministry of Public Health's (MoPH) Epidemiological Surveillance Programme is done by the MoPH team which must adhere to certain protocols. [2] The websites of the Ministry of Public Health and the Ministry of Agriculture, however, do not include relevant information. [3,4]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 22 September 2020.

[2] Ministry of Public Health. "Acute Flaccid Paralysis Surveillance Guideline." [[https://www.moph.gov.lb/userfiles/files/Esu\\_resources/Esu\\_guidelines/g\\_afp\\_2015\\_e.pdf](https://www.moph.gov.lb/userfiles/files/Esu_resources/Esu_guidelines/g_afp_2015_e.pdf)]. Accessed 22 September 2020.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 22 September 2020.

[4] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 22 September 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 publicly available evidence suggesting that Lebanon has 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. Neither the Emergency Health Plan 2012 published by the Ministry of Public Health (MoPH), nor the guidelines for medical center, dispensary and field medical unit-based surveillance and response provide information on a process in place to expedite laboratories to supplement the capacity of the national public health laboratory system during an outbreak. [1,2] The MoPH's guidelines for Pharmaceutical Quality Control Laboratories in Lebanon, published in 2017, do not include information about laboratory licensing. [3] The MoPH website does not include further information. [4]

[1] Ministry of Public Health. "Emergency Health Contingency Plan."

[[https://www.moph.gov.lb/DynamicPages/download\\_file/550](https://www.moph.gov.lb/DynamicPages/download_file/550)]. Accessed 29 September 2020. 2] Ministry of Public Health.

"Guidelines for Medical Center, Dispensary and Field Medical Unit Based Surveillance and Response."

[[https://www.moph.gov.lb/DynamicPages/download\\_file/1088](https://www.moph.gov.lb/DynamicPages/download_file/1088)]. Accessed 29 September 2020.

[3] Ministry of Public Health. [<https://moph.gov.lb/en/Pages/4/6642/quality-assurance-of-pharmaceutical-products>].

Accessed 29 September 2020.

[4] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 29 September 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 publicly available evidence that Lebanon conducts ongoing event-based surveillance and analysis for infectious diseases, however, there is no evidence that data is analyzed on daily basis. According to the website of the Ministry of Public Health (MoPH), the country does have event-based surveillance (EBS) system for the notifiable communicable disease including including acute flaccid paralysis, anthrax, brucellosis, influenza, rabies and haemorrhagic fever. Although the website includes surveillance data broken by years, there is no evidence that data is published and analyzed on daily basis. [1] The Joint External Evaluation (JEE) report for Lebanon, published in July 2016, the event-based surveillance system in Lebanon is of demonstrated capacity with a score 4 out of 5; the system uses community, social media and hotline to garner information. Nonetheless, the report does not elaborate on the frequency of surveillance and analysis of data. [2] The website of the MoPH does not provide further information on this matter, neither does the website of the Ministry of Agriculture. [3,4]

[1] Ministry of Public Health. "Epidemiological Surveillance." [<https://www.moph.gov.lb/en/Pages/2/193/esu>]. Accessed 23 September 2020.

[2] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 23 September 2020.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 23 September 2020.

[4] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 23 September 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 no publicly available evidence that Lebanon reported a potential public health emergency of international concern (PHEIC) to the WHO within the last two years including for Covid-19. The World Health Organization news page for disease outbreaks does not provide information suggesting that the country reported a potential public health emergency of international concern (PHEIC) to the WHO in 2018, 2019 or 2020. [1, 2, 3] The website of the Ministry of Public Health and the website of the Ministry of Defense do not include relevant information. [4, 5]

[1] World Health Organization. "Disease Outbreak News." 2018. [<https://www.who.int/csr/don/archive/year/2018/en/>]. Accessed 23 March 2021.

[2] World Health Organization. "Disease Outbreak News." 2019. [<https://www.who.int/csr/don/archive/year/2019/en/>]. Accessed 23 March 2021.

[3] World Health Organization. "Disease Outbreak News." 2020. [<https://www.who.int/csr/don/archive/year/2020/en/>]. Accessed 23 March 2021.

[4] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 20 October 2020.

[5] Ministry of Defense. [<http://www.mod.gov.lb>]. Accessed 20 October 2020.

## 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: 1**

There is publicly available evidence that the Lebanese government operates an electronic reporting surveillance system at both the national and the sub-national levels. According to the Joint External Evaluation report for Lebanon, completed in July 2016, the country has 'demonstrated capacity' of an indicator and event-based surveillance system and states that "the indicator-based surveillance (IBS) system is well established, and the newly established event-based surveillance (EBS) is in place to detect public health threats". However, Lebanon's inter-operable, interconnected, electronic reporting system is still considered to be 'limited capacity', as the disease surveillance systems are in the initial stages of integration. The report continues to say that "while data input processes are being automated, some remain manual". [1] In 2017, the Alliance for Health Policy and Systems Research published a study on the Primary Health Care Systems in Lebanon and reported that "the Epidemiology and Surveillance Unit [ESU] at the Ministry of Public Health operates the national surveillance system for communicable diseases", and on a regular basis, shares reports and figures on the Ministry of Public Health website. [2] The report continues to explain that data from the surveillance system flow travels from the sub-national/health unit level to the Ministry of Public Health and is elaborated on in a guideline published by the Ministry of Public Health. The guideline specifically explains logging data in a logbook, to storing data in a database, having the data cleaned before it is shared on the Ministry of Public Health website where it covers disease surveillance statistics for six provincial areas including Beirut,

Greater Bekaa, Mount-Lebanon, Nabatieh mohafaza, Greater North, and the South, in addition to a total of 27 districts within these provincial areas. [3,4,5] Surveillance data for the six provincial areas includes several notifiable communicable diseases such as acute flaccid paralysis, measles, mumps, pertussis, viral hepatitis B and brucellosis. [4,6]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 23 October 2020.

[2] Alliance for Health Policy and Systems Research. 2017. "Primary Health Care Systems". [https://www.who.int/alliance-hpsr/projects/AHPSR-PRIMASYS-Lebanon-comprehensive.pdf]. Accessed 26 October 2020.

[3] Ministry of Public Health. 2015. "Guideline for Medical Centr, Dispensary and Field Medical Unit Based Surveillance System". [http://www.moph.gov.lb/userfiles/files/Esu\_resources/Esu\_guidelines/g\_cewar\_2015\_e.pdf]. Accessed 26 October 2020.

[4] Ministry of Public Health. "Communicable Disease Surveillance." [https://www.moph.gov.lb/en/Pages/2/194/-general-surveillance-data#/en/view/195/general-surveillance-data-current-year]. Accessed 23 September 2020.

[5] Ministry of Public Health. "Epidemiological Surveillance - Surveillance Data." [https://www.moph.gov.lb/en/Pages/2/193/esu#collapse\_299]. Accessed 23 September 2020.

[6] Ministry of Public Health - Epidemiology Surveillance Program. "Surveillance Standard Operating Procedures: Part [1] : Immediately Notifiable Communicable Diseases." [https://www.moph.gov.lb/userfiles/files/Esu\_resources/Esu\_guidelines/g\_sop1\_2015\_e.pdf]. Accessed 23 September 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 publicly available evidence that the electronic reporting surveillance system operated by the Lebanese government collects real-time data. According to the Joint External Evaluation report for Lebanon, completed in July 2016, the country has 'demonstrated capacity' of an indicator and event-based surveillance system and states that "the indicator-based surveillance (IBS) system is well established, and the newly established event-based surveillance (EBS) is in place to detect public health threats". However, Lebanon's inter-operable, interconnected, electronic reporting system is still considered to be 'limited capacity', as the disease surveillance systems are in the initial stages of integration. The report continues to say that "while data input processes are being automated, some remain manual", without elaborating on ongoing or real-time data input. [1] In 2017, the Alliance for Health Policy and Systems Research published a study on the Primary Health Care Systems in Lebanon and reported that "the Epidemiology and Surveillance Unit [ESU] at the Ministry of Public Health operates the national surveillance system for communicable diseases", and on a regular basis, shares reports and figures on the Ministry of Public Health website. [2] Data from the surveillance system flow travels from the sub-national/health unit level to the Ministry of Public Health and is elaborated on in a guideline published by the Ministry of Public Health. The guideline specifically explains logging data in a logbook, to storing data in a database, having the data cleaned before it is shared on the Ministry of Public Health website where it covers disease surveillance statistics for six provincial areas including Beirut, Greater Bekaa, Mount-Lebanon, Nabatieh mohafaza, Greater North, and the South, in addition to a total of 27 districts within these provincial areas. There is no evidence that data is collected in a real-time/ongoing manner. [3,4,5] Surveillance data for the six provincial areas includes several notifiable communicable diseases such as acute flaccid paralysis, measles, mumps, pertussis, viral hepatitis B and brucellosis. While data is published on a monthly basis, there is no evidence that the reporting surveillance system collects ongoing or real-time data . [4,6]

- [1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 23 October 2020.
- [2] Alliance for Health Policy and Systems Research. 2017. "Primary Health Care Systems". [<https://www.who.int/alliance-hpsr/projects/AHPSR-PRIMASYS-Lebanon-comprehensive.pdf>]. Accessed 26 October 2020.
- [3] Ministry of Public Health. 2015. "Guideline for Medical Centr, Dispensary and Field Medical Unit Based Surveillance System". [[http://www.moph.gov.lb/userfiles/files/Esu\\_resources/Esu\\_guidelines/g\\_cewar\\_2015\\_e.pdf](http://www.moph.gov.lb/userfiles/files/Esu_resources/Esu_guidelines/g_cewar_2015_e.pdf)]. Accessed 26 October 2020.
- [4] Ministry of Public Health. "Communicable Disease Surveillance." [<https://www.moph.gov.lb/en/Pages/2/194/-general-surveillance-data#en/view/195/general-surveillance-data-current-year>]. Accessed 23 September 2020.
- [5] Ministry of Public Health. "Epidemiological Surveillance - Surveillance Data." [[https://www.moph.gov.lb/en/Pages/2/193/esu#collapse\\_299](https://www.moph.gov.lb/en/Pages/2/193/esu#collapse_299)]. Accessed 23 September 2020.
- [6] Ministry of Public Health - Epidemiology Surveillance Program. "Surveillance Standard Operating Procedures: Part [1] : Immediately Notifiable Communicable Diseases." [[https://www.moph.gov.lb/userfiles/files/Esu\\_resources/Esu\\_guidelines/g\\_sop1\\_2015\\_e.pdf](https://www.moph.gov.lb/userfiles/files/Esu_resources/Esu_guidelines/g_sop1_2015_e.pdf)]. Accessed 23 September 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: 1**

There is publicly available evidence that Lebanon uses electronic health records, however, it does not seem that they are commonly used. The World Health Organization, in 2017, published a report stating that despite Lebanon's fragmented health information system (HIS), the information gaps due to underreporting and lack of information processes, the country through its Ministry of Public Health (MoPH) has been engaged in efforts to develop health information systems including the electronic medical records. The same source mentions that according to MoPH's plans, the HIS should be fully operational in all public health centres by 2018, with all centres linked to the MoPH central database; however, there is no publicly available evidence that the system is operational. [1] A study published in 2018 states that 77 public health centres already integrated the MoPH's HIS, although they have not yet incorporated patient medical records to the electronic system. [2] Another study published by the Bellevue Medical Center (BMC) in 2016 suggests that the country has the capacity, innovation and skills needed to improve the utilization of the information and communications technology (ICT); however, the poor infrastructure and lack of regulations slowed down the development of ICT in hospitals. [3] The MoPH launched in 2013 the National e-Health programme that includes the development of health information systems and databases. [4, 5] A few private hospitals have their own electronic medical record systems. For example, the American University of Beirut Medical Center launched their electronic health record system in November of 2018. [6]

- [1] World Health Organization. "Primary Healthcare Systems (PRIMASYS): Comparative Case Study from Lebanon." [<https://www.who.int/alliance-hpsr/projects/AHPSR-PRIMASYS-Lebanon-comprehensive.pdf>]. Accessed 27 September 2020.
- [2] Saleh, S., Khodor, R., Alameddine, M., Baroud, M. "Readiness of Healthcare Providers for eHealth: the Case from Primary Healthcare Centers in Lebanon." [<https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-016-1896-2>]. Accessed 27 September 2020.

[3] El-Jaradali, F., Fadlallah, R. "A Review of National Policies and Strategies to Improve Quality of Health Care and Patient Safety: a Case Study from Lebanon and Jordan." [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5559834/]. Accessed 27 September 2020.

[4] Ministry of Public Health. "National E-Health Program." [https://www.moph.gov.lb/en/Pages/6/2651/national-e-health-program]. Accessed 27 September 2020.

[5] Ministry of Public Health. "Decision no. 1/277 related to the establishment of an Electronic Health System." [https://www.moph.gov.lb/userfiles/files/Programs%26Projects/NationalE-healthProgram/karar227-2013.pdf]. Accessed 27 September 2020.

[6] American University of Beirut Medical Center. "AUBMC Launches AUBHealth, a New Comprehensive Health Record System, on November 3." [http://www.aubmc.org/Pages/AUBMC-launches-AUBHealth-a-new-comprehensive-health-record-system.aspx#sthash.bpPOuKbB.dpbs]. Accessed 27 September 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 publicly available evidence that Lebanon's public health system have access to electronic health records of individuals in the country. The World Health Organization, in 2017, published a report stating that despite Lebanon's fragmented health information system (HIS), the information gaps due to underreporting and lack of information processes, the country through its Ministry of Public Health (MoPH) has been engaged in efforts to develop health information systems including the electronic medical records. However, there is no publicly available evidence that the system is operational. [1] The MoPH launched in 2013 the National e-Health program that includes the development of health information systems and databases; nonetheless, no further information is provided on the operational status of the program. [2,3] An academic study conducted in 2017 states that while 77 public health centres are integrated the MoPH's HIS, they still need to incorporate patient medical records to the electronic system, indicating that the MoPH still has relatively limited access to health records of individuals in the country. [4] The website of MoPH does not include further information on this matter. [5]

[1] World Health Organization. "Primary Healthcare Systems (PRIMASYS): Comparative Case Study from Lebanon." [https://www.who.int/alliance-hpsr/projects/AHPSR-PRIMASYS-Lebanon-comprehensive.pdf]. Accessed 27 September 2020.

[2] Ministry of Public Health. "National E-Health Program." [https://www.moph.gov.lb/en/Pages/6/2651/national-e-health-program]. Accessed 27 September 2020.

[3] Ministry of Public Health. "Decision no. 1/277 related to the establishment of an Electronic Health System." [https://www.moph.gov.lb/userfiles/files/Programs%26Projects/NationalE-healthProgram/karar227-2013.pdf]. Accessed 27 September 2020.

[4] El-Jaradali, F., Fadlallah, R. "A Review of National Policies and Strategies to Improve Quality of Health Care and Patient Safety: a Case Study from Lebanon and Jordan." [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5559834/]. Accessed 27 September 2020.

[5] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 27 September 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 publicly available evidence that Lebanon has data standards to ensure data is comparable. The World Health Organization, in 2017, published a report stating that despite Lebanon's fragmented health information system (HIS), the information gaps due to underreporting and lack of information processes, the country through its Ministry of Public Health (MoPH) has been engaged in efforts to develop health information systems including the electronic medical records. However, there is no publicly available evidence that the system is operational neither there is mention of existing data standards. [1] The MoPH launched in 2013 the National e-Health program that includes the development of health information systems and databases; nonetheless, no further information is provided on the operational status of the program nor any data standards to be followed. [2,3] An academic study conducted in 2017 states that while 77 public health centres are integrated the MoPH's HIS, they still need to incorporate patient medical records to the electronic system, indicating that the MoPH still has relatively limited access to health records of individuals in the country. [4] The website of MoPH does not include further information on this matter. [5]

[1] World Health Organization. "Primary Healthcare Systems (PRIMASYS): Comparative Case Study from Lebanon."

[<https://www.who.int/alliance-hpsr/projects/AHPSR-PRIMASYS-Lebanon-comprehensive.pdf>]. Accessed 27 September 2020.

[2] Ministry of Public Health. "National E-Health Program." [<https://www.moph.gov.lb/en/Pages/6/2651/national-e-health-program>]. Accessed 27 September 2020.

[3] Ministry of Public Health. "Decision no. 1/277 related to the establishment of an Electronic Health System."

[<https://www.moph.gov.lb/userfiles/files/Programs%26Projects/NationalE-healthProgram/karar227-2013.pdf>]. Accessed 27 September 2020.

[4] El-Jaradali, F., Fadlallah, R. "A Review of National Policies and Strategies to Improve Quality of Health Care and Patient Safety: a Case Study from Lebanon and Jordan." [<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5559834/>]. Accessed 27 September 2020.

[5] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 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: 1**

There is publicly available evidence that Lebanon has mechanisms at the relevant ministries responsible for animal, human, and wildlife surveillance to share data (e.g., through mosquito surveillance, brucellosis surveillance). According to the Joint External Evaluation (JEE) report for Lebanon, published in July 2016, the Ministry of Public Health (MoPH) and Ministry of Agriculture (MoA) agreed upon five priority zoonotic diseases, and "some priority zoonotic diseases, the two sectors have joint preparedness and response plans, surveillance systems, and specific joint committees that meet regularly." [1] The Epidemiology and Surveillance Unit (ESU) at the Ministry of Public Health operates the national surveillance system for communicable diseases and shares regular disease surveillance statistics for six provincial areas in Lebanon. It reports on animal, human, and wildlife surveillance data including brucellosis. [2,3] A guideline published by the Ministry of Public Health to guide health care workers in the reporting surveillance data flow, further states that a list of 42 mandatory notifiable diseases are to be reported on. The list also includes flaccid paralysis, anthrax, brucellosis, influenza, rabies and haemorrhagic fever. [3,4] No additional information was found on the websites of the Ministry of Public Health, Ministry of Agriculture, and Ministry of Environment. [4,5,6]



- [1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 23 October 2020.
- [2] Alliance for Health Policy and Systems Research. 2017. "Primary Health Care Systems". [<https://www.who.int/alliance-hpsr/projects/AHPSR-PRIMASYS-Lebanon-comprehensive.pdf>]. Accessed 26 October 2020.
- [3] Ministry of Public Health. 2015. "Guideline for Medical Centr, Dispensary and Field Medical Unit Based Surveillance System". [[http://www.moph.gov.lb/userfiles/files/Esu\\_resources/Esu\\_guidelines/g\\_cewar\\_2015\\_e.pdf](http://www.moph.gov.lb/userfiles/files/Esu_resources/Esu_guidelines/g_cewar_2015_e.pdf)]. Accessed 26 October 2020.
- [4] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 2020.
- [5] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 27 September 2020.
- [6] Ministry of Environment. [<http://www.moe.gov.lb/?lang=en-us>]. Accessed 27 September 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**

There is no publicly available evidence that Lebanon, on weekly basis, makes de-identified health surveillance data on disease outbreaks publicly available via reports (or other format) on government websites (such as the Ministry of Health, Ministry of Agriculture, or similar). Although the Epidemiological Surveillance page on the Ministry of Public Health (MoPH) website contains a section on surveillance data, data is not updated on weekly basis. [1] The website of MoPH further includes surveillance de-identified data, broken by years, on notifiable communicable disease including acute flaccid paralysis, anthrax, brucellosis, influenza, rabies and haemorrhagic fever. [2] The surveillance data is updated on a monthly basis, and disaggregated by district, age and sex. [2,3] Surveillance data is also provided on Syrian refugees. [4]

- [1] Ministry of Public Health. "Epidemiological Surveillance - Surveillance Data". [<https://www.moph.gov.lb/en/Pages/2/193/esu>]. Accessed 23 October 2020.
- [2] Ministry of Public Health. "Communicable Disease Surveillance - Lebanon 2020." [[https://www.moph.gov.lb/userfiles/files/Esu\\_data/Esu\\_currentyear/Lebanon.htm](https://www.moph.gov.lb/userfiles/files/Esu_data/Esu_currentyear/Lebanon.htm)]. Accessed 27 September 2020.
- [3] Ministry of Public Health. "Communicable Disease Surveillance - Beqaa." [[https://www.moph.gov.lb/userfiles/files/Esu\\_data/Esu\\_currentyear/Bekaa.htm](https://www.moph.gov.lb/userfiles/files/Esu_data/Esu_currentyear/Bekaa.htm)]. Accessed 27 September 2020.
- [4] Ministry of Public Health. "Communicable Disease Surveillance - Syrian Refugees." [[https://www.moph.gov.lb/userfiles/files/Esu\\_data/Esu\\_currentyear/SYRNRF.htm](https://www.moph.gov.lb/userfiles/files/Esu_data/Esu_currentyear/SYRNRF.htm)]. Accessed 27 September 2020.

### 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: 1**

There is publicly available evidence that Lebanon makes 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). The website of the Ministry of Public Health (MoPH) includes de-identified surveillance data on COVID-19, which includes data on daily counts, accumulated number of cases and deaths. The site also provides access to hotline telephone numbers in case of support needed, and other information regarding COVID-19, such as guidance on how to suppress the virus, travel advice, monitoring the virus within the country, and various related laws and regulations. [1]

[1] Ministry of Public Health. "Novel Coronavirus 2019" [<https://www.moph.gov.lb/en/Pages/20/27792/coronavirus-lebanon-cases-#/en/Pages/20/41828/monitoring-of-covid-19-infection->]. Accessed 22 October 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 publicly available evidence that Lebanon has legislation and/or regulations that safeguard the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities. Law no. 574 of 2002 on patient rights and informed consent includes multiple articles on safeguarding the confidentiality of individual data. For example, article 3 states that patients may conceal their diagnosis under certain conditions. Article 12 of the same law states that in compliance with the Code of Medical Ethics and corresponding sanctions, patients have the right for their personal information to be kept confidential by all doctors and health institutions. Article 13 further adds that information provided to insurance companies should be limited to issues related to costs. [1] Also, the Code of Medical Ethics (Law no. 288 of February 1994) includes a 'Professional Secrecy' section states that doctors must be bound by the secrecy, under all circumstances, including the information disclosed by the patient, and what is seen, known, discovered, or found out by a the doctor during their professional practice. [2] The website of the Ministry of Public Health, nonetheless, does not provide further information. [3]

[1] Ministry of Public Health - Hospital Syndicate of Lebanon. "Law No. 574 Patient Rights and Informed Consent." [<https://www.moph.gov.lb/userfiles/files/Laws%26Regulations/Law574-2004.pdf>]. Accessed 27 September 2020.

[2] The Lebanese Order of Physicians. October 2012. "The Code of Medical Ethics - Law no. 240 Amending Law no. 288 of February 1994." [<http://oml.org.lb/en/Pages/147/Amendment-of-the-Medical-Ethics-Law>]. Accessed 27 September 2020.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 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**

There is no publicly available evidence that Lebanon has 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). Both Law no. 574 of 2002 on patient rights and informed consent and the Code of Medical Ethics (Law no. 288 of February 1994) do not include information on protection from cyberattacks in

Lebanon. [1,2] Absence of regulations regarding cyberattacks is also confirmed in Lebanon's National Cyber Security Strategy, published in 2019, which states that "Lebanon lacks laws and regulations that protect government institutions, private companies, and cyber rights of individuals." [3] The website of the Ministry of Public Health does not provide information on protections from cyber attacks. [4]

- [1] Ministry of Public Health - Hospital Syndicate of Lebanon. "Law No. 574 Patient Rights and Informed Consent." [https://www.moph.gov.lb/userfiles/files/Laws%26Regulations/Law574-2004.pdf]. Accessed 27 September 2020.
- [2] The Lebanese Order of Physicians. October 2012. "The Code of Medical Ethics - Law no. 240 Amending Law no. 288 of February 1994." [http://oml.org.lb/en/Pages/147/Amendment-of-the-Medical-Ethics-Law]. Accessed 27 September 2020.
- [3] Lebanon National Cyber Security Strategy. [http://www.pcm.gov.lb/Library/Files/LRF/tamim/Strategie\_Liban\_Cyber\_EN\_V20\_Lg.pdf]. Accessed 27 September.
- [4] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 27 September 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, Yes, commitments have been made to share data only for one disease = 1, No = 0

**Current Year Score: 0**

There is no publicly available evidence that the Lebanese 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 for one or for more than one disease. Neither the Joint External Evaluation (JEE) report for Lebanon, published in July 2016, nor the Ministry of Public Health's website provide information on a commitment, legislation and/or a cooperative agreement to share surveillance data during a public health emergency with other countries in the region. [1,2] Lebanon, nonetheless, participates in the EpiSouth Network which was established among countries of South-East Europe, North Africa and Middle-East to create a framework for collaboration on epidemiological issues for enhancing communicable diseases surveillance and control of public health risks through communication, training, information exchange and technical support to countries in the Mediterranean region. There is no publicly available evidence, nonetheless, that Lebanon is committed via public statements, legislation and/or a cooperative agreement to share surveillance data during an active public health emergency. [3] Lebanon is also a member of the Organization of Islamic Cooperation (OIC), that has information sharing agreements in place; however, there is no publicly available evidence that Lebanon made a specific commitment to share surveillance data during an active public health emergency. [4]

- [1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 27 September 2020.
- [2] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 27 September 2020.
- [3] EpiSouth. [http://www.episouthnetwork.org/content/lebanon]. Accessed 27 September 2020.
- [4] Organization of Islamic Cooperation. "Report of the Secretary General." [http://ww1.oic-oci.org/external\_web/health\_ministers/3rd/en/docs/ICHM%20report%20July%202011.pdf]. Accessed 27 September 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: 1**

There is publicly available evidence that Lebanon 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; only in response to active public health emergencies.

The Coronavirus Disease 2019 Health Strategic Preparedness and Response plan, which is crafted in response to COVID-19, states that trainings for case management and contact tracing is a priority in terms of responding to the pandemic. [1] According to the Emergency Health Contingency Plan 2012 published by the Ministry of Public Health (MoPH), the ministry established a decentralized Early Warning Response and Alert System (EWARS) to provide regular data on outbreaks of major communicable diseases; health workers, army and internal security forces were trained on using the system. Surveillance units are reinforced on sub-national level to allow for a better surveillance and public health response. However, there is no mention of any mechanisms to provide support at the sub-national level to conduct contact tracing in the event of a public health emergency. [2] MoPH's 2016-2020 Strategic Plan and the website of the ministry do not provide further information. [3,4]

[1] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) Health Strategic Preparedness and Response Plan." [https://www.moph.gov.lb/userfiles/files/News/Leb%20nCoV%20Strategic%20Response%20Plan%20MARCH%202020-converted.pdf]. Accessed 29 September 2020.

[2] Ministry of Public Health. "Emergency Health Contingency Plan." [https://www.moph.gov.lb/DynamicPages/download\_file/550]. Accessed 29 September 2020.

[3] Ministry of Public Health. "Health Strategic Plan: Strategic Plan for the Medium Term (2016 to 2020)." [https://www.moph.gov.lb/userfiles/files/%D9%90Announcement/Final-StrategicPlanHealth2017.pdf]. Accessed 27 September 2020.

[4] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 27 September 2020.

#### 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 no publicly available evidence suggesting that Lebanon 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.

The Emergency Health Contingency Plan 2012 published by the Ministry of Public Health (MoPH) does not include information on wraparound services particularly economic support (paycheck, job security) and medical attention; [1] neither does the Lebanon Crisis Response plan 2017 - 2020, which was published in 2018. [2] The Health Strategic Plan 2016-2020, the Coronavirus Disease 2019 Health Strategic Preparedness and Response plan, and the website of MoPH do not include relevant information either. [3,4,5] A review of the labour laws and decrees published on the website of the Ministry of Labour did not provide further information on available wraparound services in the country. [6]

[1] Ministry of Public Health. "Emergency Health Contingency Plan."

[[https://www.moph.gov.lb/DynamicPages/download\\_file/550](https://www.moph.gov.lb/DynamicPages/download_file/550)]. Accessed 29 September 2020.

[2] Government of Lebanon and the United Nations. "Lebanon Crisis Response Plan: 2017-2020 (2018 update)."

[<https://www.unhcr.org/lb/wp-content/uploads/sites/16/2018/04/LCRP-EN-2018.pdf>]. Accessed 27 September 2020.

[3] Ministry of Public Health. "Health Strategic Plan: Strategic Plan for the Medium Term (2016 to 2020)."

[<https://www.moph.gov.lb/userfiles/files/%D9%90Announcement/Final-StrategicPlanHealth2017.pdf>]. Accessed 27 September 2020.

[4] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) Health Strategic Preparedness and Response Plan."

[<https://www.moph.gov.lb/userfiles/files/News/Leb%20nCoV%20Strategic%20Response%20Plan%20MARCH%202020-converted.pdf>]. Accessed 29 September 2020.

[5] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 2020.

[6] Ministry of Labour. [<https://www.labor.gov.lb/AllLegalText.aspx?type=9>]. Accessed 27 September 2020.

### 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**

There is no publicly available evidence that Lebanon makes 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. The Ministry of Public Health's (MoPH) website includes a page that reports on COVID-19 cases on daily basis. Data is de-identified and is broke down by gender, age and district. The site also provides access to hotline telephone numbers in case of support needed, and other information regarding COVID-19, such as guidance on how to suppress the virus, travel advice, monitoring the virus within the country, and various related laws and regulations, however, the page does not include contact tracing information. [1] No evidence is found via the broader MoPH website. [2]

[1] Ministry of Public Health. "Novel Coronavirus 2019" [<https://www.moph.gov.lb/en/Pages/20/27792/coronavirus-lebanon-cases-#/en/Pages/20/41828/monitoring-of-covid-19-infection->]. Accessed 22 October 2020.

[2] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 22 October 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 publicly available evidence suggesting that Lebanon has 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.

Lebanon's Joint External Evaluation (JEE) assessment, published in July 2016, states that "informal communication and coordination between stakeholders and with the [International Health Regulations] IHR [National Focal Point] NFP seems strong, particularly during an emergency public health event, although no formal SOPs exist. Coordination and communication among the relevant sectors, particularly the public health, animal, and food sectors, and with PoEs (mainly Beirut International Airport) have been tested through real-life disease events, i.e. H5N1, MERS-CoV and Ebola." [1]

Also, the Coronavirus Disease 2019 Health Strategic Preparedness and Response plan includes a detailed section about points of entry (PoE) and IHR during the pandemic. Among other action points, the plan suggests establishing multi-sector POE contingency plans, provide guidance regarding travel and trade based on public health advice, provide targeted technical support to POE (specifically Beirut Rafic Hariri International Airport, Sea ports, and Border Crossing Points), and organizing trainings for authorities at POEs. [2]

A publication on the Ministry of Defense states that COVID-19 response committee coordinates with the MoD, Ministry of Tourism, Ministry of Interior and Municipalities; this in turn suggests that joint planning exists during public health emergencies, although there is no evidence of formal national plan on this regard. [3] The websites of Rafik Hariri International Airport, and the Ministry of Public Works and Transportation do not provide information on this matter. [4,5]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 29 September 2020.

[2] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) Health Strategic Preparedness and Response Plan." [https://www.moph.gov.lb/userfiles/files/News/Leb%20nCoV%20Strategic%20Response%20Plan%20MARCH%202020-converted.pdf]. Accessed 29 September 2020.

[3] Ministry of Defense. [http://www.mod.gov.lb/Media/News/ا-الاجراءات-والالتدابير-لمتابعة-الوزارية-للمتابعة-الوزارية-للمتابعة] Accessed 29 September 2020.

[4] Rafik Hariri International Airport. [https://www.beirutairport.gov.lb/index.php?lang=en]. Accessed 29 September 2020.

[5] Ministry of Public Works and Transportation. [www.transportation.gov.lb]. Accessed 29 September 2020.

[6] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 29 September 2020.

## 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**

There is evidence to suggest that Lebanon has an applied epidemiology training program (such as FETP) or that resources are provided by the government to send citizens to another country to participate in applied epidemiology training programs (such as FETP). According to Lebanon's Joint External Evaluation (JEE) assessment, published in July 2016, there were no national FETPs available at the writing of the report. No updated information was found since the report was published to suggest that matters changed. The report mentions that although FETP does not exist in the country, there are other modes of acquiring field epidemiology training including short courses on specific diseases for district and provincial levels and surveillance and outbreak investigation. Some of those courses are offered by international agencies like the World Health Organization (WHO), the Eastern Mediterranean Public Health Network (EMPHNET), and the European Centre for Disease Prevention and Control (ECDC). [1] The report also states, though, that Lebanon participates in The Eastern Mediterranean Public Health Network (MediPIET), an ongoing field epidemiology training programme that according to the JEE accepts one or two fellows per cohort. There is no indication of the source of funding for this participation. While Lebanese citizens participate in regional applied epidemiology trainings through MediPIET, there is no publicly available evidence suggesting that the government provides resources to its citizens to attend these trainings. [1,2] The website of the Ministry of Public Health does not provide information on this matter. [3] According to a news report published by the MediPIET in 2014, it aims to benefit 17 non-EU partner countries covered by the EU Enlargement and southern European Neighborhood policies, which includes Lebanon. The news release adds that "the desired outcome from the program is to form a competent workforce with the necessary skills needed for practicing intervention epidemiology and the carrying out of essential public health functions for prevention and control of national and cross-border challenges posed by communicable diseases". [4] In order to do this, the MediPIET programme is designed to train national trainers and supervisors from participating public health institutions, which includes the Lebanese Ministry of Public Health, and to provide support to training endeavours down to sub-national and local levels. [1,2] Thus it may be the case that resources are not required to send citizens abroad as MediPIET appears to adopt a localized approach to training. The news report adds that "MediPIET training modules are attended by program fellows, public health epidemiologists working at the national and local (regional) level in the early stages of their career, senior epidemiologists, and public health workers in trainers' role. Participants are nominated by their country and specifically by national authorities through the MediPIET National Focal Point (NFP) and the national MediPIET committee", however it does not clarify where the resources to send participants who partake in regional training events come from. [4]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 27 September 2020.



[2] The Mediterranean and Black Sea Field Epidemiology Training Program Network (MediPIET). "What is a Field Epidemiology Training Program?". [<https://medi Piet.org/layout/>]. Accessed 26 October 2020.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 2020.

[4] Eastern Mediterranean Public Health Network. October 2014. "News: EMPHNET Attends MediPIET Meeting." [<http://emphnet.net/?news=emphnet-attends-medi Piet-meeting>]. Accessed 27 September 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: 0**

There is no publicly available evidence that Lebanon has 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). Lebanon's Joint External Evaluation (JEE) assessment, published in July 2016, states although the country in field epidemiology training programs such as MediPIET and FETP, participation is limited to Ministry of Public Health (MoPH) staff; members of the Ministry of Agriculture (MoA), which is responsible for animal health, have not been engaged in such trainings. According to the same source, short training courses are offered at the district and provincial level on specific diseases surveillance and outbreak investigation, some of which are offered by agencies such as the WHO, the Eastern Mediterranean Public Health Network (EMPHNET), and the European Centre for Disease Prevention and Control (ECDC), however, the report does not clarify whether it covers animal health or not. [1] The websites of the Lebanese Agricultural Research Institute (LARI), MoPH, MoA and Ministry of Environment do not include information on this matter. [2,3,4,5]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 27 September 2020.

[2] Lebanese Agricultural Research Institute (LARI). [<http://www.lari.gov.lb/about>]. Accessed 27 September 2020.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 2020.

[4] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 27 September 2020.

[5] Ministry of Environment. [<http://www.moe.gov.lb/?lang=en-us>]. Accessed 27 September 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: 0**

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: 2**

There is publicly available evidence that Lebanon has an overarching national public health emergency response plan in place which addresses planning for multiple communicable diseases with epidemic or pandemic potential. Lebanon's Joint External Evaluation (JEE) assessment, published in July 2016, states that the country has a demonstrated capacity in managing outbreaks of cholera, MERS-CoV and other diseases, each of which have contingency plans. The Ministry of Public Health efforts is working on scaling up the capacity for Ebola to better respond to both small- and large-scale public health emergencies. However, these individual plans were not publicly available. According to the same JEE report, Lebanon's emergency response plan is not comprehensive and does not encompass the plans of relevant partners such as the Lebanese Red Cross, therefore, the report recommends working towards improved coordination, collaboration and communication. [1] The Lebanon Crisis Response Plan (2017-2020) includes in the health sector improving the country's outbreak control through building the capacity of Ministry of Public Health in terms of surveillance and response, with special focus on enhancing the public health Early Warning and Response System (EWARS) that would provide the needed data for the Ministry of Public Health in a timely manner. The plan further includes response strategies for several pandemic scenarios such as Tuberculosis (TB) and HIV. [2] Additionally, in 2012, the Ministry of Public Health published the Emergency Health Plan that includes an assessment of health needs. The plan also focuses on preventing, monitoring and controlling outbreaks, maintaining health centres operational capacity, in addition to coordinating the work between key partners during health emergencies including the Ministry of Social Affairs, Ministry of Interior, Ministry of Agriculture, Ministry of Defense, the private sectors (hospitals, pharmacies, laboratories, importers of medicine), NGOs and UN agencies. [3] No further information was found on the websites of the Ministry of Public Health and the Ministry of Agriculture. [4,5]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 27 September 2020.

[2] Government of Lebanon and the United Nations. "Lebanon Crisis Response Plan: 2017-2020 (2018 update)." [https://www.unhcr.org/lb/wp-content/uploads/sites/16/2018/04/LCRP-EN-2018.pdf]. Accessed 23 October 2020.

[3] Ministry of Public Health. "Emergency Health Contingency Plan." [https://www.moph.gov.lb/DynamicPages/download\_file/550]. Accessed 27 September 2020.

[4] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 27 September 2020.

[5] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 27 September 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: 1**

There is publicly available evidence that Lebanon's overarching national public health emergency response plan has been updated in the last three years. The Lebanon Crisis Response Plan (2017-2020), updated in 2018, includes in the health strategy plans for improving the country's outbreak control through building the capacity of Ministry of Public Health in terms of surveillance and response, with special focus on enhancing the public health Early Warning and Response System (EWARS) that would provide the needed data for the Ministry of Public Health in a timely manner. The plan further includes response strategies for several pandemic scenarios such as Tuberculosis (TB) and HIV. [1]

[1] Government of Lebanon and the United Nations. "Lebanon Crisis Response Plan: 2017-2020 (2018 update)." [<https://www.unhcr.org/lb/wp-content/uploads/sites/16/2018/04/LCRP-EN-2018.pdf>]. Accessed 23 October 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: 1**

There is publicly available evidence that Lebanon's overarching national public health emergency response plan includes considerations for pediatric and/or other vulnerable populations. The 2012 Emergency Health Contingency Plan of the Ministry of Public Health (MoPH) includes an evaluation of the health needs with focus on the displaced populations and their expected return, as well as children under 15, children out of school, and the elderly. For example, the plan includes vaccine recommendations for children below fifteen and residing in internally displaced person (IDP) shelters; vaccination includes measles and polio. The plan further elaborates on the reach of vulnerable groups suggesting that in cases of emergencies, "medications and supplies can be distributed to NGOs caring for the IDPs, based on the reports of the NGOs as well as the reported number of IDPs per shelter." [1] Additionally, the Lebanon Crisis Response Plan (2017-2020), includes systems to provide protection, humanitarian assistance, and service delivery to the most vulnerable groups in Lebanon including displaced Syrians and Palestinian refugees. [2] The 2016-2020 Strategic Plan of the MoPH that addresses emergency preparedness and health security, including diseases of pandemic potential in Lebanon, states that one of the primary objectives of the ministry is to establish "a health system that is inclusive and cares for especially vulnerable groups." [3]

[1] Ministry of Public Health. "Emergency Health Contingency Plan."

[[https://www.moph.gov.lb/DynamicPages/download\\_file/550](https://www.moph.gov.lb/DynamicPages/download_file/550)]. Accessed 27 September 2020.

[2] Government of Lebanon and the United Nations. "Lebanon Crisis Response Plan: 2017-2020 (2018 update)."

[<https://www.unhcr.org/lb/wp-content/uploads/sites/16/2018/04/LCRP-EN-2018.pdf>]. Accessed 27 September 2020.

[3] Ministry of Public Health. "Health Strategic Plan: Strategic Plan for the Medium Term (2016 to 2020)."

[<https://www.moph.gov.lb/userfiles/files/%D9%90Announcement/Final-StrategicPlanHealth2017.pdf>]. Accessed 27 September 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 Lebanon has a specific mechanism(s) for engaging with the private sector to assist with outbreak emergency preparedness and response. Lebanon's Joint External Evaluation (JEE) assessment, published in July 2016, states that the Ministry of Public Health (MoPH) works closely with the private sector when it comes to vaccination and immunization campaigns. The report, nonetheless, does not include further relevant information on any collaboration mechanisms in place. [1] The 2012 MoPH's Emergency Health Contingency Plan, states that the private health sector, including private hospitals, polyclinics, laboratories, pharmacies, importers of medication and medical supplies, is a key partner during health emergencies. The private sector revolves around ensuring the operational capacity of their respective institutions, accommodating casualties, as well as providing and ensuring the stocks of medication and supplies. However, the plan does not further elaborate on the mechanism of engaging with the private sector during outbreak emergency preparedness and response. [2] In the Strategic Plan 2016 - 2020 published by MoPH, the private sector is merely included with functions related to private laboratory. [3] The Lebanon Crisis Response Plan 2017-2020, which outlines the coordination between Government of Lebanon and its international and national partners on providing humanitarian assistance and expanding access to and the quality of basic public services to vulnerable groups in Lebanon, also suggests that there are mechanisms for private sector engagement. However, the plan does not elaborate upon these mechanisms and does not describe how they are applied. [4] The website of MoPH does not include further information on specific mechanism(s) for engaging with the private sector in Lebanon. [5]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 27 September 2020.

[2] Ministry of Public Health. "Emergency Health Contingency Plan." [[https://www.moph.gov.lb/DynamicPages/download\\_file/550](https://www.moph.gov.lb/DynamicPages/download_file/550)]. Accessed 27 September 2020.

[3] Ministry of Public Health. "Health Strategic Plan: Strategic Plan for the Medium Term (2016 to 2020)." [<https://www.moph.gov.lb/userfiles/files/%D9%90Announcement/Final-StrategicPlanHealth2017.pdf>]. Accessed 27 September 2020.

[4] Government of Lebanon and the United Nations. "Lebanon Crisis Response Plan: 2017-2020." [<https://www.unhcr.org/lb/wp-content/uploads/sites/16/2018/04/LCRP-EN-2018.pdf>]. Accessed 27 September 2020.

[5] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 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 publicly available evidence that Lebanon has a policy, plan and/or guidelines in place to implement non-pharmaceutical interventions (NPIs) during an epidemic or pandemic. The Emergency Health Contingency Plan 2012 published by the Ministry of Public Health (MoPH) does not include information on NPIs during epidemic or pandemic; [1] neither does the Lebanon Crisis Response plan 2017 - 2020, which was published 2018. [2] The Health Strategic Plan 2016-2020, the Coronavirus Disease 2019 Health Strategic Preparedness and Response plan, and the website of Ministry of Public Health (MoPH) do not include relevant information either. [3,4,5]

[1] Ministry of Public Health. "Emergency Health Contingency Plan."

[[https://www.moph.gov.lb/DynamicPages/download\\_file/550](https://www.moph.gov.lb/DynamicPages/download_file/550)]. Accessed 29 September 2020.

[2] Government of Lebanon and the United Nations. "Lebanon Crisis Response Plan: 2017-2020 (2018 update)."

[<https://www.unhcr.org/lb/wp-content/uploads/sites/16/2018/04/LCRP-EN-2018.pdf>]. Accessed 27 September 2020.

[3] Ministry of Public Health. "Health Strategic Plan: Strategic Plan for the Medium Term (2016 to 2020)."

[<https://www.moph.gov.lb/userfiles/files/%D9%90Announcement/Final-StrategicPlanHealth2017.pdf>]. Accessed 27 September 2020.

[4] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) Health Strategic Preparedness and Response Plan."

[<https://www.moph.gov.lb/userfiles/files/News/Leb%20nCoV%20Strategic%20Response%20Plan%20MARCH%202020-converted.pdf>]. Accessed 29 September 2020.

[5] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 2020.

## 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 publicly available evidence that Lebanon activated their national emergency response plan for an infectious disease outbreak in the past year; however, there is no publicly available evidence suggesting that Lebanon completed a national-

level biological threat-focused exercise (either with the World Health Organization (WHO) or separately) in the past year.

With the outbreak of the COVID-19 pandemic, Lebanon activated a national emergency response plan for an infectious disease in early 2020. The Ministry of Public Health published the Coronavirus Disease 2019 Health Strategic Preparedness and Response plan to "scale up preparedness and response capacities in Lebanon for prevention, early detection, and rapid response to coronavirus disease 2019 (COVID- 19) as required under the International Health Regulations (IHR 2005)." [1] Regarding a national-level biological threat-focused exercise, neither the website of the Ministry of Public Health (MoPH) nor the WHO extranet website provide information suggesting that Lebanon carried out such an exercise in the past year. [2,4]

[1] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) Health Strategic Preparedness and Response Plan." [https://www.moph.gov.lb/userfiles/files/News/Leb%20nCoV%20Strategic%20Response%20Plan%20MARCH%202020-converted.pdf]. Accessed 29 September 2020.

[2] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 27 September 2020.

[3] World Health Organization. Simulation exercise. [https://extranet.who.int/sph/simulation-exercise]. Accessed 27 September 2020.

### 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**

There is no publicly available evidence that Lebanon 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); neither there is evidence suggesting that the country developed a plan to improve response capabilities. The website of the World Health Organization's (WHO) Strategic Partnership for International Health Regulations Portal's list of after-action reviews does not suggest that Lebanon has conducted or planned for an after action review. [1] Neither the Ministry of Public Health's recent press releases nor the World Health Organization. International Health Regulations (WHO IHR) website provide any evidence that an after action review or a biological threat-focused IHR exercise was conducted over the past year for Lebanon. [2, 3]

[1] WHO Strategic Partnership Portal. [https://extranet.who.int/sph/after-action-review]. Accessed 27 September 2020.

[2] Ministry of Public Health website. [https://www.moph.gov.lb/en/Media/news]. Accessed 27 September 2020.

[3] World Health Organization. "International Health Regulations News". [http://www.who.int/ihr/ihrnews/en/]. Accessed 27 September 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**

There is no publicly available evidence suggesting that Lebanon completed a national-level biological threat-focused exercise (either with [World Health Organization] WHO or separately) in the past and therefore, there is no evidence of the inclusion of the private sector in such exercises. Neither the website of the Ministry of Public Health (MoPH) nor the WHO Strategic Partnership Portal website provides information suggesting that Lebanon carried out such an exercise in the past year. [1,2,3] Lebanon's page on the WHO website and the WHO website regional page do not include further evidence on this matter. [4,5]

[1] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 2020.

[3] Ministry of Defense. [<http://www.mod.gov.lb>]. Accessed 27 September 2020.

[2] World Health Organization. [<https://extranet.who.int/sph/simulation-exercise>]. Accessed 27 September 2020.

[3] WHO Strategic Partnership Portal. [<https://extranet.who.int/sph/after-action-review>]. Accessed 27 September 2020.

[4] World Health Organization. Lebanon. [<https://www.who.int/countries/lbn/>]. Accessed 25 October 2020.

[5] World Health Organization. Regional Office for Eastern Mediterranean. [<http://www.emro.who.int/index.html>]. Accessed 25 October 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: 1**

There is publicly available evidence that Lebanon has an Emergency Operations Center (EOC) in place. Joint External Evaluation (JEE) assessment for Lebanon, published in July 2016, states that although not fully operational, the country's national EOC is functional and well-equipped. According to the same source, the EOC does not have standard operating procedures or designated technical staff, except IT staff to maintain the technological infrastructure. However, the EOC has enormous potential in the event of an emergency. [1] The Emergency Health Contingency Plan of the Ministry of Public Health (MoPH) indicates that there is an EOC based at the Rafic Hariri Governmental Hospital (RHGH) and is equipped with advanced Information and Communication tools that allow for satellite connections in case of emergencies. [2] The MoPH website does not include further information on OEC. [3]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 27 September 2020.

[2] Ministry of Public Health. "Emergency Health Contingency Plan." [[https://www.moph.gov.lb/DynamicPages/download\\_file/550](https://www.moph.gov.lb/DynamicPages/download_file/550)]. Accessed 27 September 2020.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 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 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.

The Joint External Evaluation (JEE) assessment for Lebanon, published in July 2016, states that although not fully operational, the country's national EOC is functional and well-equipped. According to the same source, the EOC does not have standard operating procedures or designated technical staff, except IT staff to maintain the technological infrastructure. However, the report does not include information on a required drill for a public health emergency scenario. [1] The Emergency Health Contingency Plan of the Ministry of Public Health (MoPH) indicates that there is an EOC based at the Rafic Hariri Governmental Hospital (RHGH) and is equipped with advanced Information and Communication tools that allow for satellite. Nonetheless, the plan does not touch upon any drills for public health emergency scenarios. [2] The MoPH website does not include relevant information on this matter. [3]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 27 September 2020.

[2] Ministry of Public Health. "Emergency Health Contingency Plan." [https://www.moph.gov.lb/DynamicPages/download\_file/550]. Accessed 27 September 2020.

[3] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 27 September 2020.

**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 publicly available evidence that Lebanon's 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. The Joint External Evaluation (JEE) assessment for Lebanon, published in July 2016, states that although not fully operational, the country's national EOC is functional and well-equipped. The EOC does not have standard operating procedures or designated technical staff, except IT staff to maintain the technological infrastructure. According to the same source, the EOCs are not part of any simulations or drills due to the absence of a comprehensive emergency response plan and procedure, hence, there is lack of evidence to determine if an emergency response could be activated within 120 minutes of the identification of the public health emergency. [1] The Emergency Health Contingency Plan of the Ministry of Public Health (MoPH) indicates that there is an EOC based at the Rafic Hariri Governmental Hospital (RHGH) and is equipped with advanced Information and Communication tools that allow for satellite. Nonetheless, the plan does not include information suggesting that an emergency response could be activated within 120 minutes of the identification of the public health emergency. [2] The MoPH website does not include relevant information on this matter. [3]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 27 September 2020.

[2] Ministry of Public Health. "Emergency Health Contingency Plan." [https://www.moph.gov.lb/DynamicPages/download\_file/550]. Accessed 27 September 2020.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 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: 1**

There is no publicly available 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) in Lebanon; although there is publicly available evidence that there are standard frameworks for joint response between public health and security authorities to a potential deliberate biological event (i.e. bioterrorism attack) in the country. The Chemical, Biological, Radiological and Nuclear (CBRN) National Team, located within the office of the Presidency of the Council of Ministers was founded by a ministerial decree in 2013, to establish a joint response mechanism for deliberate biological attack. CBRN has a high level of representation from multiple sectors including the Lebanese Armed Forces, state security, the civil defense, and experts from the Ministry of Public Health (MoPH) and the Ministry of Agriculture. [1] According to Lebanon's Joint External Evaluation (JEE) assessment, published in July 2016, the country has a National Supreme Commission for Relief that coordinates responses to public health events; the Commission is led by the Prime Minister and includes members at the ministerial level. Additionally, and according to the same source, Lebanon has public and animal health systems that are able to request the support of law enforcement agencies to facilitate managing health events or hazards through the CBRN or the Supreme Commission for Relief. The JEE report further mentions that the system was tested during the H5N1 avian influenza outbreak. [2] The Coronavirus Disease 2019 Health Strategic Preparedness and Response plan lists establishing a national COVID-19 Task Force as a priority to respond to the pandemic. The Task Force is mainly responsible for mobilizing resources and monitoring country level activities to facilitate coordination with relevant ministries. [3]

[1] Lebanon Chemical, Biological, Radiological and Nuclear National Team. [<http://www.cbrnlebanon.net/about.html>]. Accessed 27 September 2020.

[2] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 27 September 2020.

[3] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) Health Strategic Preparedness and Response Plan." [<https://www.moph.gov.lb/userfiles/files/News/Leb%20nCoV%20Strategic%20Response%20Plan%20MARCH%202020-converted.pdf>]. Accessed 27 September 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: 0**

There is no publicly available evidence that Lebanon's risk communication plan (or other legislation, regulation or strategy document used to guide national public health response) outlines how messages will reach populations and sectors with different communications needs (eg different languages, location within the country, media reach). The Coronavirus Disease 2019 Health Strategic Preparedness and Response plan includes risk communication and community engagement mechanism, which requires crafting strategies for COVID-19 communications. Among other recommendations, the communications section includes regular press releases, briefings and updates on the MoPH website. However, it remains unknown if similar communication strategies are followed in other health emergencies.[1] According to the Joint External Evaluation (JEE) report for Lebanon, published in July 2016, the country scored 1 out of 5 in terms of communication engagement with affected communities, alluding to no capacity in this regards. The report elaborates that the reason behind the low score is the limited resources and capacity to conduct communication outreach, thereby resulting in communication outreach taking place at the central level with no arrangement in place to systematically engage populations at the community level during health emergencies. According to the same source, Lebanon has a national communication plan for crisis management as part of the Emergency Response Framework which is coordinated by the Office of the Prime Minister. The report does not provide further information on the plan; and the plan per se is not publicly available. [2] The Lebanon Crisis Response Plan 2017-2020, sheds light on operational response plans for the health sector with the objective of expanding and reinforcing the 'National Early Warning and Response System' (EWARS), in order to strengthen the Ministry of Public Health's (MoPH) outbreak surveillance and response capacity but no further elaboration is provided. [3] Although a 2017 ' Vulnerability Assessment for Syrian Refugees in Lebanon' states that 86% of refugee households in the country received refugee-related information via text messaging or WhatsApp, where nearly 70% of sampled households had daily internet access, however, there is no reference to any official risk communication plan in place that outlines how messages will reach populations and sectors with different communications needs. [4] Neither the Emergency Health Contingency Plan of MoPH, nor the website of MoPH include further information on this matter. [5,6]

[1] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) Health Strategic Preparedness and Response Plan." [https://www.moph.gov.lb/userfiles/files/News/Leb%20nCoV%20Strategic%20Response%20Plan%20MARCH%202020-converted.pdf]. Accessed 27 September 2020.

[2] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 27 September 2020.

[3] Government of Lebanon and the United Nations. "Lebanon Crisis Response Plan: 2017-2020 (2018 update)." [https://www.unhcr.org/lb/wp-content/uploads/sites/16/2018/04/LCRP-EN-2018.pdf]. Accessed 27 September 2020.

[4] United Nations Children's Fund, United Nations High Commissioner for Refugees, and the United Nations World Food Programme. "Vulnerability Assessment of Syrian Refugees in Lebanon." [https://reliefweb.int/sites/reliefweb.int/files/resources/VASyR%202017.compressed.pdf]. Accessed 27 September 2020.

[5] Ministry of Public Health. "Emergency Health Contingency Plan."

[[https://www.moph.gov.lb/DynamicPages/download\\_file/550](https://www.moph.gov.lb/DynamicPages/download_file/550)]. Accessed 27 September 2020.

[6] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 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: 1**

There is publicly available evidence that Lebanon has 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. The Coronavirus Disease 2019 Health Strategic Preparedness and Response Plan includes risk communication and community engagement mechanism, which requires crafting strategies for COVID-19 communications. Among other goals, the plan highlights goals such as to ensure timely and credible information is made available to the public, health professionals and other key audiences in appropriate formats through different accessible platforms addressing different audiences including the general public, as well as disseminate press releases regularly highlighting the latest situation and national response and reinforce national rumour and misinformation detection and management mechanisms [1] According to the Joint External Evaluation (JEE) report for Lebanon, published in July 2016, the country has a national communication plan for crisis management as part of the Emergency Response Framework which is coordinated by the Office of the Prime Minister. The report does not provide further information on the plan; and the plan per se is not publicly available. [2] The Emergency Health Contingency Plan of the Ministry of Public Health (MoPH), the website of the Telecommunications Regulatory Authority and the website of MoPH do not include information on 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. [3,4,5]

[1] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) Health Strategic Preparedness and Response Plan." [<https://www.moph.gov.lb/userfiles/files/News/Leb%20nCoV%20Strategic%20Response%20Plan%20MARCH%202020-converted.pdf>]. Accessed 27 September 2020.

[2] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 27 September 2020.

[3] Telecommunications Regulatory Authority. [<http://www.tra.gov.lb/Mission-and-Vision>]. Accessed 27 September 2020.

[4] Ministry of Public Health. "Emergency Health Contingency Plan."

[[https://www.moph.gov.lb/DynamicPages/download\\_file/550](https://www.moph.gov.lb/DynamicPages/download_file/550)]. Accessed 27 September 2020.

[5] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 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: 1**

There is publicly available evidence that the national risk communication plan (or other legislation, regulation or strategy document used to guide national public health response) designates a specific position within the government to serve as the primary spokesperson to the public during a public health emergency. According to the Joint External Evaluation (JEE) report for Lebanon, completed in July 2016, the country's national communication plan for crisis management includes media communication that occurs on an ad hoc basis for health emergencies. The "media communication, including press releases and public announcements, are issued by the advisor to the Minister of Public Health. The designated spokesmen are the Minister or the Director General of Health. A team has been established under the Director General of Health to assume responsibility for the MoPH website and social media accounts, including mobile phone applications." [1] Also, the Coronavirus Disease 2019 Health Strategic Preparedness and Response Plan states that a designated spokesperson should be identified without further elaboration of who the spokesperson should be. [2] The Emergency Health Contingency Plan of Ministry of Public Health, the website of the Telecommunications Regulatory Authority and the website of Ministry of Public Health do not provide further information relevant to this matter. [3,4,5]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 27 September 2020.

[2] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) Health Strategic Preparedness and Response Plan." [https://www.moph.gov.lb/userfiles/files/News/Leb%20nCoV%20Strategic%20Response%20Plan%20MARCH%202020-converted.pdf]. Accessed 27 September 2020.

[3] Telecommunications Regulatory Authority. [http://www.tra.gov.lb/Mission-and-Vision]. Accessed 27 September 2020.

[4] Ministry of Public Health. "Emergency Health Contingency Plan." [https://www.moph.gov.lb/DynamicPages/download\_file/550]. Accessed 27 September 2020.

[5] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 27 September 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 publicly available evidence that Lebanon's public health system has actively shared messages via online media platforms (eg social media, website) to inform the public about ongoing public health concerns and/or dispel rumors, misinformation or disinformation in the last year. The 'alerts' and 'announcements' pages on the Ministry of Public Health website publishes announcements concerning disease outbreaks, including recent cases of COVID-19, MERS Coronavirus, Hepatitis A and leishmaniasis and evidence exists that messages, such as pharmaceutical products being recalled, clarifying regulations about the health coverage of road accidents, among others, have been shared in the last year. [1,2,3,4,5,6] The Ministry of Public Health also has a YouTube channel with videos on health-related topics, which includes awareness raising and preventative measures to be taken against diseases, however it does not appear to inform the public about health emergencies. [7] The Ministry of Public Health also has a Twitter account that is regularly used to shared news updates. [8]

According to Lebanon's Joint External Evaluation (JEE) assessment, published in July 2016, media communications including press releases and public announcements, are issued by the advisor to the Minister of Public Health. The report further states that "the designated spokesmen are the Minister or the Director General of Health. A team has been established under the Director General of Health to assume responsibility for the MoPH website and social media accounts, including mobile phone applications." [9]

- [1] Ministry of Public Health. "Media - Alerts." [https://www.moph.gov.lb/en/Media/alerts]. Accessed 27 September 2020.
- [2] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) National Health Strategic Preparedness and Response Plan." [https://www.moph.gov.lb/en/Media/view/27426/coronavirus-disease-health-strategic-preparedness-and-response-plan-]. Accessed 27 September 2020.
- [3] Ministry of Public Health. "Media - Alerts: Press Release on 19/06/2017 Concerning the Diagnosis of Infection with the MERS Coronavirus". [https://www.moph.gov.lb/en/Media/alerts#/en/Media/view/13047/press-release-on-19-06-2017-concerning-the-diagnosis-of-infection-with-the-mers-coronavirus]. Accessed 27 September 2020.
- [4] Ministry of Public Health. "Media - Alerts: Press Release Concerning Hepatitis A." [https://www.moph.gov.lb/en/Media/alerts#/en/Media/view/9827/the-hep-a-press-release]. Accessed 27 September 2020.
- [5] Ministry of Public Health. 8th June 2016. "Media - Alerts: Leishmaniasis." [https://www.moph.gov.lb/en/Media/alerts#/en/Media/view/9922/leishmaniasis]. Accessed 27 September 2020.
- [6] Ministry of Public Health. "Announcements". [https://www.moph.gov.lb/en/Media/alerts#/en/Media/announcements]. Accessed 26 October 2020.
- [7] Youtube. "MOPH Lebanon." [https://www.youtube.com/user/MOPHLEB/videos]. Accessed 27 September 2020.
- [8] Twitter. "Ministry of Public Health - Lebanon." [https://twitter.com/mophleb?lang=en]. Accessed 27 September 2020.
- [9] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 27 September 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 no publicly available evidence that senior leaders (president or ministers) have shared misinformation or disinformation on infectious diseases in the past two years. The 'alerts' page on the Ministry of Public Health website announced that a fabricated account on Twitter for the health minister publishes inaccurate and wrong information, and included the authentic account for the minister. [1] The Coronavirus Disease 2019 Health Strategic Preparedness and Response Plan includes recommendations for strengthening national rumour and misinformation detection and management mechanisms to minimize the dissemination of wrong information. This in tur, suggests that the government addresses misinformation on media platforms. [2] The websites of some Lebanese news agencies including Annahar newspaper, Al-Mustakbal and Al-Liwaa did not provide any information on Lebanese senior leaders (president or ministers) have shared misinformation or disinformation on infectious diseases in the past two years. [3,4,5] The websites of BBC Arabia and CNN Arabic do not include relevant information. [6,7]

- [1] Ministry of Public Health. "Media - Alerts." [https://www.moph.gov.lb/en/Media/alerts#/en/Media/view/38124/fabricated-account-twitter-]. Accessed 27 September 2020.
- [2] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) National Health Strategic Preparedness and Response

Plan." [<https://www.moph.gov.lb/en/Media/view/27426/coronavirus-disease-health-strategic-preparedness-and-response-plan->]. Accessed 27 September 2020.

[3] Annahar newspaper. [<https://www.annahar.com>]. Accessed 27 September 2020.

[4] Al-Mustakbal. [<https://mustaqbalweb.com>]. 27 September 2020.

[5] Al-Liwaa. [<http://aliwaa.com.lb>]. 27 September 2020.

[6] BBC News. [<https://www.bbc.com/arabic>]. Accessed 25 October 2020.

[7] CNN Arabic. [<https://arabic.cnn.com>]. Accessed 25 October 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: 78.18

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: 61.82

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: 4.0

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: 1.0

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: 0

There is publicly available evidence suggesting that Lebanon in the past year, 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. In response to COVID-19 pandemic, the Government of Lebanon, in February 2020, issued a decree to ban the export of medical equipment including the PPE such as gloves, heavy-duty rubber gloves, safety shoes and shoe cover, waterproof full body suits, face masks or respirators, waterproof headscarves, disposable gowns, chemotherapy gowns, and a protective mask. [1] The Ministry of Public Health's (MoPH) Coronavirus Disease 2019 Health Strategic Preparedness and Response plan states that part of the preparedness and response interventions is ensuring sufficient stock of PPE, with focus on healthcare workers, given that it is a key measure to control the spread of the virus. [2] The website of MoPH does not provide further evidence on this matter. [3]

[1] Ministry of Economy and Trade. [<https://www.economy.gov.lb/ar/announcements/-أدوات-أو-معدات-أو-أجهزة-أو-معدات-أو-أدوات>]. Accessed 27 September 2020.

[2] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) Health Strategic Preparedness and Response Plan." [<https://www.moph.gov.lb/userfiles/files/News/Leb%20nCoV%20Strategic%20Response%20Plan%20MARCH%202020-converted.pdf>]. Accessed 29 September 2020.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 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 suggesting that Lebanon 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. The Lebanese Customs website, the Ministry of Economy and Trade website, and the Ministry of Agriculture website do not provided any evidence that the import of goods from another country was restricted over the past year due to health reasons [1,2,3]. However, the country in the past banned some food items in response to public health outbreaks. For example, The country banned the import of food items due to health reasons in the past, including beef from Ireland (2001-2014), and livestock from Brazil (2013). [4,5]

[1] Lebanese Customs. [lebanese customs.gov.lb]. Accessed 30 September 2020.

[2] Ministry of Economy and Trade. [https://www.economy.gov.lb/en]. Accessed 30 September 2020.

[3] Ministry of Agriculture. [http://www.agriculture.gov.lb]. Accessed 30 September 2020.

[4] The Journal news (Ireland). 22nd January 2014. "Where's the Beef? Lebanon, Actually". [https://www.thejournal.ie/beef-imports-allowed-into-lebanon-1277618-Jan2014/]. Accessed 30 September 2020.

[5] Naharnet news. 2nd January 2013. "Lebanon Bans Imports of Cattle from Brazilian State".

[http://www.naharnet.com/stories/en/66770]. Accessed 30 September 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: 0**

There is publicly available evidence that Lebanon implemented a ban, without international/bilateral support, on travelers arriving from a specific country or countries due to an infectious disease outbreak. In response to COVID-19, and according to news outlets, the Lebanese government banned religious trips to the country and limited the flights to and from countries with high rates of COVID-19 cases. [1,2] Additionally, the government introduced new procedures on passengers coming to Lebanon to control the spread of the virus; this includes PCR testing from the countries from which passengers departed and a filled out 'COVID-19 MOPH PASS' online form. Also, specific regulations are introduced on some countries; for example, "all passengers arriving from Iraq except, Lebanese and resident foreigners, shall have a prepaid hotel booking for 72 hours in one of the following hotels listed by the Ministry of Tourism in Lebanon where rooms are booked at reasonable prices." [3]

[1] Anadolu Agency. [https://www.aa.com.tr/ar/1744780/كورونا-تفشي-فيها-كورونا-مع-دول-تفشي-فيها-كورونا]. Accessed 30 September 2020.

[2] Anadolu Agency Youtube channel. [https://www.youtube.com/watch?v=HySdO9xFkIw]. Accessed 30 September 2020.

[3] Ministry of Public Health. [https://moph.gov.lb/en/MoPHPASS]. Accessed 30 September 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: 210.38

2018

WHO; national sources

##### 4.1.1b

Nurses and midwives per 100,000 people

Input number

Current Year Score: 167.35

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 no publicly available evidence that Lebanon has 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. The Joint External Evaluation (JEE) assessment for Lebanon, published in July 2016, states that neither the Ministry of Public Health (MoPH) nor the Ministry of Agriculture has a formal workforce strategy. [1] The Health Strategic Plan 2016-2020 of the MoPH does not refer to any existing health workforce strategy, however, it states that the national network of primary healthcare centres, comprised of 224 facilities out of approximately 1080, is supported by the MoPH through the provision of resources as well as health education materials and training activities. [2] The websites of the MoPH, Ministry of Labour and Ministry of Education and Higher Education websites do not include information relevant to available health workforce strategies. [3,4,5]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 27 September 2020.

[2] Ministry of Public Health. "Health Strategic Plan: Strategic Plan for the Medium Term (2016 to 2020)." [https://www.moph.gov.lb/userfiles/files/%D9%90Announcement/Final-StrategicPlanHealth2017.pdf]. Accessed 27 September 2020.

[3] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 27 September 2020.

[4] Ministry of Labour. [https://www.labor.gov.lb/]. Accessed 27 September 2020.

[5] Ministry of Education and Higher Education. [http://www.mehe.gov.lb/]. Accessed 27 September 2020.

## 4.1.2 Facilities capacity

### 4.1.2a

**Hospital beds per 100,000 people**

Input number

**Current Year Score: 273**

2017

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: 1**

There is publicly available evidence suggesting that Lebanon has 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. According to the Joint External Evaluation (JEE) assessment of Lebanon, published in July 2016, as of 2016, the Rafik Hariri University Hospital had capacity to isolate two Ebola patients. [1] More recently, media sites report that Rafik Hospital has isolation units to manage COVID-19 cases and can offer hospitalization and medical treatment. [2] Additionally, the American University of Beirut Medical Center (AUBMC) has an isolation room in the Neonatal intensive Care Unit (NICU) and has developed a "makeshift COVID-19 building". [3] Other hospitals that have started treating COVID-19 patients and provide additional isolation units are Notre Dame des Secours Hospital, Sacré-Coeur Hospital, and Hôtel-Dieu de France Hospital. [3] In 2014 the Health Minister Wael Abu Faour said all hospitals with more than 100 beds would be required to install isolation rooms, however, it is unclear whether this has been implemented or not. [3] The Ministry of the Public Health website does not include further information. [4]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 27 September 2020.

[2] DirectRelief. May 2020. "As Covid-19 Cases Rise, Critical Medical Supplies Reach Hospitals in Lebanon". [https://www.directrelief.org/2020/05/as-covid-19-cases-rise-critical-medical-supplies-reach-hospitals-in-lebanon/]. Accessed 26 October 2020.

[3] AN-NAHAR. May 2020. "More Lebanese hospitals to start treating COVID-19 patients".  
[<https://www.annahar.com/english/article/1144103-extra-lebanese-hospitals-to-contain-covid19-patients>]. Accessed 26 October 2020.

[4] American University of Beirut Medical Center. "Clinical Services and Facilities."  
[<https://www.aub.edu.lb/fm/Pediatrics/Pages/ClinicalServices.aspx>]. Accessed 25 October 2020.

[4] The Daily Star Lebanon. "Government Hospital Prepared for Ebola."  
[<https://www.dailystar.com.lb/ArticlePrint.aspx?id=275294&mode=print>]. Accessed 27 September 2020.

[5] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 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 publicly available evidence suggesting that that Lebanon has demonstrated capacity to expand isolation capacity in response to an infectious disease outbreak in the past two years; however, there is no evidence that Lebanon developed, updated or tested a plan to expand isolation capacity in response to an infectious disease outbreak in the past two years.

Media websites report that Rafik Hospital has isolation units to manage COVID-19 cases and can offer hospitalization and medical treatment, "with a dedicated wing of the hospital hosting all of the nation's confirmed COVID-19 cases." This suggests that Lebanon, in the past two years had the capacity to expand isolation capacity in response to an infectious disease outbreak. [1] Additionally, the American University of Beirut Medical Center (AUBMC) has an isolation room in the Neonatal intensive Care Unit (NICU) and has developed a "makeshift COVID-19 building". [2] Other hospitals that have started treating COVID-19 patients and provide additional isolation units are Notre Dame des Secours Hospital, Sacré-Coeur Hospital, and Hôtel-Dieu de France Hospital. [3]

In 2014 the Health Minister Wael Abu Faour said all hospitals with more than 100 beds would be required to install isolation rooms, however, it is unclear whether this has been implemented or not. [4] The Ministry of the Public Health website does not include further information on expanded isolation capacity or on a plan that had been developed, updated or tested to expand isolation capacity in response to an infectious disease outbreak during the past two years. [5] According to the Joint External Evaluation (JEE) assessment of Lebanon, published in July 2016, as of 2016, the Rafik Hariri University Hospital has the capacity to isolate two Ebola patients. However, the JEE does not provide information on the country's capacity to expand isolation capacity in response to an infectious disease outbreak. [6]

[1] DirectRelief. May 2020. "As Covid-19 Cases Rise, Critical Medical Supplies Reach Hospitals in Lebanon".  
[<https://www.directrelief.org/2020/05/as-covid-19-cases-rise-critical-medical-supplies-reach-hospitals-in-lebanon/>]. Accessed 26 March 2021.

[2] AN-NAHAR. May 2020. "More Lebanese hospitals to start treating COVID-19 patients".  
[<https://www.annahar.com/english/article/1144103-extra-lebanese-hospitals-to-contain-covid19-patients>]. Accessed 26 March 2021.

[3] American University of Beirut Medical Center. "Clinical Services and Facilities."  
[<https://www.aub.edu.lb/fm/Pediatrics/Pages/ClinicalServices.aspx>]. Accessed 26 March 2021.

[4] The Daily Star Lebanon. "Government Hospital Prepared for Ebola."

[<https://www.dailystar.com.lb/ArticlePrint.aspx?id=275294&mode=print>]. Accessed 26 March 2021.

[5] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 26 March 2021.

[6] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 26 March 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 publicly available evidence that Lebanon has 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. Although the Ministry of Public Health (MoPH) has a department of equipment and procurement, it is responsible for the procurement of vaccines, medications, PPEs and reagents only; there is no evidence indicating that the national systems procures laboratory needs as well. [1] According to the Joint External Evaluation (JEE) assessment for Lebanon, published in July 2016, the MoPH has established contractual agreements with laboratories in both the public and private sectors to perform the public health functions of a central public health laboratory, however, the report does not refer to any standardized protocol for procurement needs of these laboratories. [2] For example, the American University of Beirut Medical Center Laboratory is a private facility that serves as a national reference laboratory for tuberculosis, however it appears as though procurement needs are met by the university's own purchasing department. [3] The website of MoPH and Ministry of Economy and Trade do not include further evidence on this matter. [4,5]

[1] Ministry of Public Health. "Health Strategic Plan: Strategic Plan for the Medium Term (2016 to 2020)."

[<https://www.moph.gov.lb/userfiles/files/%D9%90Announcement/Final-StrategicPlanHealth2017.pdf>]. Accessed 30 September 2020.

[2] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 30 September 2020.

[3] American University of Beirut Medical Center. "AUBMC Purchasing Department."

[[http://www.aubmc.org/patientcare/adm\\_ser/Pages/purchasing.aspx](http://www.aubmc.org/patientcare/adm_ser/Pages/purchasing.aspx)]. Accessed 30 September 2020.

[4] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 30 September 2020.

[5] Ministry of Economy and Trade. [<https://www.economy.gov.lb/en>]. Accessed 30 September 2020.

## 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: 1**

There is publicly available evidence suggesting that Lebanon has a stockpile of medical supplies (e.g. medical countermeasures (MCMs), medicines, vaccines, medical equipment, PPE) for national use during a public health emergency; however, there is limited evidence about what the stockpile contains.

The 2012 Emergency Health Contingency Plan of the Ministry of Public Health (MoPH), mentions that the country has a stockpile of chronic medication in place, available for three months, and that it is utilized especially during public health emergencies. The plan further states that five decentralized warehouses are established (one in each province), which hold stocks of 'chronic medications' sufficient for two weeks. These warehouses are connected to the central warehouse for monitoring. MoPH also ensures the availability of supplies through the central warehouse. However, the plan does not describe the chronic medications or elaborate on whether these medical equipment or PPEs. [1]

Lebanon's Joint External Evaluation (JEE) assessment, published in July 2016, suggests that the country has limited capacity for the indicator of "priority public health risks and resources are mapped and utilized." The report further elaborates that "national resources have been mapped (logistics, experts, finance, etc.) for a few IHR-relevant hazards and priority risks. A plan for management and distribution of national stockpiles is not in place," without explicitly mentioning stockpiles for medical supplies. The report also states that Lebanon has demonstrated and tested experience in deploying MCMs based on functional practices, and that there is "no written comprehensive national plan to support and sustain the existing practices of mobilizing MCM." [2] The websites of MoPH and the Ministry of Defense do not include information on this matter. [3,4]

[1] Ministry of Public Health. "Emergency Health Contingency Plan."

[[https://www.moph.gov.lb/DynamicPages/download\\_file/550](https://www.moph.gov.lb/DynamicPages/download_file/550)]. Accessed 26 March 2021.

[2] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 26 March 2021.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 26 March 2021.

[4] Ministry of Defense. [<http://www.mod.gov.lb>]. Accessed 26 March 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 no publicly available evidence suggesting that Lebanon has a stockpile of laboratory supplies (e.g. reagents, media) for national use during a public health emergency. The 2012 Emergency Health Contingency Plan of the Ministry of Public Health (MoPH), does not mention any stockpiling of of laboratory supplies (e.g. reagents, media) for national use during a public health emergency. [1] Neither does the Joint External Evaluation (JEE) assessment for Lebanon which was published in July 2016. [2] The websites of Ministry of the Public Health (MoPH) and the Ministry of Defense do not include information



on this matter. [3,4]

[1] Ministry of Public Health. "Emergency Health Contingency Plan."

[[https://www.moph.gov.lb/DynamicPages/download\\_file/550](https://www.moph.gov.lb/DynamicPages/download_file/550)]. Accessed 27 September 2020.

[2] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 27 September 2020.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 2020.

[4] Ministry of Defense. [<http://www.mod.gov.lb>]. Accessed 12 September 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 publicly available evidence suggesting that Lebanon conducts or requires an annual review of the national stockpile to ensure the supply is sufficient for a public health emergency.

The 2012 Emergency Health Contingency Plan of the Ministry of Public Health (MoPH), mentions that the country has a stockpile of chronic medication in place, available for three months, and that it is utilized especially during public health emergencies. The plan further states that five decentralized warehouses are established (one in each province), which hold stocks of 'chronic medications' sufficient for two weeks. These warehouses are connected to the central warehouse for monitoring. MoPH also ensures the availability of supplies through the central warehouse. However, the plan neither elaborates on the type of medications included in the stockpile, nor mentions an annual review of the stockpile conducted to ensure the supply is sufficient for a public health emergency. [1]

Lebanon's Joint External Evaluation (JEE) assessment, published in July 2016, suggests that the country has limited capacity for the indicator of "priority public health risks and resources are mapped and utilized." The report further elaborates that "national resources have been mapped (logistics, experts, finance, etc.) for a few IHR-relevant hazards and priority risks. A plan for management and distribution of national stockpiles is not in place," without explicitly mentioning stockpiles for medical supplies. [2] The websites of MoPH and the Ministry of Defense do not include information on this matter. [3,4]

[1] Ministry of Public Health. "Emergency Health Contingency Plan."

[[https://www.moph.gov.lb/DynamicPages/download\\_file/550](https://www.moph.gov.lb/DynamicPages/download_file/550)]. Accessed 26 March 2021.

[2] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 26 March 2021.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 26 March 2021.

[4] Ministry of Defense. [<http://www.mod.gov.lb>]. Accessed 26 March 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 that Lebanon has 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; neither there is evidence that Lebanon has in place a plan/mechanism to procure medical supplies for national use during a public health emergency.

The Lebanon Crisis Response Plan (2017-2020), Lebanon's Joint External Evaluation (JEE) assessment, published in July 2016, and the 2012 Emergency Health Plan do not include evidence about a plan/agreement to boost domestic manufacturing capacity to produce medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) or any procurement processes. [1,2,3] Although in response to COVID-19 pandemic, the Government of Lebanon issued a decree to ban the export of medical equipment including the PPE, there is no evidence on decrees that leverage domestic manufacturing capacity to produce medical supplies. [4]

The Ministry of Public Health's (MoPH) Coronavirus Disease 2019 Health Strategic Preparedness and Response plan also makes no mention of such a plan or agreement. [5] Regarding procurement, although MoPH has a department of equipment and procurement responsible for the procurement of vaccines, medications, PPEs and reagents, there is no evidence to suggest that it can be utilised beyond routine procurement for national use during a public health emergency. [6] The website of Ministry of Public Health and Ministry of Economy and Trade do not include further evidence on this matter. [7,8]

[1] Government of Lebanon and the United Nations. "Lebanon Crisis Response Plan: 2017-2020 (2018 update)." [https://www.unhcr.org/lb/wp-content/uploads/sites/16/2018/04/LCRP-EN-2018.pdf]. Accessed 26 March 2021.

[2] Ministry of Public Health. "Emergency Health Contingency Plan." [https://www.moph.gov.lb/DynamicPages/download\_file/550]. Accessed 26 March 2021.

[3] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 26 March 2021.

[4] Ministry of Economy and Trade. [https://www.economy.gov.lb/ar/announcements/-أدوات-أو-معدات-أو-أجهزة-تصدير-أجهزة-أو-معدات-أو-أدوات-]. Accessed 26 March 2021.

[5] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) Health Strategic Preparedness and Response Plan." [https://www.moph.gov.lb/userfiles/files/News/Leb%20nCoV%20Strategic%20Response%20Plan%20MARCH%202020-converted.pdf]. Accessed 26 March 2021.

[6] Ministry of Public Health. "Health Strategic Plan: Strategic Plan for the Medium Term (2016 to 2020)." [https://www.moph.gov.lb/userfiles/files/%D9%90Announcement/Final-StrategicPlanHealth2017.pdf]. Accessed 26 March 2021.

[7] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 26 March 2021.

[8] Ministry of Economy and Trade. [https://www.economy.gov.lb/en]. Accessed 26 March 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 that Lebanon has a plan / agreement to leverage domestic manufacturing capacity to produce or to procure laboratory supplies (e.g. reagents, media) for national use during a public health emergency. The Lebanon Crisis Response Plan (2017-2020), Lebanon's Joint External Evaluation (JEE) assessment, published in July 2016, and the 2012 Emergency Health Plan do not include evidence about a plan/agreement to boost domestic manufacturing capacity to produce laboratory supplies, neither do the plans refer to a mechanism for procurement of laboratory supplies during a public health emergency. [1,2,3] In response to COVID-19 pandemic, the Government of Lebanon issued a decree to ban the export of medical equipment including the PPE, however, there is no evidence on decrees that leverage domestic manufacturing capacity to produce laboratory supplies. [4] The Ministry of Public Health's (MoPH) Coronavirus Disease 2019 Health Strategic Preparedness and Response plan does not mention anything on this regards. [5] Regarding procurement, although the Ministry of Public Health has a department of equipment and procurement, responsible for the procurement of vaccines, medications, PPEs and reagents; there is no evidence indicating that the national systems procures laboratory supplies, or that the system can be utilised beyond routine procurement for national use during a public health emergency. [6] The website of Ministry of Public Health and Ministry of Economy and Trade do not include further evidence on this matter. [7,8]

[1] Government of Lebanon and the United Nations. "Lebanon Crisis Response Plan: 2017-2020 (2018 update)."

[<https://www.unhcr.org/lb/wp-content/uploads/sites/16/2018/04/LCRP-EN-2018.pdf>]. Accessed 23 October 2020.

[2] Ministry of Public Health. "Emergency Health Contingency Plan."

[[https://www.moph.gov.lb/DynamicPages/download\\_file/550](https://www.moph.gov.lb/DynamicPages/download_file/550)]. Accessed 23 October 2020.

[3] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 27 September 2020.

[4] Ministry of Economy and Trade. [<https://www.economy.gov.lb/ar/announcements/-قرار-لمنع-تصدير-أجهزة-أو-معدات-أو-أدوات-الحماية-الشخصية-الطبية-الواقية-من-الامراض-المعدية>].

[5] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) Health Strategic Preparedness and Response Plan."

[<https://www.moph.gov.lb/userfiles/files/News/Leb%20nCoV%20Strategic%20Response%20Plan%20MARCH%202020-converted.pdf>]. Accessed 29 September 2020.

[6] Ministry of Public Health. "Health Strategic Plan: Strategic Plan for the Medium Term (2016 to 2020)."

[<https://www.moph.gov.lb/userfiles/files/%D9%90Announcement/Final-StrategicPlanHealth2017.pdf>]. Accessed 30 September 2020.

[7] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 30 September 2020.

[8] Ministry of Economy and Trade. [<https://www.economy.gov.lb/en>]. Accessed 30 September 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 no publicly available evidence that Lebanon has 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). According to the Joint External Evaluation (JEE) assessment for Lebanon, published in July 2016, the country has limited capacity for the indicator of "system is in place for sending and receiving medical countermeasures during a public health emergency." The report further elaborates that although specific MCM mobilization procedures are included in contingency plans of specific diseases, a national plan is needed to sustain existing practices. [1] The Health Strategic Plan 2016-2020 of the Ministry of Public Health (MoPH) states that national plans for pandemics and containment of epidemics are periodically updated, however no further elaboration is provided on national plan regarding MCM. [2] Furthermore, the Lebanon Crisis Response Plan (2017-2020) states that the health sector "will ensure that a one-year stock of selected contingency vaccines, emergency medications, laboratory reagents, response kits and personal protective equipment (PPE)" are available to guarantee a rapid and effective response to outbreaks, however operational guidelines on how this would be achieved are not provided [3]. The websites of the MoPH and Ministry of Defence do not provide further information on this matter. [4,5]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 27 September 2020.

[2] Ministry of Public Health. "Health Strategic Plan: Strategic Plan for the Medium Term (2016 to 2020)." [https://www.moph.gov.lb/userfiles/files/%D9%90Announcement/Final-StrategicPlanHealth2017.pdf]. Accessed 27 September 2020.

[3] Government of Lebanon and the United Nations. "Lebanon Crisis Response Plan: 2017-2020 (2018 update)." [https://www.unhcr.org/lb/wp-content/uploads/sites/16/2018/04/LCRP-EN-2018.pdf]. Accessed 27 September 2020.

[4] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 27 September 2020.

[5] Ministry of Defense. [http://www.mod.gov.lb]. Accessed 27 September 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 insufficient publicly available evidence that Lebanon has a public plan in place to receive health personnel from other countries to respond to a public health emergency. Lebanon's Joint External Evaluation (JEE) assessment, published in

July 2016, states that the country has plans and procedures in place for both sending and receiving personnel during public health emergencies, with formal agreements in place on sending and receiving criteria and procedures with the WHO's Global Outbreak Alert and Response Network (GOARN), EMPHNET and ECDE. [1] The agreements, nonetheless, are not publicly available/accessible. [2] The Ministry of Public Health's (MoPH) 2012 Emergency Health Contingency Plan, states that the WHO will deploy emergency public health surge teams with a focus on rapid assessment of health needs during emergencies. However, there is no evidence available on the planning procedures for how these teams will be received. [3] While there is also evidence that personnel from the UNHCR and the International Organization for Migration have been deployed to primary healthcare centres across Lebanon to accommodate the increased demand for services following the substantial influx of Syrian refugees, it is not clear whether this was the result of a formal arrangement with the government. [4] The website of MoPH do not provide further information. [5]

[1] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 27 September 2020.

[2] Global Outbreak Alert and Response Network. [https://extranet.who.int/goarn/]. Accessed 27 September 2020.

[3] Ministry of Public Health. "Emergency Health Contingency Plan."

[https://www.moph.gov.lb/DynamicPages/download\_file/550]. Accessed 27 September 2020.

[4] United Nations Refugee Agency. "With Syria Refugee Crisis, Lebanese Health Services Improve."

[https://www.unhcr.org/news/stories/2016/9/57ce7e7d4/syria-refugee-crisis-lebanese-health-services-improve.html].

Accessed 27 September 2020.

[5] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 27 September 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: 98.2**

2004

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: 393.75**

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 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. The Coronavirus Disease 2019 Health Strategic Preparedness and Response Plan does not include information suggesting that healthcare workers who become sick are going to be prioritized for healthcare services; neither does the plan refer to any issued legislation, a policy, or a public statement on this matter. [1] No further relevant evidence is available on the websites of the Ministry of Public Health, the Ministry of Social Affairs or the Syndicate of Hospitals websites [2,3,4].

[1] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) National Health Strategic Preparedness and Response Plan." [https://www.moph.gov.lb/en/Media/view/27426/coronavirus-disease-health-strategic-preparedness-and-response-plan-]. Accessed 27 September 2020.

[2] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 27 September 2020.

[3] Ministry of Social Affairs. [http://www.socialaffairs.gov.lb/en/msadefault.aspx?parm=10]. Accessed 27 September 2020.

[4] Syndicate of Hospitals Lebanon. [https://www.syndicateofhospitals.org.lb/]. Accessed 27 September 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: 0**

There is no publicly available evidence that Lebanon has a system in place for public health officials and healthcare workers to communication during a public health emergency.

Although the Coronavirus Disease 2019 Health Strategic Preparedness and Response Plan states that it is necessary to "ensure that national surveillance system covers laboratories, health facilities in public and private sector, points of entry, and other relevant health providers with a direct line of communication with the national [International Health Regulations] IHR focal point." The plan does not refer to any system in place neither does it elaborate on the nature of communication line with the IHR focal point. [1]

According to Lebanon's Joint External Evaluation (JEE) assessment, published in July 2016, internal and partner communication and coordination (including with healthcare workers) exists, however it is carried out on an ad hoc basis as necessary. The report also elaborates that public health and security authorities have a demonstrated level of capacity for coordination and communication during biological events. These efforts are coordinated by the Supreme Commission for Relief under the Office of the Prime Minister which coordinates responses to major events including public health events. [2] The website of the Ministry of Public Health does not provide further evidence on this matter. [3]

[1] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) National Health Strategic Preparedness and Response Plan." [<https://www.moph.gov.lb/en/Media/view/27426/coronavirus-disease-health-strategic-preparedness-and-response-plan->]. Accessed 27 September 2020.

[2] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [<https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1>]. Accessed 27 September 2020.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 2020.

#### 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: 0**

There is no public evidence that Lebanon has a system in place for public health officials and healthcare workers to communicate during a public health emergency, therefore, there is also no evidence of a plan that involves both the public and the private sector.



The Coronavirus Disease 2019 Health Strategic Preparedness and Response Plan states that it is necessary to "ensure the availability of direct line of communication between the national [International Health Regulations] IHR focal point and the different health system components including laboratories, health facilities in public and private sector, points of entry, and other relevant health providers. The plan, nonetheless, does not refer to any communication system in place neither does it elaborate on the nature of communication line with the IHR focal point. [1]

According to Lebanon's Joint External Evaluation (JEE) assessment, published in July 2016, internal and partner communication and coordination (including with healthcare workers) exists, however it is carried out on an ad hoc basis as necessary. The report nonetheless does not elaborate on the involvement/inclusion of the private sectors in such ad hoc plans. [2] The website of the Ministry of Public Health does not provide further evidence on this matter. [3]

[1] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) National Health Strategic Preparedness and Response Plan." [https://www.moph.gov.lb/en/Media/view/27426/coronavirus-disease-health-strategic-preparedness-and-response-plan-]. Accessed 27 September 2020.

[2] World Health Organization. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [https://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 27 September 2020.

[3] Ministry of Public Health. [https://www.moph.gov.lb/en]. Accessed 27 September 2020.

## 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 no publicly available evidence that Lebanon's public health system monitors for and tracks the number of healthcare associated infections (HCAI) that take place in healthcare facilities.

The Joint External Evaluation assessment for Lebanon, published in July 2016, states that while the country has health-care facilities with high standards for HCAI prevention and control, there is no standardized national plan to monitor, prevent and control HCAI. [1] The Ministry of Public Health's Epidemiological Surveillance Unit does however have a 'hospital mortality' surveillance system in place, but this appears to be more of a system for general diseases detection and surveillance without a specific focus on HCAI. [2,3]. The websites of the Ministry of Public Health and the Syndicate of Hospitals do not provide further information on this matter. [4, 5]

[1] Ministry of Public Health. "Coronavirus Disease 2019 (COVID-2019) National Health Strategic Preparedness and Response Plan." [https://www.moph.gov.lb/en/Media/view/27426/coronavirus-disease-health-strategic-preparedness-and-response-plan-]. Accessed 27 September 2020.

[2] Ministry of Public Health. "Epidemiological Surveillance: Hospital Mortality Surveillance." [https://www.moph.gov.lb/en/Pages/2/193/esu]. Accessed 27 September 2020.

[3] Ministry of Public Health. "Guidelines for Hospital-based Mortality Surveillance."

[[https://www.moph.gov.lb/userfiles/files/Esu\\_resources/Esu\\_guidelines/g\\_hms\\_2015\\_e.pdf](https://www.moph.gov.lb/userfiles/files/Esu_resources/Esu_guidelines/g_hms_2015_e.pdf)]. Accessed 27 September 2020.  
Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 2020.  
[5] Syndicate of Hospitals Lebanon. [<https://www.syndicateofhospitals.org.lb/>]. Accessed 27 September 2020.

## 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 publicly available evidence that there is a there a national requirement in Lebanon for ethical review (e.g., from an ethics committee or via Institutional Review Board approval) before beginning a clinical trial. The Ministry of Public Health (MoPH) issued decree number 1/1159 in 2014 regarding clinical trials, of which article 3 states that clinical trials require approval of the ethics committee. Article 7 of the same decree further adds that any changes on the clinical study should be also submitted to the ethics committee before the the commencement of the trial. [1] Article 1 of decree number 1/2286 of 2014 on the accreditation of ethics committees overseeing clinical trials with humans also states that clinical trials cannot commence without the approval of the ethics committee. [2] In decree number 569/2 (1996) the MoPH issued a regulation limiting the conduct of clinical research to teaching hospitals or hospitals affiliated with a medical school. According to a report published by the Lebanese syndicate of hospitals in 2014, 24 teaching hospitals were permitted by MoPH to conduct clinical research. Most of these hospitals have their own institutional review boards or research ethics committees to ensure ethical compliance of researchers and sponsors in the conduct of clinical trials. [3] The MoPH maintains oversight over these institutional review boards and research ethics committees and issued guidelines on the requirements needed to obtain the MoPH's authorization. [4]

[1] Ministry of Public Health. "Decree No. 1159/1 Concerning Clinical Trial Regulations."

[<https://www.moph.gov.lb/userfiles/files/HealthCareSystem/Pharmaceuticals/ClinicalTrial/Decision1159-2014.pdf>]. Accessed 27 September 2020.

[2] Ministry of Public Health. "Decree No. 1/2286 Relating to the Accreditation of Ethics Committees Overseeing Clinical Trials with Human Participants." [[https://www.moph.gov.lb/Laws/download\\_file/690](https://www.moph.gov.lb/Laws/download_file/690)]. Accessed 27 September 2020.

[3] Hamra, R. "Role of the Ministry of Public Health in Clinical Research in Lebanon: History, Present Situation, and Plans for the Future." [[https://www.syndicateofhospitals.org.lb/Content/uploads/SyndicateMagazinePdfs/4642\\_8-9eng.pdf](https://www.syndicateofhospitals.org.lb/Content/uploads/SyndicateMagazinePdfs/4642_8-9eng.pdf)]. Accessed 27 September 2020.

[4] Ministry of Public Health. "Clinical Trials." [<https://www.moph.gov.lb/en/Pages/3/4760/clinical-trial-regulations>]. Accessed 27 September 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 no public evidence that Lebanon offers an expedited process for approving clinical trials for unregistered medical countermeasures to treat ongoing pandemics. The Ministry of Public Health's (MoPH) decree number 1/1159 (2014) concerning clinical trial regulations and decree number 1/2286 (2014) on the accreditation of ethics committees overseeing clinical trials with humans, do not mention the option of an expedited process or any conditions under which an expedited process may take place. [1,2] The MoPH's website do not provide further information on this issue. [3]

[1] Ministry of Public Health. "Decree No. 1159/1 Concerning Clinical Trial Regulations."

[<https://www.moph.gov.lb/userfiles/files/HealthCareSystem/Pharmaceuticals/ClinicalTrial/Decision1159-2014.pdf>]. Accessed 27 September 2020.

[2] Ministry of Public Health. "Decree No. 1/2286 Relating to the Accreditation of Ethics Committees Overseeing Clinical Trials with Human Participants." [[https://www.moph.gov.lb/Laws/download\\_file/690](https://www.moph.gov.lb/Laws/download_file/690)]. Accessed 27 September 2020.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 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 publicly available evidence that there is a government agency responsible for approving new medical countermeasures (MCM) for humans. A publication by the Ministry of Public Health (MoPH) states that the Department of Pharmacy is MoPH's regulatory arm for pharmaceuticals and drugs; all pharmaceutical products, medical devices and medical products must be registered with MoPH regardless of whether they are manufactured locally or imported. According to a publication by the Ministry of Public Health (MoPH), the Department of Pharmacy is the MoPH regulatory arm for pharmaceuticals and drugs. [1] According to the Drugs & Pharmaceutical like Registration page on MoPH's website which includes the MoPH's 2014 guidelines on the administrative procedures for drugs and pharmaceutical product registration in Lebanon, all pharmaceutical products, medical devices and medical products must be registered with the MoPH, regardless of whether they are manufactured locally or imported. The registration of all new drugs must be submitted to the Drug Registration Technical Committee within the ministry; and that importing or distributing drugs that are not registered is illegal and subject to confiscation. [2,3] The Drug Registration Technical Committee periodically publishes decisions regarding registration requests for new medicine or requests to import medication. [4, 5, 6]

[1] Ministry of Public Health. "Chapter Four: Pharmaceuticals".

[<https://moph.gov.lb/userfiles/files/Publications/HealthBeyondPolitics/Chapter4-Pharmaceuticals.pdf>]. Accessed 27 September 2020.

[2] Ministry of Public Health. "Drugs and Pharmaceutical Like Registration."

[<https://www.moph.gov.lb/en/Pages/0/8024/drugs-pharmaceutical-like-registration>]. Accessed 27 September 2020.

[3] Ministry of Public Health. "Manual for Administrative Procedures for Drugs & Pharmaceutical Products Registration." [<https://www.moph.gov.lb/userfiles/files/HealthCareSystem/Pharmaceuticals/DrugsandPharmaceuticallikeRegistration/Manuals%26Guidelines/DrugsRegistration2014.pdf>]. Accessed 27 September 2020.

[4] Ministry of Public Health. "Drugs Technical Committee."

[<https://www.moph.gov.lb/en/DynamicPages/index/8/2505/drugs-technical-committee>]. Accessed 27 September 2020.

[5] Ministry of Public Health - Drugs Technical Committee. 2019. "Decisions of the Technical Committee

19.12.2018."[[https://www.moph.gov.lb/userfiles/files/Drugs/DrugsTechnicalCommittee2018/Decisions19\\_12\\_2018.pdf](https://www.moph.gov.lb/userfiles/files/Drugs/DrugsTechnicalCommittee2018/Decisions19_12_2018.pdf)]. Accessed 27 September 2020.

[6] Ministry of Public Health - Drugs Technical Committee. "Decisions of the Technical Committee 9.1.2019." [[https://www.moph.gov.lb/userfiles/files/Drugs/DrugsTechnicalCommittee2019/Decisions9\\_1\\_2019.pdf](https://www.moph.gov.lb/userfiles/files/Drugs/DrugsTechnicalCommittee2019/Decisions9_1_2019.pdf)]. Accessed 27 September 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: 0**

There is no publicly available evidence that there is an expedited process for approving medical countermeasures (MCM) for human use during public health emergencies in Lebanon. A publication by the Ministry of Public Health (MoPH) states that all pharmaceutical products and medical products must be registered with the MoPH, regardless of whether they are manufactured locally or imported. The registration of all new drugs must be submitted to the Drug Registration Technical Committee within the ministry. The publication, nonetheless, does not mention any information on expedited process for approving MCM for human use during public health emergencies. [1] The MoPH's Drugs and Pharmaceutical Like Registration webpage and the MoPH's 2014 guidelines on the administrative procedures for drugs and pharmaceutical product registration in Lebanon do not provide information on such expedited processes. [2,3] The website of the MoPH does not include information on this matter either. [4]

[1] Ministry of Public Health. "Chapter Four: Pharmaceuticals". [<https://moph.gov.lb/userfiles/files/Publications/HealthBeyondPolitics/Chapter4-Pharmaceuticals.pdf>]. Accessed 27 September 2020.

[2] Ministry of Public Health. "Drugs and Pharmaceutical Like Registration." [<https://www.moph.gov.lb/en/Pages/0/8024/drugs-pharmaceutical-like-registration>]. Accessed 27 September 2020.

[3] Ministry of Public Health. "Manual for Administrative Procedures for Drugs & Pharmaceutical Products Registration." [<https://www.moph.gov.lb/userfiles/files/HealthCareSystem/Pharmaceuticals/DrugsandPharmaceuticallikeRegistration/Manuals%26Guidelines/DrugsRegistration2014.pdf>]. Accessed 27 September 2020.

[4] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 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 suggesting that epidemics and pandemics are integrated into the national risk reduction strategy and that there a standalone national disaster risk reduction strategy for pandemics in Lebanon. The Ministry of Public Health (MoPH) published the "Emergency Health Contingency Plan" in 2012. [1]

The plan focuses on four specific areas: assessment of health needs; preventing, monitoring and controlling outbreaks; maintaining health centres operational capacity; and coordinating with key partners during health emergencies (from the public, private and NGO sector). The Plan also outlines the key roles of respective actors during health emergency outbreaks which includes the Ministry of Social Affairs, Ministry of Interior, Ministry of Agriculture, Ministry of Defense, the private sectors (hospitals, pharmacies, laboratories, importers of medicine), NGOs and UN agencies. The Plan also lists epidemic diseases of concern, and has a section dedicated to 'outbreaks / epidemics / pandemics', however specific protocols for individual disease outbreaks are not publicly available. [1]

According to Lebanon's Joint External Evaluation (JEE) assessment, published in July 2016, Lebanon has demonstrated its capacity in managing outbreaks of cholera, MERS-CoV and other diseases such as influenza, each of which have contingency plans, and the MoPH's efforts at scaling up the capacity for Ebola created the momentum to strengthen the national capacity to respond to both small- to large-scale public health emergencies, however these individual plans were not publicly available. [2] The JEE however recommends improving existing coordination, collaboration and communication capacities. [2]

Additionally, Lebanon's 2016-2020 Health Strategy, published in 2016, mentions a national disaster risk reduction programme which has been established at the level of Cabinet of Prime minister, as well as a national framework of emergency preparedness and response plans for health emergencies. The plan also states that a national Hazard Management Team (HAZMAT) has been established and is trained and fully equipped to respond to medical needs, and that national plans for pandemics and epidemics containment are elaborated and periodically updated. [3] The websites of MoPH and MoA websites do not provide information relevant to this issue. [4, 5]

[1] Ministry of Public Health. 2012. "Emergency Health Contingency

Plan." [https://www.moph.gov.lb/DynamicPages/download\_file/550]. Accessed 26 March 2021.

[2] World Health Organization. July 2016. "Joint External Evaluation of IHR Core Capacities of the Lebanese Republic, Mission Report: 25-29 July 2016." [http://apps.who.int/iris/bitstream/handle/10665/254511/WHO-WHE-CPI-2017.2-eng.pdf?sequence=1]. Accessed 26 March 2021.

[3] Ministry of Public Health. December 2016. "Health Strategic Plan: Strategic Plan for the Medium Term (2016 to 2020)." [https://www.moph.gov.lb/userfiles/files/%D9%90Announcement/Final-StrategicPlanHealth2017.pdf]. Accessed 26 March 2021.

[4] Ministry of Public Health. [https://www.moph.gov.lb/]. Accessed 26 March 2021.

[5] Ministry of Agriculture. [http://www.agriculture.gov.lb/Arabic/Pages/Main.aspx]. Accessed 26 March 2021.

## 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: 0**

There is insufficient publicly available evidence that Lebanon has cross-border agreements, protocols, or MOUs with neighboring countries, or as part of a regional group, with regards to public health emergencies.

Lebanon is a member of the Organization of Islamic Cooperation (OIC) which is an international organization comprised of 57 states. OIC adopted the "Strategic Health Programme of Action (SHPA) 2014-2023 to work towards strengthening and enhancing collaboration in various health areas such as the prevention and control of diseases and pandemics and emergency health responses and interventions. [1,2] Additionally, Lebanon is a member of the Arab League and committed in 2010 to The Arab Strategy for Disaster Risk Reduction 2020; among other goals, the strategy aims to strengthen commitment for risk reduction including disease and public health challenges including disease outbreaks and pandemic influenza. [3]

[1] Organization of Islamic Cooperation. [https://www.oic-oci.org/states/?lan=en]. Accessed 27 September 2020.

[2] Organization of Islamic Cooperation. 2013. "OIC Strategic Health Programme of Action 2014-2023 (OIC-SHPA)" [http://www.sesric.org/files/article/480.pdf]. Accessed 27 September 2020.

[3] Council of Arab Ministers Responsible for the Environment. 2010. "The Arab Strategy for Disaster Risk Reduction 2020." [https://www.unisdr.org/files/18903\_17934asdrfinalenglishjanuary2011.pdf]. Accessed 27 September 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 Lebanon has cross-border agreements, protocols, or MOUs with neighboring countries, or as part of a regional group, with regards to animal health emergencies. Lebanon is part of the Islamic Cooperation (OIC), an international organization comprised of 57 states, that works on strengthening and enhancing collaboration in various health areas, however, the OIC program does not include animal health. [1] The Arab Strategy for Disaster Risk Reduction 2020, which Lebanon is one of its members, does not cover animal health either. [2] The websites of the Ministry of Public Health, Ministry of Agriculture and Ministry of Environment do not include relevant information indicating that there are any cross-border agreements, protocols, or MOUs with neighboring countries, or as part of a regional group, with regards to animal health emergencies. [3,4,5]

[1] Organization of Islamic Cooperation. 2013. "OIC Strategic Health Programme of Action 2014-2023 (OIC-SHPA)" [<http://www.sesric.org/files/article/480.pdf>]. Accessed 27 September 2020.

[2] Council of Arab Ministers Responsible for the Environment. 2010. "The Arab Strategy for Disaster Risk Reduction 2020." [[https://www.unisdr.org/files/18903\\_17934asdrfinalenglishjanuary20111.pdf](https://www.unisdr.org/files/18903_17934asdrfinalenglishjanuary20111.pdf)]. Accessed 27 September 2020.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 2020.

[4] Ministry of Agriculture. [<http://www.agriculture.gov.lb>]. Accessed 27 September 2020.

[5] Ministry of Environment. [<http://www.moe.gov.lb/?lang=en-us>]. Accessed 27 September 2020.

## 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: 1**

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: 0

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: 0

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 no publicly available evidence that Lebanon has allocated national funds to improve capacity to address epidemic threats within the past three years. The Citizen Budget for Lebanon 2020, published on Lebanon's Ministry of Finance website, although includes the health sector, the budget does not mention any allocated national funds to improve capacity of addressing epidemic threats. [1] The Health Strategic plan 2016-2020 of the MoPH lists strengthening the country's preparedness for epidemics as one of its sub-strategic goals, however, the plan does not clarify whether there is national fund allocated for this or not. [2] The website of MoPH and Ministry of Economy and Trade do not include further evidence on this matter. [4,5]

[1] Ministry of Finance. "The Citizen Budget for Lebanon 2020". [<http://www.finance.gov.lb/en-us/Finance/BI/ABDP/Annual%20Budget%20Documents%20and%20Process/Citizen%20Budget%202020en.pdf>]. Accessed 30 September 2020.

[2] Ministry of Public Health. "Health Strategic Plan: Strategic Plan for the Medium Term (2016 to 2020)."  
[<https://www.moph.gov.lb/userfiles/files/%D9%90Announcement/Final-StrategicPlanHealth2017.pdf>]. Accessed 30 September 2020.

[3] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 30 September 2020.

[4] Ministry of Economy and Trade. [<https://www.economy.gov.lb/en>]. Accessed 30 September 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: 0

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: 0**

There is no publicly available evidence that Lebanon has 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). Lebanon is not listed as an International Development Association (IDA) eligible borrowing country; therefore, the country is ineligible for the World Bank Pandemic financing. [1,2] According to a news report released by the World Bank in 2017, the World Bank contributed USD 120 million and the Islamic Development Bank earmarked a further USD 30 million to finance the rehabilitation of around 75 clinics across Lebanon to enable them to provide quality health care in rural and marginalized communities. Nonetheless, this is not special emergency public financing mechanism. [3] The Lebanon Crisis Response Plan (2017-2020) and the 2012 Emergency Health Contingency Plan do not provide evidence emergency public financing mechanism and funds. [4,5]

The website of the Ministry of Public Health does not provide further information on this matter. [6]

[1] International Development Association. [<https://ida.worldbank.org/about/borrowing-countries>]. Accessed 27 September 2020.

[2] Pandemic Emergency Financing Facility (PEF). "Operational Brief for Eligible Countries." [<http://pubdocs.worldbank.org/en/119961516647620597/PEF-Operational-Brief-Dec-2017.pdf>]. Accessed 27 September 2020.

[3] The World Bank. "A US\$150 Million Package to Boost Lebanon's Healthcare Services."

[<http://www.worldbank.org/en/news/press-release/2017/06/26/150-million-package-to-boost-lebanon-healthcare-services>]. Accessed 27 September 2020.

[4] Government of Lebanon and the United Nations. "Lebanon Crisis Response Plan: 2017-2020 (2018 update)." [<https://www.unhcr.org/lb/wp-content/uploads/sites/16/2018/04/LCRP-EN-2018.pdf>]. Accessed 23 October 2020.

[5] Ministry of Public Health. "Emergency Health Contingency Plan." [[https://www.moph.gov.lb/DynamicPages/download\\_file/550](https://www.moph.gov.lb/DynamicPages/download_file/550)]. Accessed 23 October 2020.

[6] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 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 no publicly available evidence that in the past three years, senior leaders in Lebanon (president or ministers) made a public commitment to support other countries to improve capacity to address epidemic threats by providing financing or support, or to improve the country's domestic capacity to address epidemic threats by expanding financing or requesting support to improve capacity. The press release sections on the websites of the Ministry of Public Health website and the Ministry of Foreign Affairs and Emigrants do not provide evidence that in the past three years, senior leaders in Lebanon (president or ministers) made a public commitment to support other countries improve capacity to address epidemic threats. [1,2] The Global Health Security (GHS) tracking dashboard states that Lebanon has received USD 28.16 million in financial aid between 2014 and 2020, with most of the disbursed amount going to immunization. However, there is no evidence of any commitments made by senior leaders to improve capacity to address epidemic threats by providing financing or support, or to improve the country's domestic capacity to address epidemic threats by expanding financing or requesting support to improve capacity. [3] The World Health Organization's (WHO) 2019-2023 country cooperation strategy for Lebanon states that the country is exploring mechanisms to improve health services coverage and financial protection for its population. The strategy also suggests that a national dialogue on sustainable health financing mechanisms for the future is required to guarantee preventative services and responses to catastrophic illnesses; which in turn suggests that such domestic capacity does not yet exist. [4]

[1] Ministry of Public Health. Media Center [<https://www.moph.gov.lb/en/Media>]. Accessed 27 September 2020.

[2] Ministry of Foreign Affairs and Emigrants. [<https://www.mfa.gov.lb/arabic/news>]. Accessed 27 September 2020.

[3] GHS Tracking Dashboard. "Lebanon: Recipient Profile." [<https://tracking.ghscosting.org/details/130/recipient>]. Accessed 27 September 2020.

[4] World Health Organization. 2018. "Lebanon Country Cooperation Strategy: 2019-2023." [<https://apps.who.int/iris/bitstream/handle/10665/279422/WHO-EM-PME-009-E-eng.pdf?sequence=1&isAllowed=y>]. Accessed 27 September 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 publicly available evidence that Lebanon has provided other countries with financing or technical support to improve capacity to address epidemic threats; however, there is publicly available evidence that the country invested finances from donors to support domestic capacity to address epidemic threats in the past three years.

The press release pages on the websites of the Ministry of Public Health and Ministry of Foreign Affairs do not have evidence suggesting that Lebanon provided other countries with financial or technical support to improve capacity of addressing epidemic threats. [1,2] With reference to the Global Health Security (GHS) tracker, Lebanon between 2014 and 2020, utilized donor funds to improve domestic capacity for addressing epidemic threats. The tracker shows that the country received funding from multiple donors to enhance capacity on global security preparedness, and immunization. For example, Lebanon received 14.96M USD from Germany through WHO and Unicef to address the covid-19 pandemic.[3]

The World Health Organization's (WHO) 2019-2023 country cooperation strategy for Lebanon states that the country is exploring mechanisms to improve health services coverage and financial protection for its population. The strategy also suggests that a national dialogue on sustainable health financing mechanisms for the future is required to guarantee preventative services and responses to catastrophic illnesses; which in turn suggests that such domestic capacity does not yet exist. [4] The Ministry of Public Health website and Ministry of Foreign Affairs and Emigrants website do not provide further evidence. [5,6]

[1] Ministry of Public Health. Media Center [<https://www.moph.gov.lb/en/Media>]. Accessed 27 September 2020.

[2] Ministry of Foreign Affairs and Emigrants. [<https://www.mfa.gov.lb/arabic/news>]. Accessed 27 September 2020.

[3] GHS Tracking Dashboard. "Lebanon: Recipient Profile." [<https://tracking.ghscosting.org/details/130/recipient>]. Accessed 27 September 2020.

[4] World Health Organization. 2018. "Lebanon Country Cooperation Strategy: 2019-2023."

[<https://apps.who.int/iris/bitstream/handle/10665/279422/WHO-EM-PME-009-E-eng.pdf?sequence=1&isAllowed=y>].

Accessed 27 September 2020.

[5] Ministry of Public Health. [<https://www.moph.gov.lb/en>]. Accessed 27 September 2020.

[6] Ministry of Foreign Affairs and Emigrants. [<http://www.mfa.gov.lb/arabic/home>]. Accessed 27 September 2020.

### 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: 0**

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 insufficient publicly available evidence that there is a plan or policy in Lebanon 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. According to Lebanon's profile on World Health Organizations' (WHO) Global Antimicrobial Resistance Surveillance System (GLASS), as of 2018, four surveillance sites at Lebanese hospitals conduct surveillance and Antibiotic Susceptibility Testing on a number of pathogens and provide the data to GLASS. However, the website does not provide further details on data sharing plans or policies. [1] Also, Lebanon shares epidemiological data and clinical specimens for testing outside of the country. The guidelines of the Communicable Disease Department published by the Ministry of Public Health (MoPH), state that PCR testing for Ebola is carried out in France; but there is no evidence of a plan or policy in place. [2] The Surveillance Standard Operating Procedures for immediately notifiable communicable diseases, published in 2015 by MoPH, states that suspected cases of anthrax should be tested at the "supranational reference laboratories" such as NAMRU3, which is located in Cairo, Egypt. Nonetheless, there is no information publicly available on plans or policies that formalize data sharing. [3, 4]

[1] World Health Organization. "Global Antimicrobial Resistance Surveillance System (GLASS) Report, Early Implementation." [http://apps.who.int/iris/bitstream/handle/10665/279656/9789241515061-eng.pdf?sequence=1&isAllowed=y]. Accessed 27 September 2020.

[2] Ministry of Public Health - Communicable Disease Department. "Guidelines for Medical Center, Dispensary and Field Medical Unit Based Surveillance and Response." [https://www.moph.gov.lb/DynamicPages/download\_file/1088]. Accessed 27 September 2020.

[3] Ministry of Public Health - Epidemiology Surveillance Program. "Surveillance Standard Operating Procedures: Part [1] : Immediately Notifiable Communicable Diseases."

[https://www.moph.gov.lb/userfiles/files/Esu\_resources/Esu\_guidelines/g\_sop1\_2015\_e.pdf]. Accessed 27 September 2020.

[4] Naval Medical Research and Development - Enterprise Laboratories. "Naval Medical Research Unit - No. 3 (NAMRU-3)." [https://www.med.navy.mil/sites/nmrc/cairo/Pages/HomeCairo.aspx]. Accessed 27 September 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 publicly available evidence that Lebanon has not shared samples in accordance with the Pandemic Influenza Preparedness (PIP) framework in the past two years. Neither the country profile on the World Health Organization (WHO) website and recent news announcements nor the country's page on WHO PIP framework website indicate that Lebanon has not shared samples in the past two years. [1,2] The websites of few Lebanese news agencies including Annahar newspaper, Al-Mustakbal and Al-Liwaa did not provide any evidence that Lebanon has not shared samples in accordance with the Pandemic Influenza Preparedness (PIP) framework in the past two years. [3,4,5]

[1] World Health Organization. [<https://www.who.int/countries/lbn/en/>]. Accessed 27 September 2020.

[2] World Health Organization Regional Office for the Eastern Mediterranean. "Pandemic Influenza Preparedness Framework: Lebanon." [<http://www.emro.who.int/fr/surveillance-prevision-et-action/pandemic-influenza/pip-lebanon.html>]. Accessed 27 September 2020.

[3] Annahar newspaper. [<https://www.annahar.com>]. Accessed 25 October 2020.

[4] Al-Mustakbal. [<https://mustaqbalweb.com>]. 25 October 2020.

[5] Al-Liwaa. [<http://aliwaa.com.lb>]. 25 October 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 publicly available evidence suggesting that the country has not shared pandemic pathogen samples during an outbreak in the past two years. Lebanon's profile on the World Health Organization (WHO) website and recent WHO news announcements do not mention that the country has not shared pandemic pathogen samples during an outbreak in the past two years, including COVID-19 samples. [1,2,3] A review of local and international news platforms did not provide evidence of non sharing. [4,5,6,7,8]

[1] World Health Organization. [<https://www.who.int/countries/lbn/en/>]. Accessed 27 September 2020.

[2] World Health Organization. "Lebanon: WHO equipment supplies to support COVID-19 response during explosion fallout." [<https://www.who.int/news-room/feature-stories/detail/lebanon-who-equipment-supplies-to-support-covid-19-response-during-explosion-fallout>]. Accessed 27 September 2020.

[3] World Health Organization. "Noncommunicable diseases in the context of COVID-19 in Lebanon." [<https://www.who.int/news-room/feature-stories/detail/noncommunicable-diseases-in-the-context-of-covid-19-in-lebanon>]. Accessed 27 September 2020.

[4] Annahar newspaper. [<https://www.annahar.com>]. 26 October 2020.

[5] Al-Mustakbal. [<https://mustaqbalweb.com>]. 26 October 2020.

[6] Al-Liwaa. [<http://aliwaa.com.lb>]. 26 October 2020.

[7] BBC News. [<https://www.bbc.com/arabic>]. Accessed 26 October 2020.

[8] CNN Arabic. [<https://arabic.cnn.com>]. Accessed 26 October 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: 1

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: 25

2020

Transparency International

### 6.1.1f

Accountability of public officials (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 0

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: 1

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: 0**

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: 1**

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: 2**

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: 1**

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: 1

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: 0

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: 0

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: 95.07

2018

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: 0.64**

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: 0**

2011

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: 1**

According to the International Labour Organization publication of 2015, the share of employment in the informal sector in Lebanon is estimated to be 50%; figures are based on the 2009 estimates of employment status. [1]

[1] International Labour Organization. "Towards Decent Work in Lebanon: Issues and Challenges in Light of the Syrian Refugee Crisis." [[https://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/documents/publication/wcms\\_374826.pdf](https://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/documents/publication/wcms_374826.pdf)]. Accessed 27 September 2020.

### 6.2.3c

Coverage of social insurance programs (% of population)

Scored in quartiles (0-3, where 3=best)

**Current Year Score: 2**

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: 1

2021

Economist Intelligence Democracy Index

## 6.2.6 Inequality

### 6.2.6a

Gini coefficient

Scored 0-1, where 0=best

Current Year Score: 0.32

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: 1

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: 3

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: 88.76

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: 0.45

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: 0

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: 78.88

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: 526.9

2019

WHO

### 6.5.1c

Population ages 65 and above (% of total population)

Input number

Current Year Score: 7.27

2019

World Bank

### 6.5.1d

Prevalence of current tobacco use (% of adults)

Input number

Current Year Score: 42.6

2018

World Bank

### 6.5.1e

Prevalence of obesity among adults

Input number

Current Year Score: 32

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: 92.6

2017

UNICEF; Economist Impact

### 6.5.2b

Percentage of homes with access to at least basic sanitation facilities

Input number

Current Year Score: 98.48

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: 543.16

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