

# Senegal

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

<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	8
1.3 Biosecurity	15
1.4 Biosafety	23
1.5 Dual-use research and culture of responsible science	26
1.6 Immunization	29
<b>CATEGORY 2: EARLY DETECTION AND REPORTING FOR EPIDEMICS OF POTENTIAL INTERNATIONAL CONCERN</b>	<b>30</b>
2.1 Laboratory systems strength and quality	30
2.2 Laboratory supply chains	33
2.3 Real-time surveillance and reporting	34
2.4 Surveillance data accessibility and transparency	37
2.5 Case-based investigation	42
2.6 Epidemiology workforce	46
<b>CATEGORY 3: RAPID RESPONSE TO AND MITIGATION OF THE SPREAD OF AN EPIDEMIC</b>	<b>48</b>
3.1 Emergency preparedness and response planning	48
3.2 Exercising response plans	52
3.3 Emergency response operation	55
3.4 Linking public health and security authorities	57
3.5 Risk communications	58
3.6 Access to communications infrastructure	62

3.7 Trade and travel restrictions	63
-----------------------------------	----

**CATEGORY 4: SUFFICIENT AND ROBUST HEALTH SECTOR TO TREAT THE SICK AND PROTECT HEALTH WORKERS 65**

4.1 Health capacity in clinics, hospitals, and community care centers	65
---	----

4.2 Supply chain for health system and healthcare workers	69
---	----

4.3 Medical countermeasures and personnel deployment	74
--	----

4.4 Healthcare access	75
-----------------------	----

4.5 Communications with healthcare workers during a public health emergency	77
---	----

4.6 Infection control practices and availability of equipment	78
---	----

4.7 Capacity to test and approve new medical countermeasures	79
--	----

**CATEGORY 5: COMMITMENTS TO IMPROVING NATIONAL CAPACITY, FINANCING PLANS TO ADDRESS GAPS, AND ADHERING TO GLOBAL NORMS 82**

5.1 International Health Regulations (IHR) reporting compliance and disaster risk reduction	82
---	----

5.2 Cross-border agreements on public health and animal health emergency response	83
---	----

5.3 International commitments	84
-------------------------------	----

5.4 Joint External Evaluation (JEE) and Performance of Veterinary Services Pathway (PVS)	86
--	----

5.5 Financing	87
---------------	----

5.6 Commitment to sharing of genetic and biological data and specimens	91
--	----

**CATEGORY 6: OVERALL RISK ENVIRONMENT AND VULNERABILITY TO BIOLOGICAL THREATS 92**

6.1 Political and security risk	92
---------------------------------	----

6.2 Socio-economic resilience	96
-------------------------------	----

6.3 Infrastructure adequacy	98
-----------------------------	----

6.4 Environmental risks	99
-------------------------	----

6.5 Public health vulnerabilities	100
-----------------------------------	-----

## 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 evidence that Senegal has a national antimicrobial resistance (AMR) plan for the surveillance, detection and reporting of priority AMR pathogens. There is no mention of a national AMR plan on the website of the Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale) nor on the website of the Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement Rural (MAER). [1,2] And the World Health Organization (WHO)'s Library of national action plans does not contain a plan for Senegal. [3] According to the Center for Disease Control and Prevention (CDC), in August 2019, the CDC was working with the Ministry of Health's Senegalese Department of Laboratories (DL) office to develop an AMR surveillance protocol and reporting system to access quality data and provide the opportunity for labs to share and compare their data against national trends for the detection of outbreaks. [4] Funding was also allocated by the United Kingdom (UK) Department of Health and Social Care (DHSC) and drawn upon by the Senegalese High Council for Global Health Security (Haut Conseil de la Sécurité Sanitaire Mondiale) on behalf of the Government of Senegal to put in place an AMR surveillance framework for human, animal, and environmental sectors but it is unclear whether this was carried out. [5] Additionally, according to the the World Alliance Against Antibiotic Resistance who together with the International Scientific Advisory Committee manage an online source called AMR Control which provides annual reviews and updates on global AMR status', since 2004, Senegal has been one of the lead countries in Africa to put in place the Global Action Plan on Antimicrobial Resistance. [6] Finally, according to the Joint External Evaluation of International Health Regulations (IHR) Core Capacities of the Republic of Senegal Mission report, "antimicrobial medicines and particularly antibiotics are still used irrationally, which has led to high levels of resistance in humans and animals." [7] As evidenced by the above, many efforts have been made to work towards AMR data collection and research, and there are even suggestions that a plan or protocol exists however no plan seems to be available to the general public.

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[2] Ministry of Agriculture and Rural Equipment (Ministère de l'Environnement et du Développement Durable).

[<http://www.maer.gouv.sn/nos-projets-programmes/>]; Accessed 21 August 2020.

[3] World Health Organization (WHO). "Library of national action plans". [<https://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]; Accessed 21 August 2020.

[4] Centers for Disease Control and Prevention (CDC). 2019. "Tracking Antibiotic Resistance in Kenya and Senegal".

[<https://www.cdc.gov/drugresistance/solutions-initiative/stories/surveillance-in-Kenya-Senegal.html>]; Accessed 21 August 2020.

[5] The Fleming Fund. Terms of Reference for Request for Proposal. [<https://www.flemingfund.org/wp-content/uploads/fa734d33fbce6e0a853afa4ee0c912aa.pdf>]; Accessed 21 August 2020.

[6] AMR Control. 2018. "Governance against AMR in Africa: confronting AMR when resources are limited - the example of

Senegal" (La gouvernance contre la resistance aux antimicrobiens en afrique: faire face quand les ressources sont limitees, l'exemple du senegal). [<http://resistancecontrol.info/wp-content/uploads/2018/05/10-15.pdf>]; Accessed 21 August 2020.

[7] World Health Organisation (WHO). 2016. "Joint External Evaluation of International Health Regulations (IHR) Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 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: 1**

There is evidence that the national laboratory system can test for some, but not all, priority antimicrobial resistance (AMR) pathogens in Senegal. The Directorate of Laboratories (DL) is included in the Senegal Global Action Plan on AMR (GAPAMR) under the Ministry of Health and Social Welfare and was established, with the support of West Africa Network of Biomedical Analysis Laboratories (RESAOLAB), in 2012. Of the 7+1 AMR priority pathogens, the following 5 are monitored by DL: E. Coli, S. Aureus, S. Pneumoniae, Salmonella spp, and Shigella spp. Other diseases that are followed include Neisseria meningitidis, Vibrio cholerae, Klebsiella spp., Enterobacter spp., Pseudomonas aeruginosa, Haemophilus influenzae, and Acinetobacter spp. [1] According to the Joint External Evaluation of International Health Regulations Core Capacities of the Republic of Senegal Mission report, the national laboratory system also conducts diagnostic tests for diseases such as HIV, tuberculosis by microscopy, rapid malaria testing, polymerase chain reaction for influenza, polio, meningitis, and cholera. [2] The Pasteur Institute of Dakar (IPD) makes mention of antimicrobial resistance research in its manual on laboratory analysis and websites, but does not make mention of specific tests conducted beyond "enteric bacteria". [3,4] There is no information related to progress on AMR activities on the web pages of the Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale) or that of the Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement Rural (MAER)). [5,6] The World Health Organisation (WHO)'s library of national action plans does not contain a plan for Senegal. [7]

[1] AMR Control. 2018. "Governance against AMR in Africa: confronting AMR when resources are limited - the example of Senegal" (La gouvernance contre la resistance aux antimicrobiens en afrique: faire face quand les ressources sont limitees, l'exemple du senegal). [<http://resistancecontrol.info/wp-content/uploads/2018/05/10-15.pdf>]; Accessed 21 August 2020.

[2] World Health Organisation (WHO). 2016. "Joint External Evaluation of International Health Regulations (IHR) Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 2020.

[3] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [<http://www.pasteur.sn/>]; Accessed 21 August 2020.

[4] Pasteur Institute of Dakar (Institut Pasteur de Dakar). "Bacteriologie experimentale (Experimental bacteriology)". [<http://www.pasteur.sn/recherche/bacteriologie-experimentale>]. Accessed 21 August 2020.

[5] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[6] Ministry of Agriculture and Rural Equipment (Ministère de l'Environnement et du Développement Durable). [<http://www.maer.gouv.sn/nos-projets-programmes/>]; Accessed 21 August 2020.

[7] World Health Organization (WHO). "Library of national action plans". [<https://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]; Accessed 21 August 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 insufficient public evidence that the government in Senegal is conducting environmental surveillance activities for antimicrobial resistance (AMR) organisms. An AMR Control article, dated 26 July 2017, states "Senegal has thus grasped the complexity of AMR control and has been at the forefront on the two leading recommendations of the Global Action Plan on AMR (GAPAMR): first, to strengthen infection control and prevention to ensure that health systems do not spread AMR infections, as mentioned at the past G20 meeting, and second, to increase capacities for surveillance and monitoring." [1] However, this does not mention environmental surveillance at all. No evidence exists that Senegal is conducting environmental surveillance activities on websites for the Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale) or that of the Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement Rural (MAER). [2,3] The World Health Organization (WHO)'s Library of national action plans does not contain a plan for Senegal. [4]

[1] AMR Control. 26 July 2017. "Overcoming global antimicrobial resistance".

[<http://resistancecontrol.info/2017/governance-against-antimicrobial-resistance-in-africa-confronting-amr-when-resources-are-limited-the-example-of-senegal/>]. Accessed 21 August 2020.

[2] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets/>]; Accessed 21 August 2020.

[3] Ministry of Agriculture and Rural Equipment (Ministère de l'Environnement et du Développement Durable).

[<http://www.maer.gouv.sn/nos-projets-programmes/>]; Accessed 21 August 2020.

[4] World Health Organization (WHO). "Library of national action plans". [<https://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]; Accessed 21 August 2020.

## 1.1.2 Antimicrobial control

### 1.1.2a

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

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

**Current Year Score: 0**

There are suggestions of a Senegal-specific prescription regulation and of enforcing it, however there is not enough evidence to prove that these actually exist and no document or enforcement regulations seem to be available to the public. According to AMR Control, the leader in publishing annual reviews on global antimicrobial resistance, the use of all antibiotics require a prescription as per Senegalese regulations and the Directorate of Pharmacy and Medicines (DPM) promote all rational use of medicines. Activities carried out by DPM include campaigns to inform those using the medicine and to fight against any threats from the use of drugs. However, AMR Control claims that it has been difficult to get people to comply with the regulations, without providing further evidence. [1] Some evidence of antibiotic prescription use includes: According to a study published on the Central African Journal of Public Health, 75% of participants (225/300) based in Dakar, reported using antibiotics without a prescription. [2] A guide for policymakers in West Africa called "Model Drug Law for West Africa" was developed in 2018 to help countries change their strict drug policies in order to make medicines, especially morphine and other opioids, more accessible to individuals who desperately need them but are restricted due to fear of overuse and abuse. The document does not mention antibiotic prescriptions per se. [3] According to the Joint External Evaluation of International

Health Regulations (IHR) Core Capacities of the Republic of Senegal Mission report, "antimicrobial medicines and particularly antibiotics are still used irrationally, which has led to high levels of resistance in humans and animals." [4] No evidence exists of regulations on websites for the Ministry of Health and Social Action (Ministère de la Santé et de l'Action Sociale) or that of the Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement Rural (MAER)). [5,6] The World Health Organization (WHO)'s Library of national action plans does not contain a plan for Senegal. [7]

[1] AMR Control. 2018. "Governance against AMR in Africa: confronting AMR when resources are limited - the example of Senegal" (La gouvernance contre la résistance aux antimicrobiens en Afrique: faire face quand les ressources sont limitées, l'exemple du Sénégal). [<http://resistancecontrol.info/wp-content/uploads/2018/05/10-15.pdf>]; Accessed 21 August 2020.

[2] Bassoum, Omar, Mamadou Makhtar Mbacke Leye, Ndeye Mareme Sougou et al. 2019. Volume 5, Issue 1, Pages 1-12. "Practices About Antibiotic Use Among Urban Residents: A Cross-Sectional Survey in Rufisque, Senegal". [<http://www.sciencepublishinggroup.com/journal/paperinfo?journalid=326&doi=10.11648/j.cajph.20190501.11>]; Accessed 21 August 2020.

[3] West Africa Commission on Drugs. 2018. "Model Drug Law for West Africa: A tool for policymakers". [<https://www.globalcommissionondrugs.org/wp-content/uploads/2018/08/WADC-MDL-EN-WEB.pdf>]; Accessed 21 August 2020.

[4] World Health Organisation (WHO). 2016. "Joint External Evaluation of International Health Regulations (IHR) Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 2020.

[5] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets/>]; Accessed 21 August 2020.

[6] Ministry of Agriculture and Rural Equipment (Ministère de l'Environnement et du Développement Durable). [<http://www.maer.gouv.sn/nos-projets-programmes/>]; Accessed 21 August 2020.

[7] World Health Organization (WHO). "Library of national action plans". [<https://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]; Accessed 21 August 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 insufficient evidence to show for a Senegal-specific prescription regulation for antibiotic use for animals and of enforcing it. According to AMR Control, the leader in publishing annual reviews on global antimicrobial resistance, the use of all antibiotics, even those for animals, require a prescription as per Senegalese regulations and the National Order of Veterinary Doctors (Ordre des Docteurs Veterinaires) promote all rational use of medicines. [1] However, according to the Joint External Evaluation of International Health Regulations (IHR) Core Capacities of the Republic of Senegal Mission report, "antimicrobial medicines and particularly antibiotics are still used irrationally, which has led to high levels of resistance in humans and animals." [2] No evidence exists of such regulations on websites for the Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale) or that of the Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement Rural (MAER)). [3,4] The World Health Organization (WHO)'s Library of national action plans does not contain a plan for Senegal. [5]

[1] AMR Control. 2018. "Governance against AMR in Africa: confronting AMR when resources are limited - the example of Senegal" (La gouvernance contre la résistance aux antimicrobiens en Afrique: faire face quand les ressources sont limitées, l'exemple du Sénégal). [<http://resistancecontrol.info/wp-content/uploads/2018/05/10-15.pdf>]; Accessed 21 August 2020.

- [2] World Health Organisation (WHO). 2016. "Joint External Evaluation of International Health Regulations (IHR) Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016".  
[<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 2020.
- [3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).  
[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.
- [4] Ministry of Agriculture and Rural Equipment (Ministère de l'Environnement et du Développement Durable).  
[<http://www.maer.gouv.sn/nos-projets-programmes/>]; Accessed 21 August 2020.
- [5] World Health Organization (WHO). "Library of national action plans". [<https://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]; Accessed 21 August 2020.

## 1.2 ZOOBOTIC 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: 0**

There is insufficient evidence to show for a plan of zoonotic disease in Senegal. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report indicates that there is a Standard Operating Procedure (SOP) for Ebola (EVD), SOPs for avian influenza are being established and that "a joint strategy and response plan for the animal health, human health and wildlife sectors is being put in place." Additionally, the JEE report notes that "a response strategy for zoonotic diseases is planned within the framework of physical security and stockpile management (REDISSE, the Emerging Pandemic Threats 2 Programme [EPT-2])". However it also notes as an area needing strengthening "Draft specific procedures for each priority disease." [1] No evidence of the actual plans were found, however. As of January 2018, the WHO indicates that the zoonotic disease "One Health" plan was still in development. [2] A two-phased One Health project, funded by the United States Agency for International Development (USAID), was also in place from April 2016 to March 2018 and then again from October 2017 to March 2019. The project was meant to improve human surveillance in two pilot districts, in the first phase, and the second phase built off of the first phase and included diseases in animals and extend surveillance to a wider geographic area. [3,4] The project did not incorporate the development of a plan, though. No evidence of a plan or strategy exists on websites for the Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale) or that of the Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement Rural (MAER). [5,6]

- [1] World Health Organisation (WHO). 2016. "Joint External Evaluation of International Health Regulations (IHR) Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016".  
[<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 2020.
- [2] UN Food and Agriculture Organisation (Organisation des Nations Unies pour l'alimentation et l'agriculture). 2018. "Using the One Health Approach to Operationalise Integrated Community Surveillance of Zoonoses in Senegal (Utiliser l'approche «Une seule santé» pour opérationnaliser la surveillance communautaire intégrée des zoonoses au Sénégal)".  
[<http://www.fao.org/senegal/actualites/detail-events/fr/c/1096508>]; Accessed 21 August 2020.
- [3] MEASURE Evaluation. "Senegal". [<https://www.measureevaluation.org/countries/senegal>]; Accessed 21 August 2020.
- [4] MEASURE Evaluation. April 2018. "In taking the One Health approach, is Senegal showing the way?".  
[<https://www.measureevaluation.org/resources/newsroom/blogs/in-taking-the-one-health-approach-is-senegal-showing->

the-way]; Accessed 21 August 2020.

[5] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[6] Ministry of Agriculture and Rural Equipment (Ministère de l'Environnement et du Développement Durable).

[<http://www.maer.gouv.sn/nos-projets-programmes/>]; Accessed 21 August 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**

No evidence exists of a plan or strategy that puts in place measures to identify risks or the reduction of zoonotic disease spillover events. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report indicates that there is a Standard Operating Procedure (SOP) for Ebola (EVD), SOPs for avian influenza are being established and that "a joint strategy and response plan for the animal health, human health and wildlife sectors is being put in place." Additionally, the JEE report notes that "a response strategy for zoonotic diseases is planned within the framework of physical security and stockpile management (REDISSE, the Emerging Pandemic Threats 2 Programme [EPT-2])". However it also notes as an area needing strengthening "Draft specific procedures for each priority disease." [1] No evidence of the actual plans were found, however. As of January 2018, the WHO indicates that the zoonotic disease "One Health" plan was still in development. [2] A two-phased One Health project, funded by the United States Agency for International Development (USAID), was also in place from April 2016 to March 2018 and then again from October 2017 to March 2019. The project "focused on community surveillance for six priority zoonotic diseases and jointly involved Senegal's health, livestock, and environmental sectors". It was meant to improve human surveillance in two pilot districts, in the first phase, and the second phase built off of the first phase and included diseases in animals and extend surveillance to a wider geographic area. [3,4] However, none of the plans specifically address measures to identify specific risks or spillover events. No mention of a plan or strategy that addresses spillover events exists on websites for the Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale) or that of the Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement Rural (MAER)). [5,6]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of International Health Regulations (IHR) Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016".

[<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 2020.

[2] UN Food and Agriculture Organisation (Organisation des Nations Unies pour l'alimentation et l'agriculture). 2018. "Using the One Health Approach to Operationalise Integrated Community Surveillance of Zoonoses in Senegal (Utiliser l'approche «Une seule santé» pour opérationnaliser la surveillance communautaire intégrée des zoonoses au Sénégal)".

[<http://www.fao.org/senegal/actualites/detail-events/fr/c/1096508>]; Accessed 21 August 2020.

[3] MEASURE Evaluation. "Senegal". [<https://www.measureevaluation.org/countries/senegal>]; Accessed 21 August 2020.

[4] MEASURE Evaluation. April 2018. "In taking the One Health approach, is Senegal showing the way?".

[<https://www.measureevaluation.org/resources/newsroom/blogs/in-taking-the-one-health-approach-is-senegal-showing-the-way>]; Accessed 21 August 2020.

[5] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[6] Ministry of Agriculture and Rural Equipment (Ministère de l'Environnement et du Développement Durable).



[<http://www.maer.gouv.sn/nos-projets-programmes/>]; Accessed 21 August 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: 0**

There is no evidence of national laws that account for the surveillance and control of at least three zoonotic pathogens of public health concern. Neither the Ministry of Health and Social Welfare nor the Ministry of Agriculture and Rural Equipment websites show evidence of any such plans. [1,2] However, there is evidence that the country does conduct surveillance of zoonotic disease. According to the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report, there is surveillance of Rift Valley fever, rabies, tuberculosis, anthrax, avian influenza and Ebola viral disease (EVD). The report does mention that "although surveillance systems are robust, human and animal surveillance is conducted separately, without any connection between the two sectors. Existing plans do not include a human-animal interface, and the system is therefore not in keeping with the One Health approach." There is no mention of existing control measures in the JEE report, although it does mention "a joint strategy and response plan for the animal health, human health and wildlife sectors is being put in place" [3]. The World Organisation of Animal Health (OIE) PVS Evaluation follow-up report from 2016, mentions "surveillance for certain diseases with an economic and zoonotic impact" without revealing which, and it also states that this surveillance is not comprehensive. [4] Furthermore, the government of Senegal partnered with MEASURE Evaluation to put in place the "One Health" approach, which has had two phases: the first (April 2016-March 2018) was to improve community surveillance systems in two pilot regions to account for the lack of data that exists within the country and to support detection and response strategies. The second phase (October 2017 - March 2019) was meant to expand to two more regions and address the gaps in the first phase (ie. difficulty accessing some areas, poor internet connection) and to include surveillance for rabies, zoonotic influenza, tuberculosis, hemorrhagic fevers and anthrax. [5]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets/>]; Accessed 21 August 2020.

[2] Ministry of Agriculture and Rural Equipment (Ministère de l'Environnement et du Développement Durable).

[<http://www.maer.gouv.sn/nos-projets-programmes/>]; Accessed 21 August 2020.

[3] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]. Accessed 21 August 2020.

[4] World Organisation of Animal Health (Oficina Internacional de Epizootias (OIE)). November 2016. "Rapport de mission d'évaluation PVS de suivi des services vétérinaires du Sénégal" (PVS (Performance of Veterinary Services) Report on the Evaluation of the Performance of Veterinary Services in Senegal).

[[http://www.oie.int/fileadmin/Home/eng/Support\\_to\\_OIE\\_Members/docs/pdf/20170419\\_SuiviPVS\\_Senegal\\_RapportFinal.pdf](http://www.oie.int/fileadmin/Home/eng/Support_to_OIE_Members/docs/pdf/20170419_SuiviPVS_Senegal_RapportFinal.pdf)]. Accessed 21 August 2020.

[5] MEASURE Evaluation. "Senegal". [<https://www.measureevaluation.org/countries/senegal>] Accessed 21 August 2020.

### 1.2.1d

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence of a department, agency or similar unit dedicated to zoonotic disease that functions across ministries. Neither the Ministry of Health and Social Welfare nor the Ministry of Agriculture and Rural Equipment websites show evidence of such a unit. [1,2] There is no mention of such a unit in the November 2016 World Organisation of Animal Health (OIE) PVS follow-up report or the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report. [3,4] Senegal does, however, have a National Epidemic Management Committee which was set up by the Ministry of Health and Social Welfare on 9 May 2016 for "multidisciplinary and multisectoral coordination". However, there is no evidence that this committee functions as a cross-ministerial group with responsibilities for zoonotic disease. [4]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[2] Ministry of Agriculture & Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 21 August 2020.

[3] World Organisation of Animal Health ((Oficina Internacional de Epizootias (OIE)). November 2016. "PVS (Performance of Veterinary Services) Report on the Evaluation of the Performance of Veterinary Services in Senegal (Rapport de mission d'évaluation PVS de suivi des services vétérinaires du Sénégal)".

[[http://www.oie.int/fileadmin/Home/eng/Support\\_to\\_OIE\\_Members/docs/pdf/20170419\\_SuiviPVS\\_Senegal\\_RapportFinal.pdf](http://www.oie.int/fileadmin/Home/eng/Support_to_OIE_Members/docs/pdf/20170419_SuiviPVS_Senegal_RapportFinal.pdf)]; Accessed 21 August 2020.

[4] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016".

[<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 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: 1**

There is evidence that Senegal has a national mechanism for owners of livestock to conduct and report on disease surveillance to a central government agency. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report mentions generic surveillance and reporting systems. It states that "an electronic platform, known as VGTropic, is operational for animal health surveillance. It is a well-run real-time electronic system that collects data at the central level down to the most peripheral levels, including the community level. Both the human and animal health reporting systems work well". [1] VGTropic aims "at establishing a service platform to support early detection of livestock diseases, identification of livestock population and related disease outbreak risk, and planning of livestock surveys". [2] No mention of such a mechanism exists on websites for the Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale) or that of the Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement Rural (MAER)). [3,4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]. Accessed 21 August 2020.

[2] European Space Agency (ESA). April 2016. "VGTropics - An information system to manage animal health data in data-space environments". [<https://business.esa.int/projects/vgtropics>]; Accessed 21 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[4] Ministry of Agriculture & Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 21 August 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 are no specific laws or guidelines that safeguard the confidentiality of information generated through surveillance activities for animals (for owners). Neither the Ministry of Health and Social Welfare nor the Ministry of Agriculture and Rural Equipment websites show evidence of this. [1,2] There is no mention of such legislation in either the World Organisation of Animal Health (OIE) November 2016 report or the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report. [3,4] Senegal does have extensive but generic laws on data protection, according to a Privacy International report from 2013. These laws do not indicate that protections for owners of livestock are in place. Per the report, Article 20 of Law No 2008-12 on the Protection of Personal Data outlines the types of personal data which require authorization of the Commission for the Protection of Personal Data (La Commission de Protection des Données Personnelles - CDP) before they can be processed. This includes data concerning health research, personal biometric data, national identification numbers, and scientific data of notable public interest. There are no specific mentions in the law about protections of property or owned animals. [5,6]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[4] Ministry of Agriculture & Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 21 August 2020.

[3] World Organisation of Animal Health (Oficina Internacional de Epizootias (OIE)). November 2016. "PVS (Performance of Veterinary Services) Report on the Evaluation of the Performance of Veterinary Services in Senegal (Rapport de mission d'évaluation PVS de suivi des services vétérinaires du Sénégal)".

[[http://www.oie.int/fileadmin/Home/eng/Support\\_to\\_OIE\\_Members/docs/pdf/20170419\\_SuiviPVS\\_Senegal\\_RapportFinal.pdf](http://www.oie.int/fileadmin/Home/eng/Support_to_OIE_Members/docs/pdf/20170419_SuiviPVS_Senegal_RapportFinal.pdf)]. Accessed 21 August 2020.

[4] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 2020.

[5] Privacy International (PI) and Jonction Senegal. 2013. "The Right to Privacy in Senegal Stakeholder Report Universal Periodic Review 17th Session". [<https://privacyinternational.org/advocacy-briefing/640/right-privacy-senegal>]. Accessed 21 August 2020.

[6] Law 2008-12, Protection of personal information data (Loi n° 2008-12 sur la Protection des données à caractère personnel). [<https://wipolex.wipo.int/en/text/181186>]. Accessed 21 August 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 evidence to suggest that that Senegal conducts surveillance of zoonotic disease specifically in wildlife. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that there are animal health staff responsible for wildlife surveillance in conservation areas including " seven veterinarians, as well as livestock engineers and livestock technicians" . However, the report does not note which animals or diseases are incorporated into the surveillance. [1] A 2018 MEASURE Evaluation report on community-based zoonotic disease surveillance with USAID shows that in the new Global Health Security Agenda (GHSA) project, Ebola virus disease (EVD) has been integrated into the surveillance system although it makes no mention of wildlife testing. The report also notes that staff at the Niokolo-Koba National Park conduct passive surveillance by reporting and testing unusual animal deaths. [2] There is no other information available via the Ministry of Health and Social Welfare, the Ministry of Agriculture and Rural Equipment or the World Organization for Animal Health (OIE) websites on the surveillance of zoonotic disease in wildlife. [3,4,5].

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]. Accessed 21 August 2020.

[2] Measure Evaluation. 2018. 'Strengthening Multisectoral Community Event-Based Surveillance of Zoonotic Diseases in Senegal - Rapid Assessment of a Global Health Security Agenda Project'.

[<https://www.measureevaluation.org/resources/publications/tr-18-255>]. Accessed 21 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]. Accessed 21 August 2020.

[4] Ministry of Agriculture & Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER).

[<http://www.maer.gouv.sn/>]. Accessed 21 August 2020.

[5] World Organization for Animal Health (OIE). November 2016. 'PVS Evaluation Mission follow up report on Veterinary Services of Senegal' (Rapport de Mission d'Évaluation PVS de suivi des Services Vétérinaires du Sénégal).

[[http://www.oie.int/fileadmin/Home/eng/Support\\_to\\_OIE\\_Members/docs/pdf/20170419\\_SuiviPVS\\_Senegal\\_RapportFinal.pdf](http://www.oie.int/fileadmin/Home/eng/Support_to_OIE_Members/docs/pdf/20170419_SuiviPVS_Senegal_RapportFinal.pdf)]. Accessed 21 August 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: 2.0

2018

OIE WAHIS database

### 1.2.4b

#### Number of veterinary para-professionals per 100,000 people

Input number

Current Year Score: 6.95

2018

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

Senegal currently has no national plan on zoonotic disease that includes mechanisms for working with the private sector in controlling or responding to zoonoses. There is no evidence on websites of the Ministry of Health and Social Welfare, the Ministry of Agriculture and Rural Equipment or the World Organization for Animal Health (OIE) of any such mechanism. [1,2,3] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report recommends including the private sector in the surveillance system. Although there's no evidence of a mechanism for controlling and responding to zoonoses in a planning document, there are private veterinarians who do support the government in service delivery. It states that in 2016, the Government authorized 110 new private veterinary practices, and that there are private medical analysis laboratories. [4] According to Measure Evaluation in 2018, "private veterinarians play a significant role in the delivery of services in certain regions. The private veterinarians work closely with auxiliary livestock agents from the community. These agents could potentially be included in the community health volunteer groups for detecting outbreaks of zoonotic diseases in animals." [5] The United National Environment Program, earlier this year, has put out a response strategy to COVID19 for all member states, including Senegal, called "Working With the Environment to Protect People". The third response to the plan "Investing to build back better" stresses partnerships with private sector institutions, however a Senegal-specific approach is still to be determined. [6]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[4] Ministry of Agriculture & Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 21 August 2020.

[3] World Organisation of Animal Health (Oficina Internacional de Epizootias (OIE)). November 2016. "PVS (Performance of Veterinary Services) Report on the Evaluation of the Performance of Veterinary Services in Senegal (Rapport de mission d'évaluation PVS de suivi des services vétérinaires du Sénégal)".

[[http://www.oie.int/fileadmin/Home/eng/Support\\_to\\_OIE\\_Members/docs/pdf/20170419\\_SuiviPVS\\_Senegal\\_RapportFinal.pdf](http://www.oie.int/fileadmin/Home/eng/Support_to_OIE_Members/docs/pdf/20170419_SuiviPVS_Senegal_RapportFinal.pdf)]. Accessed 21 August 2020.

[4] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 2020.

[5] Measure Evaluation, sponsored by USAID. 2018. 'Strengthening Multisectoral Community Event-Based Surveillance of Zoonotic Diseases in Senegal - Rapid Assessment of a Global Health Security Agenda Project'. [[measureevaluation.org/resources/publications/tr-18-255](http://measureevaluation.org/resources/publications/tr-18-255)]; Accessed 21 August 2020.

[6] United Nations Environment Program. May 2020. "Working With the Environment to Protect People: UNEP's COVID-19 Response". [[https://wedocs.unep.org/bitstream/handle/20.500.11822/32218/UNEP\\_COVID.pdf?sequence=1&isAllowed=y](https://wedocs.unep.org/bitstream/handle/20.500.11822/32218/UNEP_COVID.pdf?sequence=1&isAllowed=y)]. Accessed 21 August 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 evidence that Senegal has a record, updated within the past 5 years, of the facilities in which especially dangerous pathogens and toxins are stored or processed, including details on inventories and inventory management systems of those facilities. There is no evidence on the websites of the Ministries of Health and Social Welfare, Agriculture and Rural Equipment, Higher Education and Research or Armed Forces. [1,2,3,4]. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states "Senegal has no global, integrated system for managing the biosafety and biosecurity of pathogens in laboratories...At the Dakar Pasteur Institute (IPD), which is a WHO collaborating centre for arboviruses and the only laboratory in the country that is certified as biosafety level 3 (BSL-3), there is only a partial mechanism for ensuring biosecurity and biosafety and for the moment it covers only the virology unit." There is no further description in the document of what is meant by a 'partial mechanism'. [5] Although Senegal has submitted Confidence Building Measures almost every year since 2007, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [6] As evidenced by the Ebola outbreak, according to a study called "Managing dangerous pathogens: challenges in the wake of the recent West African Ebola outbreak", "in the aftermath of the 2014-2016 West Africa Ebola outbreak, there are a multitude of Ebola biological samples that are unaccounted for as well as virus samples stored in facilities that do not have appropriate level of biosecurity and biosafety, creating serious threats to public health and security". [7] There is no evidence of records having to do with especially dangerous pathogens and toxins for Senegal on the VERTIC database. [8]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[2] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[3] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche). [<http://www.mesr.gouv.sn/>]; Accessed 25 August 2020.

[4] Ministry of Armed Forces (Ministere des Forces armées). [<http://www.forcesarmees.gouv.sn/>]; Accessed 25 August 2020.

[5] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal

Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[6] United Nations Office at Geneva (UNOG). 2019. 'Confidence Building Measures of the Biological Weapons Convention'. [<https://bwc-ecbm.unog.ch/state/senegal>]; Accessed 25 August 2020.

[7] Global Security: Health, Science and Policy. October 2016. "Managing dangerous pathogens: challenges in the wake of the recent West African Ebola outbreak." [<https://www.tandfonline.com/doi/pdf/10.1080/23779497.2016.1228431>]; Accessed 25 August 2020.

[8] VERTIC Database. "Senegal". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/s/>]; Accessed 25 August 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 evidence that Senegal has legislation or regulations related to biosecurity which address physical containment, operational practices, failure of reporting systems or cybersecurity of facilities which house especially dangerous pathogens and toxins. There is no evidence on the websites of the Ministries of Health and Social Welfare, Agriculture and Rural Equipmen, Higher Education and Research, or Armed Forces. [1,2,3,4] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states "Senegal has no global, integrated system for managing the biosafety and biosecurity of pathogens in laboratories. Act No. 2009-27 establishing the national biosafety authority is the only existing biosafety legislation." At the Pasteur Institute of Dakar (IPD), the only laboratory in the country certified as biosafety level 3 (BSL-3), ensuring biosecurity and biosafety is only partial, and even then it only covers the virology unit. [5] The Biosafety Law of 2009 (Law No. 2009-27 ) is GMO (Genetically Modified Organisms) specific, and defines Biosecurity as: "any arrangement aiming to prevent risks resulting from modern biotechnology on biodiversity, human and animal health, the environment, and on social activities and economic practices" and does not cover physical security of pathogens in facilities where they are housed. [6] Although Senegal has submitted Confidence Building Measures almost every year since 2007, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [7] There is no evidence of records on the VERTIC database having to do with regulations related to biosecurity which address physical containment, operational practices, failure of reporting systems or cybersecurity of facilities which house especially dangerous pathogens and toxins. [8]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[2] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[3] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche).

[<http://www.mesr.gouv.sn/>]; Accessed 25 August 2020.

[4] Ministry of Armed Forces (Ministere des Forces armées). [<http://www.forcesarmees.gouv.sn/>]; Accessed 25 August 2020.

[5] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[6] GAIN (Global Agricultral Information Network). September 2017. 'Biosafety Law, 2009 - Senegal'.

[[https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal\\_Dakar\\_Senegal\\_11-](https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal_Dakar_Senegal_11-)

9-2017.pdf]; Accessed 25 August 2020.

[7] United Nations Office at Geneva (UNOG). 2019. 'Confidence Building Measures of the Biological Weapons Convention'. [<https://bwc-ecbm.unog.ch/state/senegal>]; Accessed 25 August 2020.

[8] VERTIC Database. "Senegal". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/s/>]; Accessed 25 August 2020.

### 1.3.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence of an established agency responsible for the enforcement of biosecurity legislation and regulations in Senegal. There is no evidence on the websites of the Ministries of Health and Social Welfare, Agriculture and Rural Equipment, Higher Education and Research or Armed Forces. [1,2,3,4] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states "Senegal has no global, integrated system for managing the biosafety and biosecurity of pathogens in laboratories." [5] The Biosafety Law of 2009 (Law No. 2009-27) is GMO (Genetically Modified Organisms) specific and defines biosecurity as: "any arrangement aiming to prevent risks resulting from modern biotechnology on biodiversity, human and animal health, the environment, and on social activities and economic practices." The law does not cover physical security of dangerous pathogens in the facilities which house them. [6] Although Senegal has submitted Confidence Building Measures almost every year since 2007, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [7] There is no evidence of an agency responsible for enforcement of biosecurity legislation and regulations according to the VERTIC database. [8]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[2] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[3] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche).

[<http://www.mesr.gouv.sn/>]; Accessed 25 August 2020.

[4] Ministry of Armed Forces (Ministere des Forces armées). [<http://www.forcesarmees.gouv.sn/>]; Accessed 25 August 2020.

[5] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[6] GAIN (Global Agricultural Information Network). September 2017. 'Biosafety Law, 2009 - Senegal'.

[[https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal\\_Dakar\\_Senegal\\_11-9-2017.pdf](https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal_Dakar_Senegal_11-9-2017.pdf)]; Accessed 25 August 2020.

[7] United Nations Office at Geneva (UNOG). 2019. 'Confidence Building Measures of the Biological Weapons Convention'.

[<https://bwc-ecbm.unog.ch/state/senegal>]; Accessed 25 August 2020.

[8] VERTIC Database. "Senegal". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/s/>]; Accessed 25 August 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 evidence that Senegal has taken action to consolidate its inventories of especially dangerous pathogens and toxins into a minimum number of facilities. There is no evidence on the websites of the Ministries of Health and Social Welfare, Agriculture and Rural Equipment, Higher Education and Research, the Pasteur Institute of Dakar (IPD) or the Ministry of Armed Forces. [1,2,3,4,5] There is no evidence in the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report that inventories have been consolidated, although the report does mention that the nation's polio strains are stored at the IPD before they are destroyed. [6] Although Senegal has submitted Confidence Building Measures almost every year since 2007, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [7] There is also no evidence in the VERTIC database of actions taken to consolidate Senegal's inventories of especially dangerous pathogens and toxins into a minimum number of facilities. [8]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[2] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[3] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche).

[<http://www.mesr.gouv.sn/>]; Accessed 25 August 2020.

[4] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [<http://www.pasteur.sn/>]; Accessed 25 August 2020.

[5] Ministry of Armed Forces (Ministere des Forces armées). [<http://www.forcesarmees.gouv.sn/>]; Accessed 25 August 2020.

[6] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[7] United Nations Office at Geneva (UNOG). 2019. 'Confidence Building Measures of the Biological Weapons Convention'. [<https://bwc-ecbm.unog.ch/state/senegal>]; Accessed 25 August 2020.

[8] VERTIC Database. "Senegal". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/s/>]; Accessed 25 August 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 specific evidence of in-country capacity to conduct Polymerase Chain Reaction (PCR) based diagnostic testing for anthrax or Ebola, which would preclude culturing a live pathogen. There is no evidence on the websites of the Ministries of Health and Social Welfare, Agriculture and Rural Equipment, or Armed Forces. [1,2,3] According to the 2016 WHO Joint External Evaluation (JEE) of IHR Core Capacities of the Republic of Senegal Mission report, "there is a network of laboratories...capable of conducting real-time diagnoses", which includes the National Laboratory for Farming and Veterinary Research (LNERV), the Interstate School of Veterinary Sciences and Medicine (EISMV) and the Pasteur Institute of Dakar. [4] However, no evidence was found on the Pasteur Institute of Dakar website of using PCR to test for Ebola or anthrax. [5] There is also no specific mention in the JEE of PCR testing for anthrax or Ebola, although "a point-of-care test has been developed to assess the performance of recombinase polymerase amplification for diagnosing suspected cases of EVD disease at the treatment centre". [4]

- [1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.
- [2] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.
- [3] Ministry of Armed Forces (Ministere des Forces armées). [<http://www.forcesarmees.gouv.sn>]; Accessed 25 August 2020.
- [4] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.
- [5] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [<http://www.pasteur.sn/>]; Accessed 25 August 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 insufficient evidence that Senegal requires biosecurity training, using a standardized, required approach 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. There is no evidence on the websites of the Ministries of Health and Social Welfare, Agriculture and Rural Equipment or Armed Forces. [1,2,3] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states "Training on biosecurity and biosafety is conducted on a sectoral basis in national laboratories. For animal health, the National Laboratory of Livestock and Veterinary Research (Laboratoire National d'Elevage et de Recherches Vétérinaires (LNERV)) provides systematic training for personnel at risk." But in spite of this, the report recommends as priority action "the putting in place of standard biosecurity and biosafety training, and the ongoing training of laboratory staff" suggesting the fact that standard trainings did not occur in 2016. [4] Although Senegal has submitted Confidence Building Measures almost every year since 2007, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [5] There is also no evidence in the VERTIC database of biosecurity training. [6]

- [1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.
- [2] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.
- [3] Ministry of Armed Forces (Ministere des Forces armées). [<http://www.forcesarmees.gouv.sn>]; Accessed 25 August 2020.
- [4] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.
- [5] United Nations Office at Geneva (UNOG). 2019. 'Confidence Building Measures of the Biological Weapons Convention'. [<https://bwc-ecbm.unog.ch/state/senegal>]; Accessed 25 August 2020.
- [6] VERTIC Database. "Senegal". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/s/>]; Accessed 25 August 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 evidence of regulations or licensing conditions in Senegal that specify that security and other personnel with access to especially dangerous pathogens, toxins, or biological materials with pandemic potential are subject to checks. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that as of 2016, the only legislation on biosecurity/biosafety was the 2009 Biosafety Law. This law, Law No. 2009-27 on Biosafety makes no mention of personnel checks. [1,2] There is no evidence of updated biosecurity legislation or other requirements on personnel checks on the websites of the Ministry of Health and Social Welfare, the Ministry of Agriculture and Rural Equipment, the Ministry of Higher Education, Research and Innovation, the Pasteur Institute of Dakar or the Ministry of Armed Forces. [3,4,5,6,7] Although Senegal has submitted Confidence Building Measures almost every year since 2007, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [8] There is also no evidence in the VERTIC database of legislations on biosecurity/biosafety or other requirements on personnel checks. [9]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[2] GAIN (Global Agricultural Information Network). September 2017. 'Biosafety Law, 2009 - Senegal'. [[https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal\\_Dakar\\_Senegal\\_11-9-2017.pdf](https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal_Dakar_Senegal_11-9-2017.pdf)]; Accessed 25 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[4] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[5] Ministry of Higher Education, Research and Innovation (Ministère de l'Enseignement supérieur et de la Recherche et de l'Innovation). [<http://www.mesr.gouv.sn/>]; Accessed 25 August 2020.

[6] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [<http://www.pasteur.sn/>]; Accessed 25 August 2020.

[7] Ministry of Armed Forces (Ministere des Forces armées). [<http://www.forcesarmees.gouv.sn/>]; Accessed 25 August 2020.

[8] United Nations Office at Geneva (UNOG). 2019. 'Confidence Building Measures of the Biological Weapons Convention'. [<https://bwc-ecbm.unog.ch/state/senegal>]; Accessed 25 August 2020.

[9] VERTIC Database. "Senegal". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/s/>]; Accessed 25 August 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 available information on national regulations on the safe and secure transport of infectious substances (Categories A and B) in Senegal. None of the ministries of Infrastructure, Land Transport and Improved Access, Health and Social Welfare, Agriculture & Rural Equipment, Higher Education and Research or Armed Forces have information on such regulations. [1,2,3,4,5] Despite no information on regulations being available, the Ministry of Health and Social Welfare (MSAS) in partnership with the Institute of Health Research, Epidemiological Surveillance and Training (IRESSEF) organized a training in July 2020 on the shipment of infectious substances. The workshop aimed at providing skills on "how to pack and ship samples in compliance with regulatory standards". These standards are referring to the European regulations (ADR) and American regulations (DOT) suggesting that Senegal does not have regulations of its own. [6] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report does not make specific mention of transport regulations for Category A and B substances but does include as a recommendation: "implementing a coordinated and harmonized system for transporting specimens" and "standardizing procedures for taking, packaging and transporting specimens to referral centres". [7] The Biosafety Law of 2009 makes no mention of transportation regulations for Categories A and B infectious substances. [8] Although Senegal has submitted Confidence Building Measures almost every year since 2007, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [9] Finally, there is also no evidence in the VERTIC database of information on national regulations on the safe and secure transport of infectious substances. [10]

[1] Ministry of Infrastructure, Land Transport and Improved Access (Ministère des Infrastructures, des Transports Terrestres et du Désenclavement). [<http://www.mittd.gouv.sn/>]; Accessed 25 August 2020.

[2] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets/>]; Accessed 25 August 2020.

[3] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[4] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche). [<http://www.mesr.gouv.sn/>]; Accessed 25 August 2020.

[5] Ministry of Armed Forces (Ministère des Forces armées). [<http://www.forcesarmees.gouv.sn/>]; Accessed 25 August 2020.

[6] Research Institute of Health, Epidemiological Surveillance and Training (Institut de Recherche en Santé, de Surveillance Epidémiologique et de Formation). July 2020. "IRESSEF Hosts a Training Session on the Transport of Infectious Substances". [<https://iressef.org/en/iressef-hosts-a-training-session-on-the-transport-of-infectious-substances/>]; Accessed 25 August 2020.

[7] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[8] GAIN (Global Agricultural Information Network). September 2017. 'Biosafety Law, 2009 - Senegal'. [[https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal\\_Dakar\\_Senegal\\_11-9-2017.pdf](https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal_Dakar_Senegal_11-9-2017.pdf)]; Accessed 25 August 2020.

[9] United Nations Office at Geneva (UNOG). 2019. 'Confidence Building Measures of the Biological Weapons Convention'. [<https://bwc-ecbm.unog.ch/state/senegal>]; Accessed 25 August 2020.

[10] VERTIC Database. "Senegal". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/s/>]; Accessed 25 August 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 evidence of national legislation, regulation, or other guidance in place to oversee the cross-border transfer and end-user screening of especially dangerous pathogens, toxins and pathogens with pandemic potential. However, the Division of Global Migration and Quarantine (DGMQ) created an International Border Health Team, which established partnerships between 10 West African countries, including Senegal to implement together the Global Health Security Agenda, which was originally launched in 2014, and aims to "advance global capacity to rapidly detect, respond to, and control public health emergencies at their source". [1,2] Specific to Senegal, however, none of the ministries of Health and Social Welfare, Agriculture & Rural Equipment, Higher Education and Research or Armed Forces have information on country-specific regulations. [3,4,5,6]. There is no mention of cross-border transfer or end-user screening in the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report. [7] Although Senegal has submitted Confidence Building Measures almost every year since 2007, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [8] Finally, there is no evidence in the VERTIC database of information on national regulations on cross-border transfer and end-user screening of pathogens, toxins, or pathogens with pandemic potential. [9]

[1] Centers for Disease Control and Prevention - Emerging Infectious Diseases. December 2017. "Responding to Communicable Diseases in Internationally Mobile Populations at Points of Entry and along Porous Borders, Nigeria, Benin, and Togo". [[https://wwwnc.cdc.gov/eid/article/23/13/17-0520\\_article#r14](https://wwwnc.cdc.gov/eid/article/23/13/17-0520_article#r14)]; Accessed 25 August 2020.

[2] Global Health Security Agenda. "A partnership against global health threats". [<https://ghsagenda.org/>]; Accessed 25 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[4] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[5] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche et de l'Innovation). [<http://www.mesr.gouv.sn/>]; Accessed 25 August 2020.

[6] Ministry of Armed Forces (Ministere des Forces armées). [<http://www.forcesarmees.gouv.sn/>]; Accessed 25 August 2020.

[7] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[8] United Nations Office at Geneva (UNOG). 2019. 'Confidence Building Measures of the Biological Weapons Convention'. [<https://bwc-ecbm.unog.ch/state/senegal>]. Accessed 25 August 2020.

[9] VERTIC Database. "Senegal". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/s/>]; Accessed 25 August 2020.

## 1.4 BIOSAFETY

### 1.4.1 Whole-of-government biosafety systems

#### 1.4.1a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that a biosafety law exists in Senegal that specifically addresses worker safety in laboratories. Senegal has a Biosafety Law, 2009, which contains information on the biotechnology approval process in Senegal for Genetically Engineered (GE) products, but does not include anything about natural pathogens or worker safety in laboratories. [1] No other evidence of a regulation was found. According to the International Service for the Acquisition of Agri-Biotech Applications, the Biosafety Law is being revised and as of February 2020, was waiting for approval. No evidence exists yet of the approved law and it is unclear whether the law will extend beyond GE products. [2,3] None of the ministries of Health and Social Welfare, Agriculture and Rural Equipment, Higher Education and Research or Armed Forces have information on such regulations. [4,5,6,7] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report mentions "Act No. 2009-27, establishing the national biosafety authority is the only existing biosafety Legislation in Senegal." but this only applies to Genetically Modified Organisms (GMOs). [8] Although Senegal has submitted Confidence Building Measures almost every year since 2007, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [9] Finally, there is no evidence in the VERTIC database on worker safety in laboratories. [10]

[1] Biosafety Law 2009 - Senegal 2017.

[[https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal\\_Dakar\\_Senegal\\_11-9-2017.pdf](https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal_Dakar_Senegal_11-9-2017.pdf)]; Accessed 25 August 2020.

[2] International Service for the Acquisition of Agri-Biotech Applications. August 2019. "A look into Senegal's Biosafety System: What Prospects does it have in store?". [<http://africenter.isaaa.org/look-senegals-biosafety-system-prospects-store/>]; Accessed 25 August 2020.

[3] United States Department of Agriculture - Foreign Agricultural Service. February 2020. "Senegal - Agricultural Biotechnology Annual". [<https://www.fas.usda.gov/data/senegal-agricultural-biotechnology-annual-3>]; Accessed 25 August 2020.

[4] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[5] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[6] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche et de l'Innovation).

[<http://www.mesr.gouv.sn/>]; Accessed 25 August 2020.

[7] Ministry of Armed Forces (Ministere des Forces armées). [<http://www.forcesarmees.gouv.sn/>]; Accessed 25 August 2020.

[8] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[9] United Nations Office at Geneva (UNOG). 2019. 'Confidence Building Measures of the Biological Weapons Convention'.

[<https://bwc-ecbm.unog.ch/state/senegal>]; Accessed 25 August 2020.

[10] VERTIC Database. "Senegal". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation->

database/s/]; Accessed 25 August 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 evidence of an established agency responsible for the enforcement of biosafety legislation and regulations dealing with dangerous pathogens or toxins. The Ministries of Health and Social Welfare, Agriculture and Rural Equipment, Higher Education and Research or Armed Forces do not have information on such an agency. [1,2,3,4] The Joint External Evaluation for Senegal, conducted in November-December 2016, notes that the only biosecurity or biosafety law at the time was Act 2009-27 on biosafety. However, the law primarily addresses GMO oversight and does not include information on safety of laboratory workers working with dangerous pathogens. [5,6] There are two agencies which have biosafety within their mandate, the National Biosafety Authority and the National Biosafety Committee, although there is no evidence that either agency covers laboratory worker safety. The National Biosafety Authority (NBA) was established by Act No. 2009-27. [5,6] The National Biosafety Committee (NBC) is only responsible for risk assessments related to the import, export, handling, transit, confined use, release or launching of GMOs or derived products. [5,6,7] The National Biosafety Committee is the body which advised on the implementation of the Biosafety Law, and now handles risk assessment. The National Biosafety Authority is responsible for regulation of biosafety issues under ACT 2009-27, but primarily regulates GMOs not laboratory safety. [8,9,10] Although Senegal has submitted Confidence Building Measures almost every year since 2007, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [11] Finally, there is no evidence in the VERTIC database on legislations to keep laboratory workers safe. [12]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[2] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[3] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche et de l'Innovation).

[<http://www.mesr.gouv.sn/>]; Accessed 25 August 2020.

[4] Ministry of Armed Forces (Ministere des Forces armées). [<http://www.forcesarmees.gouv.sn/>]; Accessed 25 August 2020.

[5] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[6] GAIN (Global Agricultural Information Network). September 2017. 'Biosafety Law, 2009 - Senegal'.

[[https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal\\_Dakar\\_Senegal\\_11-9-2017.pdf](https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal_Dakar_Senegal_11-9-2017.pdf)]; Accessed 25 August 2020.

[7] United States Department of Agriculture Foreign Agricultural Service. 2016. 'Francophone West Africa Biotechnology Report 2016'.

[[https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Agricultural%20Biotechnology%20Annual\\_Dakar\\_Senegal\\_11-29-2016.pdf](https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Agricultural%20Biotechnology%20Annual_Dakar_Senegal_11-29-2016.pdf)]; Accessed 25 August 2020.

[8] GAIN. 'Senegal 2016 FAIRS Country Report, Food and Agricultural Import Regulations and Standards'.

[[http://agriexchange.apeda.gov.in/ir\\_standards/Import\\_Regulation/Food%20and%20Agricultural%20Import%20Regulations%20and%20Standards%20%20NarrativeDakarSenegal132017.pdf](http://agriexchange.apeda.gov.in/ir_standards/Import_Regulation/Food%20and%20Agricultural%20Import%20Regulations%20and%20Standards%20%20NarrativeDakarSenegal132017.pdf)]; Accessed 25 August 2020.

[9] GRAIN. July 2006. 'Towards the adoption of a national framework for biosafety in Senegal'.

[<https://www.grain.org/article/entries/600-towards-the-adoption-of-a-national-framework-for-biosafety-in-senegal>]; Accessed 25 August 2020.

[10] Senegal - National Biosafety Authority. 2018. [<https://www.senegal.org/en/senegal/organizations/details/25/345>]; Accessed 25 August 2020.

[11] United Nations Office at Geneva (UNOG). 2019. 'Confidence Building Measures of the Biological Weapons Convention'. [<https://bwc-ecbm.unog.ch/state/senegal>]; Accessed 25 August 2020.

[12] VERTIC Database. "Senegal". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/s/>]; Accessed 25 August 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 evidence that Senegal 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. Senegal has a Biosafety Law, 2009, which contains information on the biotechnology approval process in Senegal for Genetically Engineered (GE) products, but does not include anything about natural pathogens or training on the matter. [1] According to the International Service for the Acquisition of Agri-Biotech Applications, the Biosafety Law is being revised and as of August 2019 was waiting for approval. No evidence exists yet of the approved law and it is unclear whether the law will extend beyond GE products, especially biosafety trainings. [2] None of the ministries of Health and Social Welfare, Agriculture and Rural Equipment, Higher Education and Research or Armed Forces have information on such training. [3,4,5,6] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that "training on biosecurity and biosafety is conducted on a sectoral basis in national laboratories", and that the National Laboratory for Farming and Veterinary Research (LNERV) provides systematic training for personnel at risk. The report lists "implementing standard biosecurity and biosafety training" as a recommended action. [7] Although Senegal has submitted Confidence Building Measures almost every year since 2007, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [8] Finally, there is no evidence in the VERTIC database that Senegal requires biosafety training. [9]

[1] Biosafety Law 2009 - Senegal 2017.

[[https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal\\_Dakar\\_Senegal\\_11-9-2017.pdf](https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal_Dakar_Senegal_11-9-2017.pdf)]; Accessed 25 August 2020.

[2] International Service for the Acquisition of Agri-Biotech Applications. August 2019. "A look into Senegal's Biosafety System: What Prospects does it have in store?". [<http://africenter.isaaa.org/look-senegals-biosafety-system-prospects-store/>]; Accessed 25 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[4] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[5] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche).

[<http://www.mesr.gouv.sn/>]; Accessed 25 August 2020.

[6] Ministry of Armed Forces (Ministere des Forces armées). [<http://www.forcesarmees.gouv.sn/>]; Accessed 25 August 2020.

[7] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal



Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[8] United Nations Office at Geneva (UNOG). 2019. 'Confidence Building Measures of the Biological Weapons Convention'. [<https://bwc-ecbm.unog.ch/state/senegal>]; Accessed 25 August 2020.

[9] VERTIC Database. "Senegal". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/s/>]; Accessed 25 August 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 Senegal has conducted an assessment to determine whether ongoing research is occurring on especially dangerous pathogens, toxins, pathogens with pandemic potential, or other dual use research. There is no evidence on the websites of the Ministries of Health and Social Welfare, Agriculture & Rural Equipment, Higher Education and Research or Armed Forces [1,2,3,4]. There is no mention of dual-use research on the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report, or on the website of the Pasteur Institute Dakar (IPD). [5,6] Although Senegal has submitted Confidence Building Measures almost every year since 2007, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [7] Finally, there is no evidence in the VERTIC database that Senegal has conducted an assessment to determine whether ongoing research is occurring on pathogens, toxins or pathogens with pandemic potential. [8]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[2] Ministry of Agriculture and Rural Equipment ((Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[3] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche). [<http://www.mesr.gouv.sn>]; Accessed 25 August 2020.

[4] Ministry of Armed Forces (Ministère des Forces armées). [<http://www.forcesarmees.gouv.sn>]; Accessed 25 August 2020.

[5] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[6] Pasteur Institute Dakar (Institut Pasteur de Dakar (IPD)). 2017. 'Recherche et santé publique'. [<http://www.pasteur.sn/recherche-et-sante-publique/>]; Accessed 25 August 2020.

[7] United Nations Office at Geneva (UNOG). 2019. 'Confidence Building Measures of the Biological Weapons Convention'. [<https://bwc-ecbm.unog.ch/state/senegal>]; Accessed 25 August 2020.

[8] VERTIC Database. "Senegal". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/s/>]; Accessed 25 August 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 evidence of a legislation or regulation requiring oversight of dual use research on the websites Ministries of Health and Social Welfare, Agriculture & Rural Equipment, Higher Education and Research or Armed Forces. [1,2,3,4]. There is no mention of dual-use research on the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report, which simply states "Senegal has no global, integrated system for managing the biosafety and biosecurity of pathogens in laboratories." [5] There is no mention of such a legislation on the website of the Pasteur Institute Dakar (IPD). [6] Although Senegal has submitted Confidence Building Measures almost every year since 2007, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [7] Finally, there is no evidence in the VERTIC database of a legislation or regulation requiring oversight of dual use research. [8]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[2] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[3] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche).

[<http://www.mesr.gouv.sn/>]; Accessed 25 August 2020.

[4] Ministry of Armed Forces (Ministère des Forces armées). [<http://www.forcesarmees.gouv.sn/>]; Accessed 25 August 2020.

[5] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[6] Pasteur Institute Dakar (Institut Pasteur de Dakar (IPD)). 2017. 'Recherche et santé publique'.

[<http://www.pasteur.sn/recherche-et-sante-publique/>]; Accessed 25 August 2020.

[7] United Nations Office at Geneva (UNOG). 2019. 'Confidence Building Measures of the Biological Weapons Convention'.

[<https://bwc-ecbm.unog.ch/state/senegal/>]; Accessed 25 August 2020.

[8] VERTIC Database. "Senegal". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/s/>]; Accessed 25 August 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 evidence of an agency responsible for oversight of research with especially dangerous pathogens, pathogens with pandemic potential, or other dual use research. There is no information available on websites of the Ministries of Health and Social Welfare, Agriculture & Rural Equipment, Higher Education and Research or Armed Forces. [1,2,3,4]. There is no mention of such an agency on the website of the Pasteur Institute of Dakar (IPD). [5] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report mentions that Senegal does have a National Biosafety Authority (NBA) established by Act No. 2009-27, but the law describes its primary responsibility as oversight of GMOs, and does not mention dual-use research. [7] A United States Department of Agriculture report of 2016 states that there is also a

National Biosafety Committee (NBC) which is responsible for risk assessments which cover "import, export, handling, transit, confined use, release or launching of GMOs or derived products," but no mention is made of oversight of dual use research. [8] Although Senegal has submitted Confidence Building Measures almost every year since 2007, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [9] And there is no evidence in the VERTIC database of an agency responsible for oversight of research with especially dangerous pathogens, pathogens with pandemic potential, or other dual use research. [10]

- [1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets/>]; Accessed 25 August 2020.
- [2] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.
- [3] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche). [<http://www.mesr.gouv.sn/>]; Accessed 25 August 2020.
- [4] Ministry of Armed Forces (Ministère des Forces armées). [<http://www.forcesarmees.gouv.sn/>]; Accessed 25 August 2020.
- [5] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). 2017. 'Recherche et santé publique'. [<http://www.pasteur.sn/recherche-et-sante-publique/>]; Accessed 25 August 2020.
- [6] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.
- [7] Senegal - National Biosafety Authority. 2018. [<https://www.senegal.org/en/senegal/organizations/details/25/345/>]; Accessed 25 August 2020.
- [8] United States Department of Agriculture Foreign Agricultural Service. 2016. 'Francophone West Africa Biotechnology Report 2016'. [[https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Agricultural%20Biotechnology%20Annual\\_Dakar\\_Senegal\\_11-29-2016.pdf](https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Agricultural%20Biotechnology%20Annual_Dakar_Senegal_11-29-2016.pdf)]; Accessed 25 August 2020.
- [9] United Nations Office at Geneva (UNOG). 2019. 'Confidence Building Measures of the Biological Weapons Convention'. [<https://bwc-ecbm.unog.ch/state/senegal/>]; Accessed 25 August 2020.
- [10] VERTIC Database. "Senegal". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/s/>]; Accessed 25 August 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 evidence that Senegal has national legislation, regulation, policy, or other guidance, requiring the screening of synthesized DNA before it is sold. There is no evidence of this on the websites for the Ministry of Health and Social Welfare, Agriculture & Rural Equipment, Higher Education and Research, Armed Forces or Infrastructure, Land Transport and Improved Access. [1,2,3,4,5] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report notes that Law No. 2009-27 of 2009 was the only biosafety legislation at the time. Neither the JEE report nor Law 2009-27 make mention of synthesized DNA. [6,7] The National Biosafety Authority, created by Law No. 2009-27 of 13 July 2009, is responsible for "regulating the development of activities of contained use of use, import, export, transit, transport deliberate release into the environment and placing on the market of genetically modified organisms or

derivatives. "However, there is no specific mention of synthesized DNA. [8] Although Senegal has submitted Confidence Building Measures almost every year since 2007, access to the reports is restricted to the public, and it is unknown if they contain information on this matter. [9] And there is no evidence in the VERTIC database that Senegal has national legislation, regulation, policy, or other guidance, requiring the screening of synthesized DNA before it is sold. [10]

- [1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.
- [2] Ministry of Agriculture and Rural Equipment. [<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.
- [3] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche). [<http://www.mesr.gouv.sn>]; Accessed 25 August 2020.
- [4] Ministry of Armed Forces (Ministère des Forces armées). [<http://www.forcesarmees.gouv.sn>]; Accessed 25 August 2020.
- [5] Ministry of Infrastructure, Land Transport and improved access (Ministère des Infrastructures, des Transports Terrestres et du Désenclavement). [<http://www.mitttd.gouv.sn/>]; Accessed 25 August 2020.
- [6] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.
- [7] GAIN (Global Agricultural Information Network). September 2017. 'Biosafety Law, 2009 - Senegal'. [[https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal\\_Dakar\\_Senegal\\_11-9-2017.pdf](https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Biosafety%20Law%202009%20-%20Senegal_Dakar_Senegal_11-9-2017.pdf)]; Accessed 25 August 2020.
- [8] National Biosafety Authority - SENEGEL. 2018. [<https://www.senegel.org/en/senegal/organizations/details/25/345>]; Accessed 25 August 2020.
- [9] United Nations Office at Geneva (UNOG). 2019. 'Confidence Building Measures of the Biological Weapons Convention'. [<https://bwc-ecbm.unog.ch/state/senegal>]; Accessed 25 August 2020.
- [10] VERTIC Database. "Senegal". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/s/>]; Accessed 25 August 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: 1**

2020

OIE WAHIS database

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

### 2.1 LABORATORY SYSTEMS STRENGTH AND QUALITY

#### 2.1.1 Laboratory testing for detection of priority diseases

##### 2.1.1a

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

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

**Current Year Score: 0**

There is no evidence that Senegal's national laboratory system has the capacity to conduct 5 of the 10 WHO-defined core tests. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that "the national laboratory system conducts diagnostic tests for several priority diseases and other diseases of public health importance" and specifies that tests are available for HIV, tuberculosis by microscopy (at all health centers with a laboratory), rapid malaria testing (with 98% of positive cases reported at the community level), polymerase chain reaction for influenza (syndromic sentinel surveillance), polio, meningitis and cholera. These tests, however, do not cover 5 of the 10 WHO-defined core tests. The JEE also does not indicate which laboratory or laboratories in particular are able to conduct these tests. The report notes that "there are also private medical analysis laboratories, together with the WHO cooperation centre for arboviruses and viral haemorrhagic fevers at the Pasteur Institute of Dakar (IPD)." [1] There is no mention of testing of any kind on the Ministry of Health and Social Welfare website. [2] In its publicly available testing manual, the IPD notes that it can conduct serology for HIV, but does not specify which other WHO core tests it is capable of conducting. [3] In March 2020, the United Kingdom laboratory Mologic partnered with Senegalese scientists to develop a diagnostic test for coronavirus, which would produce results within 10-minutes of testing. [4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[2] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[3] Pasteur Institute of Dakar Foundation (Fondation Institut Pasteur de Dakar). 2015. "Sampling manual (Manuel de Prelevement)". [<http://www.pasteur.sn/wp-content/uploads/2017/01/Manuel-de-pr%C3%A9%20vements-LBM-version-2015.pdf>]; Accessed 25 August 2020.

[4] CNN - Marketplace Africa. March 2020. "Senegal partners with UK lab to develop a hand-held coronavirus test kit".

[<https://www.cnn.com/2020/03/12/africa/senegal-uk-coronavirus-rapid-test-kit/index.html>]; Accessed 25 August 2020.

### 2.1.1b

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

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

**Current Year Score: 0**

There is no evidence of a national plan for conducting testing during a public health emergency, which includes considerations for testing for novel pathogens, scaling capacity, and defining goals for testing, despite there having been an Emergency Operations Center (EOC) since 2014. The EOC's mission does not include designing a plan that covers the three aspects being tested for but does include: 1/ defining emergency measures to be implemented in response to health emergencies; 2/ coordinating the action of the various actors involved in responses to health emergencies; 3/ Supervising field operations; and 4/ Liaising between emergency response actors and the Minister of Health. [1] There is no mention of a plan on the Ministry of Health and Social Welfare or the Ministry of Agriculture's websites either. [2,3] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that "Senegal has developed a platform for reducing major disaster risks" which includes "support operations at the intermediate and community/primary response levels during a public health emergency" but does not mention testing as part of this plan. The JEE continues to state that the "platform is not yet up and running". [4] There is no mention of such an agency on the website of the Pasteur Institute of Dakar (IPD). [5] There is evidence that testing increased during 2020 in response to the COVID-19 pandemic but it is unclear whether this was to follow a specific COVID-19 strategy around testing or whether it was encouraged in other ways such as efforts made by the Center for Disease Control and Prevention (CDC). [6] No specific evidence of a COVID strategy was found through a general media search.

[1] Emergency Operations Center (EOC) (Centre des Operations d'Urgence Sanitaire). [<http://www.cousenegal.sn/qui-sommes-nous/>]; Accessed 25 August 2020.

[2] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[3] Ministry of Agriculture and Rural Equipment ((Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[4] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[5] Pasteur Institute Dakar (Insitut Pasteur de Dakar (IPD)). 2017. 'Recherche et santé publique'. [<http://www.pasteur.sn/recherche-et-sante-publique/>]; Accessed 25 August 2020.

[6] British Broadcasting Channel (BBC). October 2020. "Coronavirus in Senegal: Keeping Covid-19 at bay". [<https://www.bbc.com/news/world-africa-54388340>]. Accessed 21 March 2021.

## 2.1.2 Laboratory quality systems

### 2.1.2a

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

Yes = 1 , No = 0

**Current Year Score: 1**

There is evidence that at least one national laboratory that serves as a reference facility is accredited. The 2016 World Health Organization (WHO) Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that "Senegal has a large and diversified laboratory system broken down into district laboratories (located in every district and carrying out a certain number of analyses), regional hospital laboratories, and national referral laboratories (at the central level). There are also private medical analysis laboratories, together with the WHO cooperation centre for arboviruses and viral haemorrhagic fevers at the Pasteur Institute of Dakar (IPD). The referral laboratories (including the one for polio) are accredited by WHO, use the ISO 9001 quality management system, can conduct a certain number of diagnostic tests, and use online algorithms that are in line with international standards (WHO, World Organisation for Animal Health (OIE) and Food and Agriculture Organization (FAO))". [1] And according to the Centers for Disease Control and Prevention (CDC), "Senegal's HIV reference laboratory was the first public health laboratory in West Africa to achieve international accreditation". [2] There is no additional evidence of accreditation on the websites for the Ministry of Health and Social Welfare, Agriculture & Rural Equipment or Higher Education and Research. [3,4,5]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[2] Centers for Disease Control and Prevention (CDC). "Global Health - Senegal". [<https://www.cdc.gov/globalhealth/countries/senegal/default.htm>]; Accessed 25 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[4] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[5] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche). [<http://www.mesr.gouv.sn/>]; Accessed 25 August 2020.

### 2.1.2b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient evidence that the national laboratory that serves as a reference facility is subject to external quality assurance review. The 2016 WHO Joint External Evaluation of IHR Core Capacities report states that in Senegal "there are WHO-accredited referral laboratories that take part in external evaluation tests" without giving any details of which laboratories these are. [1] There are no details available in the websites of the Pasteur Institute of Dakar or the Ministries of Health and Social Welfare or Agriculture and Rural Equipment. [2,3,4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[2] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [<http://www.pasteur.sn/>] [<http://www.pasteur.sn/recherche-et-sante-publique/>]; Accessed 25 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[4] Ministry of Agriculture and Rural Equipment. [<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

## 2.2 LABORATORY SUPPLY CHAINS

### 2.2.1 Specimen referral and transport system

#### 2.2.1a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient publicly available evidence that Senegal has a nationwide specimen transport system in place. The 2016 WHO Joint External Evaluation (JEE) of IHR Core Capacities of the Republic of Senegal Mission report scores Senegal 3 for 'Specimen referral and transport system' and states that "A system is in place to transport specimens of diseases under surveillance in 50% to 80% of health districts to the national referral laboratories to conduct advanced diagnostics" meaning the coverage does not meet the 80% minimum requirement. Although Senegal does not meet the minimum requirement, the JEE report does elaborate by saying that "There is a national system to transfer specimens of diseases under surveillance (i.e. meningitis, cholera, yellow fever, influenza, polio, tetanus, measles, dengue fever and arbovirus) from the districts to the national referral laboratories. There is a system for sending specimens from syndromic sentinel surveillance sites by mail". [1] There is no information on specimen transfer available on the websites of the Ministry of Health and Social Welfare or the Ministry of Agriculture. [2,3] The Performance of Veterinary Services (PVS) monitoring mission report, developed by the World Organization for Animal Health (OIE) in 2016 states "Senegal has equipped itself with the appropriate means to allow samples from remote areas to arrive at central laboratories in good condition". [4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[2] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[3] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[4] OIE-PVS. 2016. 'Rapport de mission d'évaluation PVS de suivi des services vétérinaires du Sénégal (PVS report on the evaluation of performance of Veterinary Services in Senegal) (14 - 26 novembre 2016)'. [[http://www.oie.int/fileadmin/Home/eng/Support\\_to\\_OIE\\_Members/docs/pdf/20170419\\_SuiviPVS\\_Senegal\\_RapportFinal.pdf](http://www.oie.int/fileadmin/Home/eng/Support_to_OIE_Members/docs/pdf/20170419_SuiviPVS_Senegal_RapportFinal.pdf)]; Accessed 25 August 2020.

### 2.2.2 Laboratory cooperation and coordination

#### 2.2.2a

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

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

**Current Year Score: 0**

There is no evidence of a plan to rapidly authorize or license laboratories to supplement the capacity of the national public health laboratory system to scale-up testing during an outbreak. Currently, the Ministry of Health provides information on



the process of opening a new laboratory which takes roughly three months. There is no information available for authorizing or licensing laboratories in a shorter period of time. [1] The 2016 WHO Joint External Evaluation (JEE) of IHR Core Capacities of the Republic of Senegal Mission report states that "The Ministry of Health and Social Welfare's laboratory directorate is the authority responsible for laboratory inspections and for awarding the authorizations needed to open a laboratory. A national quality control system is in place and includes an audit system for laboratory accreditation". No other information on rapidly licensing or authorizing laboratories is available in the report. [2] There are no further details available in the websites of the Pasteur Institute of Dakar or the Ministry of Agriculture and Rural Equipment. [3,4]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "Demander l'autorisation d'ouvrir un laboratoire d'analyse de biologie medicale".

[<http://www.sante.gouv.sn/sites/default/files/Demander%20laboratoire%20analyses.pdf>]; Accessed 21 August 2020.

[2] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 2020.

[3] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 21 August 2020.

[4] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [<http://www.pasteur.sn/>] [<http://www.pasteur.sn/recherche-et-sante-publique/>]; Accessed 21 August 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: 0**

There is insufficient evidence that Senegal is conducting ongoing event-based surveillance (EBS) and analysis for infectious diseases. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that Senegal has "indicator-based and event-based surveillance systems in place to detect public health threats" however it contradicts itself by also recommending to "include event-based and community-based surveillance in the surveillance system". [1] No further evidence was available on the websites of the Pasteur Institute of Dakar or the Ministries of Health and Social Welfare or Agriculture and Rural Equipment. [2,3,4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 2020.

[2] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[3] Ministry of Agriculture and Rural Equipment. [<http://www.maer.gouv.sn/>];

[4] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [<http://www.pasteur.sn/>] [<http://www.pasteur.sn/recherche-et-sante-publique/>]; Accessed 21 August 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: 1**

There is publicly available evidence of Senegal reporting a potential public health emergency of international concern (PHEIC) to the World Health Organization (WHO) within the last two years.

From October to December 2020, a total of seven confirmed cases of yellow fever (YF) have been reported from four health districts in three regions in Senegal. The outbreak consists of a cluster of four confirmed cases from three health zones in Kidira health district, Tambacounda region; one case in the neighbouring Kedougou health district, Kedougou region; one case in Saraya health district, Kedougou region; and one case in Thilogne health district, Matam region. [1]

In January 2018, The Ministry of Health of Senegal reported a case of Rift Valley fever to the WHO which had been contracted by a resident of Gambia visiting Dakar. [2] Evidence of the Dengue Fever outbreak from 2019 is listed on the WHO Health Emergency Dashboard Map - Senegal, however no further information on the declaration is available, as the WHO-Senegal page seems to be out of date. [3] Aside from the above, there is no further information on reporting to the WHO on the website of the Ministry of Health and Social Welfare of a disease declared to the WHO since then, or in the 2016 WHO Joint External Evaluation (JEE) of IHR Core Capacities of the Republic of Senegal Mission report. [4,5]

[1] WHO Disease Outbreak News. 2020. "Yellow fever – Senegal". [<https://www.who.int/csr/don/29-december-2020-yellow-fever-senegal/en/>]; Accessed 3 June 2021.

[2] WHO Disease Outbreak News. 2019. "Rift Valley fever - Gambia". [<https://www.who.int/csr/don/26-february-2018-rift-valley-fever-gambia/en/>]; Accessed 26 August 2020.

[3] World Health Organization (WHO). "WHO Health Emergency Dashboard Map - Senegal". [<https://extranet.who.int/publicemergency/>]; Accessed 26 August 2020.

[4] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets/>]; Accessed 26 August 2020.

[5] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 26 August 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: 0**

There is insufficient evidence of an electronic reporting surveillance system at both the national and sub-national level. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that "Within health facilities, information on paper is referred to the next level by telephone, email or through an electronic platform (DHIS2) so that it can be compiled. With the electronic platform, an Excel file (known as IDSSSEN) is used to submit surveillance data from the district level upwards." The report, however, also notes that DHIS2 was in the process of being approved and included as a recommendation "increased use of DHIS2 at the operational level". [1,2] The JEE report also

mentions that, for animal health, there is a "well run real-time electronic system" in place, called Vgtropic, which is functional from the national level to the community level. Furthermore, in the 'Real-time Surveillance' section of the JEE report, one of the recommendations for priority actions is "Ensure the interoperability of the real-time electronic reporting system for human health and connect it with the platform used for animal health surveillance". [2] No other evidence was found that suggests that work has been done to connect the platforms since the 2016 JEE report. There are no further details available in the websites of the Pasteur Institute of Dakar or the Ministries of Health and Social Welfare or Agriculture and Rural Equipment. [3,4,5]

[1] Center for Disease Control (CDC). Integrated Disease Surveillance and Response (IDSR).

[<https://www.cdc.gov/globalhealth/healthprotection/idsr/index.html>]; Accessed 25 August 2020.

[2] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[4] Ministry of Agriculture and Rural Equipment. [<http://www.maer.gouv.sn/>]; Accessed 25 August 2020.

[5] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [<http://www.pasteur.sn/>] [<http://www.pasteur.sn/recherche-et-sante-publique/>]; Accessed 25 August 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**

Although there is evidence of a system which collects ongoing and real time laboratory data for animal health, there is insufficient evidence that there is as of yet a similar system in place for human health. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report of 2016 mentions a well-run real-time electronic platform (known as Vgtropic) is operational for animal health surveillance. This is further evidenced by the recommendations available in the 'Real-time Surveillance' section of the JEE report which states that: "Ensure the interoperability of the real-time electronic reporting system for human health and connect it with the platform used for animal health surveillance". On human health, however, it states that "within health facilities, information on paper can be referred to the next level through an electronic platform (DHIS 2) so that it can be compiled. An electronic platform (DHIS 2) is in the process of being approved so that data can be shared in real time at all levels and with partners." However, the report does note that "correlation between epidemiological data and laboratory data is good" for viral diseases, although not for bacterial data. No mention is made of if laboratory data is incorporated within the DHIS2. [1] There are no further details available in the websites of the Pasteur Institute of Dakar or the Ministries of Health and Social Welfare or Agriculture and Rural Equipment. [2,3,4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 2020.

[2] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[3] Ministry of Agriculture and Rural Equipment. [<http://www.maer.gouv.sn/>]; Accessed 21 August 2020.

[4] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [<http://www.pasteur.sn/>] [<http://www.pasteur.sn/recherche-et-sante-publique/>]; Accessed 21 August 2020.

## 2.4 SURVEILLANCE DATA ACCESSIBILITY AND TRANSPARENCY

### 2.4.1 Coverage and use of electronic health records

#### 2.4.1a

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

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

**Current Year Score: 0**

There is no evidence that Senegal has an electronic health record (EHR) system in place and no new evidence is available since last year's research. The 2015 WHO Atlas of eHealth country profiles indicates that Senegal does not have electronic health records through a public health system. [1] A PubMed report from 2016 supported by the Senegalese High Study and Research Ministry indicates that the use of non-standardized software for patient record management substantially limits the ability to share data or communicate with other medical structures. "To overcome these problems we have proposed a National Medical Information System for Senegal (SIMENS). As an integrated platform, SIMENS provides an EHR system that supports healthcare activities, a mobile version and a web portal. The SIMENS architecture proposes also a data and application integration services for supporting interoperability and decision making." [2] No information on the status of the EHR system is available via the Ministry of Health and Social Welfare website or the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report. [3,4]

[1] World Health Organization (WHO). 2016. Senegal. [<http://www.who.int/goe/publications/atlas/2015/sen.pdf>]; Accessed 21 August 2020.

[2] PubMed, National Center for Biotechnology Information (NCBI). 2016. 'A National Medical Information System for Senegal: Architecture and Services'. [<https://www.ncbi.nlm.nih.gov/pubmed/27577338>]; Accessed 21 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[4] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 2020.

#### 2.4.1b

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no evidence that the national public health system in Senegal has access to electronic health records of individuals in their country and no new evidence exists since last year's research. This is also no publicly available evidence that Senegal has an electronic health record system in place. [1] There is no information on access to such records in the 2016 PubMed article on a national information system in Senegal, on the Ministry of Health and Social Welfare website, or in the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report. [2,3,4].

[1] World Health Organization (WHO). 2016. Senegal. [<http://www.who.int/goe/publications/atlas/2015/sen.pdf>]; Accessed 21 August 2020.

[2] PubMed, National Center for Biotechnology Information (NCBI). 2016. 'A National Medical Information System for

Senegal: Architecture and Services'. [<https://www.ncbi.nlm.nih.gov/pubmed/27577338>]; Accessed 21 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[4] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 2020.

### 2.4.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Senegal has an electronic health record (EHR) system in place and no additional evidence that there are data standards to ensure data is comparable. No new evidence is available since last year's research. The 2015 WHO Atlas of eHealth country profiles indicates that Senegal does not have electronic health records through a public health system. [1] A PubMed report from 2016 supported by the Senegalese High Study and Research Ministry indicates that the use of non-standardized software for patient record management substantially limits the ability to share data or communicate with other medical structures. "To overcome these problems we have proposed a National Medical Information System for Senegal (SIMENS). As an integrated platform, SIMENS provides an EHR system that supports healthcare activities, a mobile version and a web portal. The SIMENS architecture proposes also a data and application integration services for supporting interoperability and decision making." [2] No information on the status of the EHR system is available via the Ministry of Health and Social Welfare website or the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report. [3,4].

[1] World Health Organization (WHO). 2016. Senegal. [<http://www.who.int/goe/publications/atlas/2015/sen.pdf>]; Accessed 21 August 2020.

[2] PubMed, National Center for Biotechnology Information (NCBI). 2016. 'A National Medical Information System for Senegal: Architecture and Services'. [<https://www.ncbi.nlm.nih.gov/pubmed/27577338>]; Accessed 21 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[4] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 2020.

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

### 2.4.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

Senegal does not have any established mechanisms at the relevant ministries responsible for animal, human and wildlife surveillance to share data. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission

report states that "Although surveillance systems are robust, human and animal surveillance is conducted separately without any connection between the two sectors. Existing plans do not include a human-animal interface, and the system is therefore not in keeping with the One Health approach." The JEE report recommendations include the development of an integrated national surveillance plan that includes laboratories, in keeping with the One Health approach, followed by a joint response plan covering the animal health, human health and wildlife sectors. [1] There is no relevant information available on the Ministries of Health and Social Welfare, Agriculture and Rural Equipment or Environment and Conservation websites. [2,3,4].

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 2020.

[2] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[3] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 21 August 2020.

[4] Ministry of Environment and Sustainable Development (Ministère de l'Environnement et du Développement Durable). [<http://www.environnement.gouv.sn/>]; Accessed 21 August 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 evidence that Senegal makes de-identified health surveillance data on disease outbreaks publicly available on government websites. There is no information in this regard on the Ministries of Health and Social Welfare or Agriculture and Rural Equipment websites, or that of the Senegal Data Portal. [1,2,3]. The Library of Congress National site states that "The National Service of Sanitary Information, attached to the Health Minister's cabinet, collects and analyses sanitary information. It centralizes and updates all information concerning the sanitary system of Senegal and compiles health statistics. These data are available to other services, researchers, and the Ministry of Health's partners." [4] There is no information via the National Service of Sanitary Information's page on the Ministry of Health and Social Welfare on these health statistics. [5]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[2] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 21 August 2020.

[3] Senegal Data Portal. [<http://senegal.opendataforafrica.org/hifqkj/senegal-chronic-diseases>]; Accessed 21 August 2020.

[4] The Library of Congress. 'Senegal: Legal Responses to Health Emergencies'. February 2015. [<https://www.loc.gov/law/help/health-emergencies/senegal.php>]; Accessed 21 August 2020.

[5] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "National Service of Sanitary Information (Le Service national de l'Hygiène)." [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 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**

The Ministry of Health and Social Welfare provides daily COVID-19 reports and includes information such as number of new cases recorded, number of deaths, number of patients hospitalized, in which district cases are recorded and the number of cases for each, etc in the last 24 hours. The link to these communiqués is available here:

[<http://www.sante.gouv.sn/taxonomy/term/14>]. [1] No further evidence is available on the Ministry of Agriculture and Rural Equipment site. [2]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "Coronavirus communiqués". [<http://www.sante.gouv.sn/Actualites/coronavirus-communiqu%C3%A9-de-presse-n%C2%B0157-du-05-ao%C3%BBt-2020-du-minist%C3%A8re-de-la-sant%C3%A9-et-de>]; Accessed 24 August 2020.

[2] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 24 August 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**

Senegal has laws that safeguard the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities. A Data Protection Laws and Regulations 2020 manual consolidates all Senegalese laws relating to data and includes the Law No 2008-12 on the Protection of Personal Data, adopted on 15 January 2008. It also includes the Data Protection Authority (Commission de Protection des Données Personnelles) (CDP) Law no 2016-29 dated 8th November 2016 which modified the penal code, and provides criminal offences relating to data processing and the applicable sanctions. [1] A Privacy International (PI) report from 2013 states that the "Law No 2008-12 on the Protection of Personal Data on 15th January 2008, is a broad and comprehensive data protection law, covering the collection, handling, transmission, storage and use of personal data by individuals, government entities, local authorities and legal persons operating under public or private law." The manual also states that health related data is included in the protected data list. [1,2,3] There is no further information available on either the Ministry of Health and Social Welfare website or the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report. [4,5]

[1] The International Comparative Legal Guides. June 2020. "Senegal: Data Protection Laws and Regulations 2020". [<https://iclg.com/practice-areas/data-protection-laws-and-regulations/senegal>]; Accessed 26 August 2020.

[2] Privacy International and Jonction Senegal. March 2013. 'The Right to Privacy in Senegal Stakeholder Report Universal Periodic Review 17th Session - Senegal'. [<https://privacyinternational.org/advocacy-briefing/640/right-privacy-senegal>]; Accessed 26 August 2020.

[3] Law 2008-12, Protection of personal information data (Loi n° 2008-12 sur la Protection des données à caractère personnel). [<https://wipolex.wipo.int/en/text/181186>]; Accessed 26 August 2020.

[4] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 26 August 2020.

[5] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 26 August 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: 1**

There is publicly available evidence that laws, regulations, or guidelines safeguarding the confidentiality of identifiable health information for individuals include mention of protections from cyber attacks. A Data Protection Laws and Regulations 2020 manual was developed in 2020, which consolidates all Senegalese laws relating to data and includes the Law No 2008-12 on the Protection of Personal Data, which was adopted on 15th January 2008. It also includes the Data Protection Authority (Commission de Protection des Données Personnelles) (CDP) Law no 2016-29 dated 8th November 2016 which modified the penal code, and provides criminal offences relating to data processing and the applicable sanctions. [1] Article 71 of Law No. 2008-12 on Protection of Personal Data notes that those controlling personal data must take measures to prevent unauthorized third parties from accessing the data. Data controllers are required to take measures to guarantee the identity of those looking to access the data and prevent sensitive data from being read, copied, modified, destroyed or moved. The law specifically refers to health data when it defines its use of the terms 'sensitive data'. [2] However, participants in the 2016 'Cyber security capacity review of the Republic of Senegal' highlighted that "Law No. 2008-12 does not require infrastructure operators to report and share information on cybersecurity incidents, such as data or system breaches, which was perceived as a shortcoming of the law." [3] There are no further details available on the websites of the Pasteur Institute of Dakar or the Ministries of Health and Social Welfare or Agriculture and Rural Equipment. [4,5,6]

[1] The International Comparative Legal Guides. June 2020. "Senegal: Data Protection Laws and Regulations 2020".

[<https://iclg.com/practice-areas/data-protection-laws-and-regulations/senegal>]; Accessed 26 August 2020.

[2] Law No. 2008-12 Protection of Personal Data. [<https://wipo.lex.wipo.int/en/legislation/details/6229>]; Accessed 26 August 2020.

[2] Global Cyber Security Capacity Centre. February 2016. 'Cyber security Capacity Review of the Republic of Senegal'.

[<https://www.sbs.ox.ac.uk/cybersecurity-capacity/system/files/Senegal-Report-v4%20.pdf>]; Accessed 26 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 26 August 2020.

[4] Ministry of Agriculture and Rural Equipment. [<http://www.maer.gouv.sn/>]; Accessed 26 August 2020.

[5] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [<http://www.pasteur.sn/>] [<http://www.pasteur.sn/recherche-et-sante-publique/>]; Accessed 26 August 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 government of Senegal has made a commitment via public statements, legislation and/or a cooperative agreement to share surveillance data during a public health emergency with other countries in the region. There is no relevant information on the website of the Ministry of Health and Social Welfare, or in the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report. [1,2] Senegal's national laboratory system does not have an online presence. There is no public health institute. Senegal is, however, part of the World Bank Regional Disease Surveillance Systems Enhancement Program (REDISSE), which aims to strengthen cross-border surveillance systems to improve disease surveillance and response. The first in the series of projects is REDISSE I, which includes a contingent emergency response component to improve a government's response capacity in the event of an emergency. [3,4]. A key development objective of the REDISSE Project is "to strengthen national and regional cross-sectoral capacity for collaborative disease surveillance and epidemic preparedness in West Africa." [5] In 2015, Senegal joined the Global Partnership for Sustainable Development Data, which committed 20 international organizations, including the governments of Belgium, Kenya, Mexico, Senegal and the United States, among others to "invest in, share and use data for decision-making". This is a cross-border partnership but is only applicable to the Sustainable Development Goals. [6]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[http://www.sante.gouv.sn/programmes-et-projets]; Accessed 24 August 2020.

[2] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1]; Accessed 24 August 2020.

[3] Government of Senegal. 'Programme de renforcement des systèmes régionaux de surveillance de maladies (PRSRSM) (Program to strengthen regional disease surveillance systems)'. [https://www.sec.gouv.sn/programme-de-renforcement-des-syst%C3%A8mes-r%C3%A9gionaux-de-surveillance-de-maladies-prsrsm]; Accessed 24 August 2020.

[4] The World Bank. 'World Bank Contributes to Improved Disease Surveillance and Health Systems in West Africa following Ebola Epidemic, 2016'. [http://www.worldbank.org/en/news/press-release/2016/06/29/world-bank-contributes-to-improved-disease-surveillance-and-health-systems-in-west-africa-following-ebola-epidemic]; Accessed 24 August 2020.

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

[http://projects.worldbank.org/P154807?lang=en]; Accessed 24 August 2020.

[6] One International Press. July 2015. "Harnessing Data Revolution to Drive Sustainable Development"; Accessed 24 August 2020.

## 2.5 CASE-BASED INVESTIGATION

### 2.5.1 Case investigation and contact tracing

#### 2.5.1a

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

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

**Current Year Score: 0**

There is no evidence of a national system in place to provide support at the sub-national level (e.g. training, metrics standardization and/or financial resources) to expand contact tracing in the event of a public health emergency. While contact tracing activities occurred in past, as seen during the Ebola outbreak, no evidence of a formal plan or system was found that described arrangements to extend support to the sub-national level. During the Ebola outbreak in 2014, Senegal successfully implemented the contract tracing methodology with heavy management support from Centers for Disease Control and Prevention (CDC) as well as Doctors without Borders and the World Health Organization : "An imported case of Ebola virus disease" on August 29, 2014 "resulted in placing 74 contact cases in home containment with daily visits by volunteers". [1,2,3] By October 17, 2014, Senegal was declared Ebola free. [4] No evidence of a plan or system was found on the Ministry of Agriculture and Rural Equipment website. [5] There is no mention of contact tracing in the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report. [6] There is an interview with the Operations Coordinator of Emergency Health, Docteur Adboulaye BOUSSO, who explains the COVID-19 coronavirus contact tracing strategy, but no evidence of such a strategy was found otherwise and it is unclear whether it is coronavirus-specific or whether it is a system that is meant to be applied more generally. [7,8] Finally, the number of contact tracing cases being monitored are shared on the Ministry of Health and Social Welfare daily reports. [9]

[1] Science Direct: Social Science & Medicine. April 2017. "Accepted monitoring or endured quarantine? Ebola contacts' perceptions in Senegal". [<https://www.sciencedirect.com/science/article/abs/pii/S0277953617300898?via%3Dihub>]; Accessed 24 August 2020.

[2] Centers for Disease Control and Prevention (CDC). July 2015. "Ebola Report: Tracing Contacts". [<https://www.cdc.gov/about/ebola/tracing-contacts.html>]; Accessed 24 August 2020.

[3] USA Today. October 2014. "When Ebola hits, contact tracing is a critical process". [<https://www.usatoday.com/story/news/nation/2014/10/05/ebola-contact-tracing/16646767/>]; Accessed 24 August 2020.

[4] Healio. April 2015. "Prompt contact tracing disrupts Ebola virus transmission into Senegal". [<https://www.healio.com/news/infectious-disease/20150428/prompt-contact-tracing-disrupts-ebola-virus-transmission-into-senegal>]; Accessed 24 August 2020.

[5] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 24 August 2020.

[6] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 24 August 2020.

[7] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "Vidéotheques: Coronavirus: Strategie de suivi des contacts expliquée par le Docteur Abdoulaye BOUSSO, Coordonnateur du Centre des Operations d'Urgence Sanitaire". [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 24 August 2020.

[8] Agence de Presse Senegalaise. May 2020. "COVID-19: Contact tracing in homes to prevent hospitals from getting saturated (COVID-19: Suivi a domicile des cas contacts pour ne pas saturer les hopitaux)". [<http://aps.sn/actualites/article/covid-19-suivi-a-domicile-des-cas-asymptomatiques-et-des-contacts-pour-ne-pas-saturer-les-hopitaux>]; Accessed 24 August 2020.

[9] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "Coronavirus communiqués". [<http://www.sante.gouv.sn/Actualites/coronavirus-communiqu%C3%A9-de-presse-n%C2%B0157-du-05-ao%C3%BBt-2020-du-minist%C3%A8re-de-la-sant%C3%A9-et-de>]; Accessed 24 August 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 evidence that Senegal 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. No mention of wraparound services are on the Ministry of Health and Social Welfare or the Ministry of Agriculture and Rural Equipment websites. [1,2] No evidence of wraparound services exists in the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report. [3] No other evidence of wraparound services could be found on the Pasteur Institute website, Ministry of Agriculture or the International Association of National Public Health Institutes. [4,5,6]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 26 August 2020.

[2] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 26 August 2020.

[3] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 26 August 2020.

[4] Ministry of Agriculture and Rural Equipment. [<http://www.maer.gouv.sn/>]; Accessed 26 August 2020.

[5] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [<http://www.pasteur.sn/>] [<http://www.pasteur.sn/recherche-et-sante-publique/>]; Accessed 26 August 2020.

[6] International Association of National Public Health Institutes. [<https://ianphi.org/index.html>]; Accessed 26 August 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 insufficient evidence that the Ministry of Health 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 (such as the Ministry of Health, or similar). The Ministry of Health and Social Welfare does provide daily reports on COVID-19, however it only includes information on number of new cases recorded, number of deaths, number of patients hospitalized, in which district cases are recorded and the number of cases for each. [1] No further evidence is available on the Ministry of Agriculture and Rural Equipment site. [2]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "Coronavirus communiqués".

[<http://www.sante.gouv.sn/Actualites/coronavirus-communiqu%C3%A9-de-presse-n%C2%B0157-du-05-ao%C3%BBt-2020-du-minist%C3%A8re-de-la-sant%C3%A9-et-de>]; Accessed 26 August 2020.

[2] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 26 August 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 no evidence that there is a joint plan or cooperative agreement between the public health system and border control authorities to identify suspected and potential cases in international travelers and trace and quarantine their contacts in the event of a public health emergency. In May 2020, it was announced that "all travelers arriving in Senegal who show no signs [of COVID-19] will have to return home to quarantine for 14 days", but no evidence exists of a strategy between border control authorities and health ministry. [1] There was a National Strategy on Border Management developed in 2013 between the Senegalese Government and the European Union who agreed "on strengthening border security and management, enhancing cooperation and developing border control and surveillance". The main objective of the project was to facilitate "the lawful movement of people and goods, while tracking trans-border crimes along the Senegalese border with Mauritania and Mali". [2] However no other evidence exists of a formal cooperative agreement between these countries that address identifying suspected and potential cases in international travelers in the event of a public health emergency. No further evidence was available on the Ministry of Health and Social Welfare or Ministry of Agriculture and Rural Equipment sites. [3,4] No mention of it was made in the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report. [5] And no mention of agreements or plans are available on border control or the Senegalese Civil Aviation Ministry websites. [6,7]

[1] AlloDocteurs. May 2020. "The Senegalese Ministry of Health is changing strategy in the care of Covid-19 patients. To be able to treat other illnesses, contact tracing cases and travelers will be placed in quarantine" (Le ministère sénégalais de la Santé change de fusil d'épaule dans la prise en charge des malades de Covid-19. Pour pouvoir traiter les autres maladies, les cas contacts et les voyageurs seront placés en quarantaine). [<https://alldocteurs.africa/actualites/epidemie/covid-19/coronavirus-au-senegal-les-cas-contacts-et-les-voyageurs-suivis-chez-eux>]; Accessed 26 August 2020.

[2] International Organization for Migration. "UN Migration Agency: Senegal Improves Border Management Practices". [<https://www.iom.int/news/un-migration-agency-senegal-improves-border-management-practices#:~:text=Based%20on%20the%20national%20strategy%20on%20border%20management,enhancing%20cooperation%20and%20developing%20border%20control%20and%20surveillance.>]; Accessed 26 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 26 August 2020.

[4] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 26 August 2020.

[5] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 26 August 2020.

[6] United States Embassy in Senegal. [<https://sn.usembassy.gov/covid-19-information/>]; Accessed 26 August 2020.

[7] National Agency for Civil Aviation and Meteorology (Agence Nationale de l'Aviation Civile et de la Meteorologie).

[<http://www.anacim.sn/>]; Accessed 26 August 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**

Senegal has its own Field Epidemiology Training Program (FETP) in-country, which has been operating since 2015. The Frontline Senegal FETP was launched in January 2016. The training targeted 46 district physicians and 68 surveillance focal points. It included 19 veterinarians and the other sectors of the environment, trade and the Armed Forces. Participants have come from 74 of the 76 districts in Senegal. [1] According to the Center for Disease Control and Prevention (CDC), "CDC supports Senegal in strengthening the capacity of its workforce to investigate and respond to disease outbreaks through the establishment of a Field Epidemiology Training Program (FETP). FETP trains a workforce of field epidemiologists - or disease detectives - to identify and contain outbreaks before they become epidemics. Participants focus on "learning by doing" to develop the skills for gathering critical data and turning it into evidence-based action. Three levels of training - advanced (2 years), medium (1 year), and frontline (3 months) - help develop national, regional, and local capacities to stop diseases at their source". [2] The CDC also states that "8 cohorts and 182 participants have graduated from the FETP frontline level training since 2016. An intermediate (9-month) level program was launched in 2019 to add more advanced epidemiological capacity to health sectors in Senegal". [2] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that there are around "300 epidemiologists in the country with a qualification from the Health and Development Institute (ISED), Epidemiology and Vaccinology (EpiVac) or the FETP." [3] There is no information on FETP on websites of the Ministry of Health and Social Welfare. [4] The government does not provide any resources to send citizens and no plans exist on this purpose as per African Field Epidemiology Network (Reseau Africain d'Epidemiologie de Terrain) (AFENET), the Ministry of Health and Social Welfare or the CDC. [1,4,5]

[1] AFENET. 2018. 'Senegal Field Epidemiology Training Program 2nd Francophone Scientific Conference'.

[<http://www.afenet.net/index.php/19-world/us-canada/405-senegal-field-epidemiology-training-program-2nd-francophone-scientific-conference>]; Accessed 26 August 2020.

[2] Centers for Disease Control (CDC). Global Health - Senegal. "Field Epidemiology Training Program".

[<https://www.cdc.gov/globalhealth/countries/senegal/default.htm>]; Accessed 26 August 2020.

[3] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016".

[<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 26 August 2020.

[4] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 26 August 2020.

[5] CDC. February 2018. 'Global Health Protection and Security - Field Epidemiology Training Program (FETP)'.

[<https://www.cdc.gov/globalhealth/healthprotection/fetp/index.htm>]; Accessed 26 August 2020.

### 2.6.1b

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

Yes = 1, No = 0

Current Year Score: 1

There is evidence that field epidemiology training programs are explicitly inclusive of animal health professionals or that there is a specific and current animal health field epidemiology training program (FETPV) offered (such as FETPV for Veterinarians (FETPV)) in Senegal. The Food and Agriculture Organization of the United Nations (FAO) report from 2017 mentions a workshop on Global epidemiology coordination and development of FETPV in February 2018. One of the main objectives was to develop a framework for developing and implementing sustainable FETPV programmes. [1] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission also refers to the FETPV program stating that included in it "is a One Health training project, which will be integrated into the Masters in public health aimed at human, animal and environmental health workers." [2] Additionally, in 2018, the FAO and the Institute for Infectious Animal Diseases (IIAD) at Texas A&M AgriLife Research launched the In-Service Applied Veterinary Epidemiology (ISAVET) program in 14 countries, including Senegal. [3,4] The program is a four-month frontline field epidemiology program to train veterinary field epidemiologists. [5] A Centres for Disease Control and Prevention (CDC) report from 2017 states (of Field Epidemiology Training Programmes (FETPV)-Frontline training) that in the Ebola-affected countries (Guinea-Bissau, Senegal, Mali, and Cote d'Ivoire) "training has included participants from both the human and animal health sectors, trainees have worked together to conduct coordinated joint investigations to combat rabies". [6]

[1] Food and Agriculture Organizations (FAO). 2017. 'Global Veterinary Epidemiology Capacity Development Workshop'. [[http://www.fao.org/ag/againfo/programmes/en/empres/news\\_160318.html](http://www.fao.org/ag/againfo/programmes/en/empres/news_160318.html)]; Accessed 26 August 2020.

[2] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 26 August 2020.

[3] FAO. October 2019. "First FAO ISAVET training programme held in Uganda." [<http://www.fao.org/resilience/news-events/detail/en/c/1171750>]; Accessed 26 August 2020.

[4] FAO. October 2018. "New training for veterinarians in 14 African countries to help combat infectious diseases." [<http://www.fao.org/emergencies/fao-in-action/stories/stories-detail/en/c/1161401>]; Accessed 26 August 2020.

[5] Institute for Infectious Animal Diseases. "Frontline ISAVET." [<https://iiad.tamu.edu/frontline-isavet/>]; Accessed 26 August 2020.

[6] CDC. 2017. 'Frontline Field Epidemiology Training Programs as a Strategy to Improve Disease Surveillance and Response'. [[https://wwwnc.cdc.gov/eid/article/23/13/17-0803\\_article](https://wwwnc.cdc.gov/eid/article/23/13/17-0803_article)]; Accessed 26 August 2020.

## 2.6.2 Epidemiology workforce capacity

### 2.6.2a

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

Yes = 1, No = 0

Current Year Score: 1

2020

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

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

### 3.1 EMERGENCY PREPAREDNESS AND RESPONSE PLANNING

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

##### 3.1.1a

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

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

**Current Year Score: 2**

There is evidence that Senegal has an overarching national public health emergency response plan in place and the plan is broad enough to address multiple communicable diseases with pandemic potential. Following the Ebola outbreak in 2016, Senegal was one of the first countries in Africa to create a Health Emergency Operation Center (HEOC), which aims to set up an integrated collaborative framework among Ministries and first responders for the management of health crises. [1,2] Since the Ebola epidemic, the HEOC has collaborated with the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), and UNICEF to "run simulations of mock outbreaks and crafted emergency measures to activate in case of an epidemic". [3] The HEOC also has a strategic plan that originally dated 2016-2018 and was recently updated to cover years 2019-2023, and is called the National Strategic Plan for Health Emergency Operation Center (Centre des operations d'urgence sanitaire (COUS) Plan Strategique National 2019-2023). Activating the HEOC during a public health crisis, activates the HEOC strategic plan, which involves several actors including ministerial entities, local authorities, the private sector, civil society organizations and partners. [4] The Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report also mentions that Senegal "has a multi-hazard national public health emergency preparedness and response plan which covers the main capacities required under the International Health Regulations (IHR) (2005) - the ORSEC (Organisation de la Réponse de Sécurité Civile - Public Safety and Emergency Preparedness) response plan." The ORSEC response plan does not itself refer to diseases with pandemic potential but it is backed up by sector-specific contingency plans, however these associated plans are not publically available. They were not found via the Ministry of the Interior or the Ministry of Health and Social Welfare. [5,6,7,8]

[1] United States National Library of Medicine National Institutes of Health. July 2019. "Health emergency operation centers implementation challenges in Africa". [<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6756801/>]; Accessed 26 August 2020.

[2] Health Emergency Operation Center (Centre des Operations d'Urgence Sanitaire). "Plans". [<http://www.cousenegal.sn/en/publications/>]; Accessed 26 August 2020.

[3] National Public Radio (NPR). May 2020. "Senegal Pledges A Bed For Every Coronavirus Patient - And Their Contacts, Too". [<https://www.npr.org/sections/goatsandsoda/2020/05/17/856016429/senegal-pledges-a-bed-for-every-coronavirus-patient-and-their-contacts-too>]. Accessed 14 September.

- [4] Ministry of Health and Social Welfare. 2019. "National Strategic Plan for Health Emergency Operation Center (COUS)". [<http://www.cousenegal.sn/wp-content/uploads/2020/03/Plan-strat%C3%A9gique-2019-2023-v%C3%A9rouill%C3%A9.pdf>]; Accessed 26 August 2020.
- [5] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 26 August 2020.
- [6] Decree No. 93-1288 of 17 November 1993 adopting the national plan Emergency Relief Organization (ORSEC) (Organisation des secours en cas de catastrophe). [<http://www.servicepublic.gouv.sn/assets/textes/orsec.pdf>]; Accessed 26 August 2020.
- [7] Ministry of the Interior (Ministere de l'Interieur). [<https://interieur.sec.gouv.sn>]; Accessed 26 August 2020.
- [8] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 26 August 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 evidence that Senegal's national public health emergency response plan has been updated in the last 3 years. Following the Ebola outbreak in 2016, Senegal was one of the first countries in Africa to create a Health Emergency Operation Center (HEOC), which aims to set up an integrated collaborative framework among Ministries and first responders for the management of health crises. [1,2] Since the Ebola epidemic, the HEOC has collaborated with the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), and UNICEF to "run simulations of mock outbreaks and crafted emergency measures to activate in case of an epidemic". [3] The HEOC also has a strategic plan that originally dated 2016-2018 and was recently updated to cover years 2019-2023, and is called the National Strategic Plan for Health Emergency Operation Center (Centre des operations d'urgence sanitaire (COUS) Plan Strategique National 2019-2023). Activating the HEOC during a public health crisis, activates the HEOC strategic plan, which involves several actors including ministerial entities, local authorities, the private sector, civil society organizations and partners. [4]

- [1] United States National Library of Medicine National Institutes of Health. July 2019. "Health emergency operation centers implementation challenges in Africa". [<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6756801/>]; Accessed 26 August 2020.
- [2] Health Emergency Operation Center (Centre des Operations d'Urgence Sanitaire). "Plans". [<http://www.cousenegal.sn/en/publications/>]; Accessed 26 August 2020.
- [3] National Public Radio (NPR). May 2020. "Senegal Pledges A Bed For Every Coronavirus Patient - And Their Contacts, Too". [<https://www.npr.org/sections/goatsandsoda/2020/05/17/856016429/senegal-pledges-a-bed-for-every-coronavirus-patient-and-their-contacts-too>]. Accessed 14 September.
- [4] Ministry of Health and Social Welfare. 2019. "National Strategic Plan for Health Emergency Operation Center (COUS)". [<http://www.cousenegal.sn/wp-content/uploads/2020/03/Plan-strat%C3%A9gique-2019-2023-v%C3%A9rouill%C3%A9.pdf>]; Accessed 26 August 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 evidence that Senegal's national public health emergency response plan includes considerations for pediatric and/or other vulnerable populations. Following the Ebola outbreak in 2016, Senegal was one of the first countries in Africa to create a Health Emergency Operation Center (HEOC), which aims to set up an integrated collaborative framework among Ministries and first responders for the management of health crises. [1,2] The HEOC's National Strategic Plan for Health Emergency Operation Center (Centre des operations d'urgence sanitaire (COUS) Plan Strategique National 2019-2023) specifically states that "special attention will be paid to vulnerable groups in health emergencies. These include women, children, the elderly, people living with disabilities, people living with chronic disease, the poor, people with low literacy skills, or those living in remote areas". The plan goes on to say that services and organizations working with these vulnerable groups will integrate activities into their initiatives that are specifically adapted to this group of individuals. [3]

[1] United States National Library of Medicine National Institutes of Health. July 2019. "Health emergency operation centers implementation challenges in Africa". [<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6756801/>]; Accessed 26 August 2020.

[2] Health Emergency Operation Center (Centre des Operations d'Urgence Sanitaire). "Plans". [<http://www.cousenegal.sn/en/publications/>]; Accessed 26 August 2020.

[3] Ministry of Health and Social Welfare. 2019. "National Strategic Plan for Health Emergency Operation Center (COUS)". [<http://www.cousenegal.sn/wp-content/uploads/2020/03/Plan-strat%C3%A9gique-2019-2023-v%C3%A9rouill%C3%A9.pdf>]; Accessed 26 August 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 insufficient evidence that Senegal has specific mechanisms for engaging with the private sector to assist with outbreak emergency preparedness and response. Following the Ebola outbreak in 2016, Senegal was one of the first countries in Africa to create a Health Emergency Operation Center (HEOC), which aims to set up an integrated collaborative framework to manage public health emergencies. As part of its strategic plan called the National Strategic Plan for Health Emergency Operation Center (Centre des operations d'urgence sanitaire (COUS) Plan Strategique National 2019-2023), it identifies a number of stakeholders who make up the collaborative framework and includes the private sector among these, but this is limited to HEOC operations. [1,2,3] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states under the 'Preparedness - Strengths/Best practices' section that "We observed widespread responsible participation by all governmental workers/facilities, community entities, local authorities, civil society, private

sector, humanitarian organizations, United Nations agencies, technical and financial partners, the media, etc". [4] As well, the 'Country cooperation strategy at a glance' report for Senegal lists the private-sector health alliance as a priority area. [5] No further evidence was found on the website of the Ministry of Health and Social Welfare or in the Emergency Relief Organization (ORSEC) (Organisation des secours en cas de catastrophe) Decree. The associated ORSEC plans beyond the main plan are not publicly available via the Ministry of the Interior or the Ministry of Health and Social Welfare. [6,7,8]

- [1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). 2019. "National Strategic Plan for Health Emergency Operation Center (COUS)". [<http://www.cousenegal.sn/wp-content/uploads/2020/03/Plan-strat%C3%A9gique-2019-2023-v%C3%A9rouill%C3%A9.pdf>]; Accessed 26 August 2020.
- [2] United States National Library of Medicine National Institutes of Health. July 2019. "Health emergency operation centers implementation challenges in Africa". [<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6756801/>]; Accessed 26 August 2020.
- [3] Health Emergency Operation Center (Centre des Operations d'Urgence Sanitaire). "Plans". [<http://www.cousenegal.sn/en/publications/>]; Accessed 26 August 2020.
- [4] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 26 August 2020.
- [5] World Health Organization (WHO). May 2016. 'Country Cooperation Strategy at a Glance - Senegal'. [[http://apps.who.int/iris/bitstream/handle/10665/136843/ccsbrief\\_sen\\_en.pdf?sequence=1](http://apps.who.int/iris/bitstream/handle/10665/136843/ccsbrief_sen_en.pdf?sequence=1)]; Accessed 26 August 2020.
- [6] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 26 August 2020.
- [7] Decree No. 93-1288 of 17 November 1993 adopting the national plan Emergency Relief Organization (ORSEC) (Organisation des secours en cas de catastrophe). [<http://www.servicepublic.gouv.sn/assets/textes/orsec.pdf>]; Accessed 26 August 2020.
- [8] Ministry of the Interior (Ministere de l'Interieur). [<https://interieur.sec.gouv.sn>]; Accessed 26 August 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 insufficient evidence that Senegal has a policy, plan and/or guidelines in place to implement non-pharmaceutical interventions (NPIs) during an epidemic or pandemic. According to the U.S. Embassy in Senegal, on August 7th 2020, the country announced "stricter enforcement of existing measures to prevent the spread of COVID-19 including: the prohibition of gatherings in public spaces, including beaches; a prohibition on all demonstrations on public highways; mandatory use of facial coverings; and social distancing requirements on public transport. Violators may be subject to fines and potentially one month of jail time." However, there is no evidence to show that this was implemented following a plan or guidelines. [1] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report makes no mention of any type of NPI intervention whether dealing with an epidemic, pandemic. [2] No further evidence was available on the Ministry of Health and Social Welfare or Ministry of Agriculture and Rural Equipment sites. [3,4]

- [1] United States (U.S.) Embassy in Senegal. "Event: Enforcement of COVID-19 Prevention Measures in Senegal". [<https://sn.usembassy.gov/event-enforcement-of-covid-19-prevention-measures-in-senegal/>]. Accessed 14 September 2020.

[2] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 26 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 26 August 2020.

[4] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 26 August 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 no evidence that Senegal has activated a strategic plan under the national emergency response department for an infectious disease outbreak in the past year, but there is evidence of a national-level biological threat-focused exercise (either with WHO or separately) being conducted in the past year. The Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report mentions that Senegal "has a multi-hazard national public health emergency preparedness and response plan which covers the main capacities required under the International Health Regulations (IHR) (2005) - the ORSEC (Organisation de la Réponse de Sécurité Civile - Public Safety and Emergency Preparedness) response plan." There is no evidence that this plan was activated under the national emergency response department in the last year. [1,2] Following the Ebola outbreak in 2016, Senegal was one of the first countries in Africa to create a Health Emergency Operation Center (HEOC), which aims to set up an integrated collaborative framework among Ministries and first responders for the management of health crises. [3,4] According to the United States Embassy in Senegal, "Senegal activated the HEOC on March 2nd as part of its COVID-19 response". [5] The HEOC commits to organizing a simulation exercise annually. [6,7] An exercise was conducted in December 2019 to assess the readiness of PHEOCs in the WHO African Region to respond to a public health emergency, Ebola. The previous simulation exercise conducted in Senegal, according to the WHO calendar was conducted in May 2018, and intended to "Validate Public Health Emergency Operation Centre functions". [8,9] No evidence exists of more recent independent exercises in Senegal on the Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale) website or those of the Ministry of Armed Forces or the Ministry of Interior. [10,11,12]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 26 August 2020.

[2] Decree No. 93-1288 of 17 November 1993 adopting the national plan Emergency Relief Organization (ORSEC) (Organisation des secours en cas de catastrophe). [<http://www.servicepublic.gouv.sn/assets/textes/orsec.pdf>]; Accessed 26 August 2020.

[3] United States National Library of Medicine National Institutes of Health. July 2019. "Health emergency operation centers

implementation challenges in Africa". [<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6756801/>]; Accessed 26 August 2020.

[4] Health Emergency Operation Center (Centre des Operations d'Urgence Sanitaire). "Plans".

[<http://www.cousenegal.sn/en/publications/>]; Accessed 26 August 2020.

[5] United States Embassy in Senegal. April 2020. "The United States' 60-year friendship with Senegal Continues Through the Humanitarian and Health Assistance Response to COVID-19". [<https://sn.usembassy.gov/humanitarian-and-health-assistance-response-to-covid-19/>]; Accessed 26 August 2020.

[6] National Public Radio (NPR). May 2020. "Senegal Pledges A Bed For Every Coronavirus Patient - And Their Contacts, Too". [<https://www.npr.org/sections/goatsandsoda/2020/05/17/856016429/senegal-pledges-a-bed-for-every-coronavirus-patient-and-their-contacts-too>]. Accessed 14 September.

[7] Ministry of Health and Social Welfare. 2019. "National Strategic Plan for Health Emergency Operation Center (COUS)". [<http://www.cousenegal.sn/wp-content/uploads/2020/03/Plan-strat%C3%A9gique-2019-2023-v%C3%A9rouill%C3%A9.pdf>]; Accessed 26 August 2020.

[8] World Health Organization (WHO). "Health Security Calendar".

[[https://extranet.who.int/sph/calendar/2018?1&type=simulation\\_exercice&field\\_region\\_tid=200&country\\_tid=All](https://extranet.who.int/sph/calendar/2018?1&type=simulation_exercice&field_region_tid=200&country_tid=All)]. Accessed 15 September 2020.

[9] WHO. December 2018. "Simulation exercise puts global pandemic readiness to the test". [<https://www.who.int/news-room/feature-stories/detail/simulation-exercice-puts-global-pandemic-readiness-to-the-test>]. Accessed 15 September 2020.

[10] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 26 August 2020.

[11] Ministry of the Interior (Ministere de l'Interieur). [<https://interieur.sec.gouv.sn>]; Accessed 26 August 2020.

[12] Ministry of Armed Forces (Ministère des Forces armées). [<http://www.forcesarmees.gouv.sn>]; Accessed 26 August 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: 1**

There is evidence that Senegal in the past year has identified a list of gaps and best practices in response (either through an infectious disease response of a biological-threat focused exercise), however the plan does not seem to be available to the public. According to the World Health Organization (WHO) website, an After Action Review (AAR) was conducted between 11 - 15 June 2019, after the Dengue outbreak, but no report is available. [1] No other evidence exists on the Health Emergency Operation Center (Centre des Operations d'Urgence Sanitaire), the Ministry of Health and Social Welfare, the Ministry of Agriculture, or the Centers for Disease Control and Prevention - Senegal websites. [2,3,4,5]

[1] World Health Organization. "After Action Review". [<https://extranet.who.int/sph/after-action-review>]; Accessed 26 August 2020.

[2] Health Emergency Operation Center (Centre des Operations d'Urgence Sanitaire). [<http://www.cousenegal.sn/en/>]; Accessed 26 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 26 August 2020.

[4] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 26 August 2020.

[5] Centers for Disease Control and Prevention (CDC). "Global Health - Senegal".

[<https://www.cdc.gov/globalhealth/countries/senegal/default.htm>]; Accessed 26 August 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 insufficient evidence that Senegal has undergone a national-level biological threat-focused exercise that has included private sector representatives in the past year. Following the Ebola outbreak in 2016, Senegal was one of the first countries in Africa to create a Health Emergency Operation Center (HEOC), which aims to set up an integrated collaborative framework including ministerial entities, local authorities, the private sector among others for the management of health crises. [1,2] The HEOC National Strategic Plan for Health Emergency Operation Center (Centre des operations d'urgence sanitaire (COUS) Plan Strategique National 2019-2023) specifically commits to organizing a simulation exercise annually and has collaborated with the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), and UNICEF to "run simulations of mock outbreaks and crafted emergency measures to activate in case of an epidemic". [3,4] However there is no mention of whether the private sector is involved in these exercises. Also, the last simulation exercise intended to "Validate Public Health Emergency Operation Centre functions", according to the WHO calendar, was conducted in May 2018. [5,6] No further evidence exists of more recent independent exercises in Senegal on the Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale) website or those of the Ministry of Armed Forces or the Ministry of Interior. [7,8,9]

[1] United States National Library of Medicine National Institutes of Health. July 2019. "Health emergency operation centers implementation challenges in Africa". [<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6756801/>]; Accessed 26 August 2020.

[2] Health Emergency Operation Center (Centre des Operations d'Urgence Sanitaire). "Plans". [<http://www.cousenegal.sn/en/publications/>]; Accessed 26 August 2020.

[3] National Public Radio (NPR). May 2020. "Senegal Pledges A Bed For Every Coronavirus Patient - And Their Contacts, Too". [<https://www.npr.org/sections/goatsandsoda/2020/05/17/856016429/senegal-pledges-a-bed-for-every-coronavirus-patient-and-their-contacts-too>]. Accessed 14 September.

[4] Ministry of Health and Social Welfare. 2019. "National Strategic Plan for Health Emergency Operation Center (COUS)". [<http://www.cousenegal.sn/wp-content/uploads/2020/03/Plan-strat%C3%A9gique-2019-2023-v%C3%A9rouill%C3%A9.pdf>]; Accessed 26 August 2020.

[5] World Health Organization (WHO). "Health Security Calendar". [[https://extranet.who.int/sph/calendar/2018?1&type=simulation\\_exercice&field\\_region\\_tid=200&country\\_tid=All](https://extranet.who.int/sph/calendar/2018?1&type=simulation_exercice&field_region_tid=200&country_tid=All)]. Accessed 15 September 2020.

[6] WHO. December 2018. "Simulation exercise puts global pandemic readiness to the test". [<https://www.who.int/news-room/feature-stories/detail/simulation-exercice-puts-global-pandemic-readiness-to-the-test>]. Accessed 15 September 2020.

[7] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.

[8] Ministry of Armed Forces (Ministère des Forces armées). [<http://www.forcesarmees.gouv.sn>]; Accessed 26 August 2020.

[9] Ministry of the Interior (Ministere de l'Interieur). [<https://interieur.sec.gouv.sn>]; Accessed 26 August 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**

Senegal has an Emergency Operations Centre (EOC), called the Center for Emergency Health Operations (Centre des Opérations d'Urgence Sanitaire) (COUS) which is specifically responsible for health emergencies. [1] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that "Following the outbreak of Ebola Virus Disease (EVD), all stakeholders involved in the response agreed that the ministry [of Health and Social Welfare] needed a permanent structure for coordinating national emergencies". The report continues to state that "the public health EOC was therefore created on 1 December 2014 ... [and is] a structure for coordinating emergency response operations". [2] Per the COUS website, its main tasks are to "set the emergency measures to be implemented according to health emergencies; coordinate the different actors involved in the response to health emergencies; supervise field operations; and ensure liaison between actors in the emergency response and the Minister of Health". [1,3]

[1] Center for Emergency Health Operations (Centre des Opérations d'Urgence Sanitaire) (COUS) [<http://www.cousenegal.sn/qui-sommes-nous/>]; Accessed 26 August 2020.

[2] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 26 August 2020.

[3] Emergency Operations Centre (EOC) (Centre des Opérations d'Urgence Sanitaire (COUS)). [<http://www.cousenegal.sn/en/>]; Accessed 26 August 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: 1**

There is evidence that Senegal's Emergency Operations Center (EOC) is required to conduct a drill for a public health emergency scenario at least once per year. Following the Ebola outbreak in 2016, Senegal was one of the first countries in Africa to create a Health Emergency Operation Center (HEOC), which aims to set up an integrated collaborative framework among Ministries and first responders for the management of health crises. [1,2] Since the Ebola epidemic, the HEOC has collaborated with the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC), and UNICEF to "run simulations of mock outbreaks and crafted emergency measures to activate in case of an epidemic". [3] The HEOC National Strategic Plan for Health Emergency Operation Center (Centre des opérations d'urgence sanitaire (COUS) Plan Strategique National 2019-2023) specifically commits to organizing a simulation exercise annually, however, the last simulation exercise intended to "Validate Public Health Emergency Operation Centre functions", according to the WHO, was conducted in May 2018. There may have been other exercises conducted without the WHO, however no evidence of such exercises were found. [4,5,6] No other evidence was found of annual drills on the websites of the Ministry of Health and Social Welfare, the Emergency Operations Centre, the 2016 WHO Joint External Evaluation of IHR Core Capacities of the

Republic of Senegal Mission report or UNISDR (UN Office for Disaster Risk Management). [2,3,4,5]

[1] United States National Library of Medicine National Institutes of Health. July 2019. "Health emergency operation centers implementation challenges in Africa". [<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6756801/>]; Accessed 26 August 2020.

[2] Health Emergency Operation Center (Centre des Operations d'Urgence Sanitaire). "Plans". [<http://www.cousenegal.sn/en/publications/>]; Accessed 26 August 2020.

[3] National Public Radio (NPR). May 2020. "Senegal Pledges A Bed For Every Coronavirus Patient - And Their Contacts, Too". [<https://www.npr.org/sections/goatsandsoda/2020/05/17/856016429/senegal-pledges-a-bed-for-every-coronavirus-patient-and-their-contacts-too>]. Accessed 14 September.

[4] Ministry of Health and Social Welfare. January 2019. "National Strategic Plan for Health Emergency Operation Center (COUS)". [<http://www.cousenegal.sn/wp-content/uploads/2020/03/Plan-strat%C3%A9gique-2019-2023-v%C3%A9rouill%C3%A9.pdf>]; Accessed 26 August 2020.

[5] World Health Organization (WHO). "Health Security Calendar". [[https://extranet.who.int/sph/calendar/2018?1&type=simulation\\_exercise&field\\_region\\_tid=200&country\\_tid=All](https://extranet.who.int/sph/calendar/2018?1&type=simulation_exercise&field_region_tid=200&country_tid=All)]. Accessed 15 September 2020.

[6] WHO. December 2018. "Simulation exercise puts global pandemic readiness to the test". [<https://www.who.int/news-room/feature-stories/detail/simulation-exercise-puts-global-pandemic-readiness-to-the-test>]. Accessed 15 September 2020.

[7] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/>]; Accessed 24 August 2020.

[8] Emergency Operations Centre (EOC) (Centre des Opérations d'Urgence Sanitaire (COUS)). [<http://www.cousenegal.sn/en/>]; Accessed 24 August 2020.

[9] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 24 August 2020.

[10] UNISDR (UN Office for Disaster Risk Management). 2018. [<https://www.unisdr.org/africa>]; Accessed 24 August 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 public evidence to show that the Emergency Operations Center (EOC) in Senegal 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. Following the Ebola outbreak in 2016, Senegal was one of the first countries in Africa to create a Health Emergency Operation Center (HEOC), which aims to set up an integrated collaborative framework among Ministries and first responders for the management of health crises. [1,2] According to the United States Embassy in Senegal, "Senegal activated the HEOC on March 2nd as part of its COVID-19 response" and within the day that it reported its first case, but it does not specify if it was within 120 minutes. [3,4]

[1] United States National Library of Medicine National Institutes of Health. July 2019. "Health emergency operation centers implementation challenges in Africa". [<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6756801/>]; Accessed 26 August 2020.

[2] Health Emergency Operation Center (Centre des Operations d'Urgence Sanitaire). "Plans". [<http://www.cousenegal.sn/en/publications/>]; Accessed 26 August 2020.

[3] United States Embassy in Senegal. April 2020. "The United States' 60-year friendship with Senegal Continues Through the

Humanitarian and Health Assistance Response to COVID-19". [<https://sn.usembassy.gov/humanitarian-and-health-assistance-response-to-covid-19/>]; Accessed 26 August 2020.

[4] The New Times. March 2020. "Senegal reports first COVID-19 case". [<https://www.newtimes.co.rw/news/senegal-reports-first-covid-19-case>]. Accessed 15 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: 0**

There is no public evidence that public health and national security authorities in Senegal have carried out an exercise to respond to a potential deliberate biological event, or of publicly available standard operating procedures, guidelines, MOUs or other agreements between the public health and security authorities to respond to a potential deliberate biological event. No new or updated evidence exists since last year's research. Senegal has legislation on nuclear, chemical and biological weapons through Decree No 2000-839 which creates the National Commission on Nuclear, Chemical and Biological Weapons (La Commission Nationale Chargée des Armes Nucléaires, Biologiques et Chimiques). The document does not contain guidelines for how public health and national security authorities should respond to an emergency. [1] Senegal's voluntary National Plan of Action 2016-2021 regarding the proliferation, delivery and use of nuclear, biological and chemical weapons by non-State actors, does not mention emergency response procedures in the main activities to be carried out by Senegal. [2] There is no further information on the websites of the National Biosafety Authority, the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report, the Centre des Operations d'Urgence Sanitaire (Health Emergency Operations Centre), the Ministry of Health and Social Welfare or the Ministry of the Interior. [3,4,5,6,7] The 2014 Global Health Security Agenda Roadmap for Senegal lists multi-sectoral response to a biological event of suspected or confirmed deliberate origin as a requirement pending government intervention [8].

[1] Government of Senegal. " Décret n° 2002-839 du 27 août 2002 portant création de la commission nationale chargée des armes nucléaires, biologiques et chimiques (Decree n° 2002-839 of 27 August 2002 on the creation of the National Commission on Nuclear, Biological and Chemical Weapons)."

[[http://www.vertic.org/media/National%20Legislation/Senegal/SN\\_Decret\\_2002-839\\_Commission\\_des\\_Armes\\_Nucleaires\\_biologiques\\_chimiques.pdf](http://www.vertic.org/media/National%20Legislation/Senegal/SN_Decret_2002-839_Commission_des_Armes_Nucleaires_biologiques_chimiques.pdf)]; Accessed 24 August 2020.

[2] 'National Plan of Action 2016-2021 for the implementation of Security Council resolution 1540'. 2015.

[<https://www.un.org/en/sc/1540/documents/Senegal-action-plan.pdf>]; Accessed 24 August 2020.

[3] National Biosafety Authority [<https://www.senegal.org/en/senegal/organizations/details/25/345>]; Accessed 24 August 2020.

[4] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI->



REP-2017.31-eng.pdf?sequence=1]; Accessed 24 August 2020.

[5] Centre des Opérations d'Urgence Sanitaire (COUS). "Publications". [<http://www.cousenegal.sn/publications/>]; Accessed 24 August 2020.

[6] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets/>]; Accessed 24 August 2020.

[7] Ministry of the Interior (Ministere de l'Interieur). [<https://interieur.sec.gouv.sn/>]; Accessed 24 August 2020.

[8] Global Health Security Agenda Roadmap - Senegal 2014. [<https://www.ghsagenda.org/docs/default-source/ghsa-roadmaps/ghsa-senegal-roadmap.pdf>]; Accessed 24 August 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 evidence that Senegal has shared messages to reach populations with different communications needs, however there is no evidence of a formal plan to ensure this is done. The strategy documents used to guide national public health response does not outline how messages will reach populations and sectors with different communications needs. The national public health emergency preparedness and response plan, Public Safety and Emergency Preparedness (ORSEC) (Organisation de la Reponse de Securite Civile), does not mention risk communication. [1] The Emergency Operations Centre (EOC) Strategic Plan 2019-2023 which provides for the development of crisis communication does not provide messaging details, other than to improve communication of the plan as an objective, and there is no specific multisectoral national plan, or specific skills in this regard. [2,3] The Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that "communications personnel are not yet specialized or trained in risk and public health emergency communication." It does add, however, that "Information is disseminated proactively to the public through a range of channels (newspaper, radio, television, social media and the web) that are in keeping with national and local preferences and in vernacular languages, so that messages are understood by the population. Relevant technologies (mobile telephone, etc.) are used for public communication at the local level." [4] There is no mention of plans for different communications needs in the Ministry of Health website. [5]

[1] Decree No. 93-1288 of 17 November 1993 adopting the national plan Emergency Relief Organization (ORSEC) (Organisation des secours en cas de catastrophe). [<http://www.servicepublic.gouv.sn/assets/textes/orsec.pdf>]; Accessed 25 August 2020.

[2] Strategic Plan (Plan strategique) 2016 - 2018, EOC. [<http://www.sante.gouv.sn/sites/default/files/plcous.pdf>]; Accessed 25 August 2020.

[3] Ministry of Health and Social Welfare. 2019. "National Strategic Plan for Health Emergency Operation Center (COUS)". [<http://www.cousenegal.sn/wp-content/uploads/2020/03/Plan-strat%C3%A9gique-2019-2023-v%C3%A9rouill%C3%A9.pdf>]; Accessed 26 August 2020.

[4] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[5] Ministry of Health and Social Welfare (Ministere de la Sante et de l'Action Sociale). [<http://www.sante.gouv.sn/>]; Accessed 25 August 2020.

### 3.5.1 Risk communication planning

#### 3.5.1a

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no evidence that Senegal 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. Neither the Ministry of Health or the Emergency Operations Centre (EOC) make specific mention of risk communication. [1,2]. The public health EOC for Senegal (Centre des Operations d'Urgence Sanitaire), does note that the development of crisis communication is a goal under its Strategy Plan 2019-2023, but the plan does not contain specific crisis communications measures. [3,4] However the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that communications personnel are not yet specialized or trained in risk and public health emergencies communication. One of the report's recommendations for priority action is "Make emergency reporting and response procedures relating to food safety operational (e.g. define stakeholders' roles and responsibilities, modus operandi, risk communication, etc.)". The JEE report also ranks the "Risk communication system (such as plans, mechanisms) as a "1", which is the lowest score, indicating that no plan or system is in place. [5] On the World Health Organization website, in their Strategic Partnership for International Health Regulation (2005) and Health Security (SPH), it looks as there there was an effort to put a risk communication program in place in 2017, however, no documentation or information on the program is available. [6]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/>]; Accessed 25 August 2020.

[2] Emergency Operations Centre (EOC) (Centre des Opérations d'Urgence Sanitaire (COUS)). [<http://www.cousenegal.sn/en/>]; Accessed 25 August 2020.

[3] Strategic Plan (Plan Stratégique) 2016 - 2018, EOC (COUS). [[www.sante.gouv.sn/sites/default/files/plcous.pdf](http://www.sante.gouv.sn/sites/default/files/plcous.pdf)]; Accessed 25 August 2020.

[4] Ministry of Health and Social Welfare. 2019. "National Strategic Plan for Health Emergency Operation Center (COUS)". [<http://www.cousenegal.sn/wp-content/uploads/2020/03/Plan-strat%C3%A9gique-2019-2023-v%C3%A9rouill%C3%A9.pdf>]; Accessed 26 August 2020.

[5] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[6] World Health Organization. Strategic Partnership for International Health Regulations (2005) and Health Security (SPH). "Senegal - 2017 - Risk Communication". [<https://extranet.who.int/sph/senegal-2017-risk-communication>]; Accessed 25 August 2020.

### 3.5.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Senegal 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, therefore there is no designated position within the government to serve as the primary spokesperson to the public during a public health emergency. That being said, there is evidence that during the COVID-19 epidemic, Dr. Abdoulaye Bousso, the Coordinator of Senegal's Emergency Operations Center (EOC) has taken the lead and is often the spokesperson in the media. [1] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that communications personnel are not yet specialized or trained in risk and public health emergencies communication, suggesting that no one formally has this position. Additionally, one of the report's recommendations for priority action is "Make emergency reporting and response procedures relating to food safety operational (e.g. define stakeholders' roles and responsibilities, modus operandi, risk communication, etc.)". [2] Neither the Ministry of Health or the EOC make specific mention of risk communication and neither designate a position to lead communication. [3,4] The public health EOC for Senegal, does note that the development of crisis communication is a goal under its Strategy Plan 2019-2023, but the plan does not contain specific crisis communications measures nor does it specify a certain position as the delegated spokes person. [5]

[1] Centers for Disease Control and Prevention (CDC) and the Global Health Security Agenda. "Senegal: Emergency Operations Center Becomes a Model in West Africa".

[[https://www.cdc.gov/globalhealth/security/stories/senegal\\_eoc\\_west\\_africa.html](https://www.cdc.gov/globalhealth/security/stories/senegal_eoc_west_africa.html)]; Accessed 25 August 2020.

[2] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/>]; Accessed 25 August 2020.

[4] Emergency Operations Centre (EOC) (Centre des Opérations d'Urgence Sanitaire (COUS)).

[<http://www.cousenegal.sn/en/>]; Accessed 25 August 2020.

[5] Ministry of Health and Social Welfare. 2019. "National Strategic Plan for Health Emergency Operation Center (COUS)".

[<http://www.cousenegal.sn/wp-content/uploads/2020/03/Plan-strat%C3%A9gique-2019-2023-v%C3%A9rouill%C3%A9.pdf>]; Accessed 26 August 2020.

## 3.5.2 Public communication

### 3.5.2a

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

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

**Current Year Score: 2**

There is evidence that the public health system in Senegal has actively shared messages via online media platforms (eg social media, website), in the past year, to inform the public about ongoing public health concerns and/or dispel rumors, misinformation or disinformation. The Ministry of Health and Social Welfare has a very active Facebook page, where public health information, including most recently information on COVID-19, are posted on a daily basis, or more. The Facebook page was created in 2014 and regular posts have been ongoing since before COVID-19, whether there is a public health emergency or not. [1] The Ministry of Health and Social Welfare Twitter site has also been very active, posting the same information as on the Facebook page since its activation in October 2019. [2] Most recently, the Ministry of Health and Social Welfare also publishes daily reports on the COVID-19 pandemic to share information on new cases recorded, number of deaths, number of patients hospitalized, in which district cases are recorded and the number of cases for each, etc in the last 24 hours. [3] The social media channels and other communication channels are used to update the public about ongoing health emergencies and to actively share messages and they share information beyond promotional messages (disease prevention, etc) and/or information about ongoing emergencies - either via updating about location of cases, new measures being implemented, etc. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report notes that Senegal has a communications units that meet the general public's information needs during emergencies. The report notes that a "free telephone line is used to gauge public reaction to messages and to identify rumours." Additionally, the report notes that "information is disseminated proactively to the public through a range of channels (newspaper, radio, television, social media and the web) that are in keeping with national and local preferences and in vernacular languages, so that messages are understood by the population. Relevant technologies (mobile telephone, etc.) are used for public communication at the local level." [4] The official government website and the government Twitter account both post information relevant to existing or possible public health emergencies. [5,6] The Law Library of Congress of the United States notes that "extensive use of the media and public information campaigns" in Senegal is a key factor for mitigating the risk of epidemics such as Ebola. [7]

[1] Facebook. Ministry of Health and Social Welfare (Ministere de la Sante et de l'Action Sociale).

[[https://www.facebook.com/santegouvssenegal/?ref=page\\_internal](https://www.facebook.com/santegouvssenegal/?ref=page_internal)]; Accessed 25 August 2020.

[2] Twitter. Ministry of Health and Social Welfare (Ministere de la Sante et de l'Action Sociale)

[<https://twitter.com/ministeredelas1?lang=en>]; Accessed 25 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "Coronavirus communiqués".

[<http://www.sante.gouv.sn/Actualites/coronavirus-communiqu%C3%A9-de-presse-n%C2%B0157-du-05-ao%C3%BBt-2020-du-minist%C3%A8re-de-la-sant%C3%A9-et-de>]; Accessed 25 August 2020.

[4] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 25 August 2020.

[5] Government of the Republic of Senegal (Gouvernement République du Sénégal). [<https://www.sec.gouv.sn/>]; Accessed 25 August 2020.

[6] Government of the Republic of Senegal (Gouvernement République du Sénégal).

[[https://twitter.com/pr\\_senegal?lang=en](https://twitter.com/pr_senegal?lang=en)]; Accessed 25 August 2020.

[7] The Library of Congress. 'Senegal: Legal Responses to Health Emergencies'. [<https://www.loc.gov/law/help/health-emergencies/senegal.php>]; Accessed 25 August 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 evidence that senior leaders (president or ministers) have shared misinformation or disinformation on infectious diseases (in the past two years). According to an article from 2017 titled "Senegal Presidency Targets 'Fake News'", "in Senegal, diffusing false information, defamation and insulting the head of state are all criminal offenses punishable by jail time and fines". The article further states that "Senegal is one of several African countries, including Zimbabwe, Cameroon, and Uganda that have used existing laws to detain and prosecute individuals over social media posts in the past two years". [1] Another article published in June 2020 states that " COVID-19 crisis has demonstrated the crucial need for access to free, reliable, trustworthy, factual, multilingual, targeted, accurate, clear and science-based information, as well as ensuring dialogue and participation of all stakeholders and affected communities during the preparedness, readiness and response". [2] An example of a recent story that was debunked by the Senegalese government was trending in April 2020 about seven children who were said to have been killed on the spot after receiving the COVID-19 vaccine. This was not true information and the Ministry of Health and Social Welfare immediately denied the claim and confirmed that "no one had died from a presumed 'coronavirus vaccine' and said the misinformation stemmed from a misunderstanding". [3]

[1] Voice of America - Africa. "Senegal Presidency Targets 'Fake News'". [<https://www.voanews.com/africa/senegal-presidency-targets-fake-news>]; Accessed 26 August 2020.

[2] Africa Renewal. "Mauritius, Senegal, South Africa among authors of global call against COVID-19 'infodemic'". [<https://www.un.org/africarenewal/news/coronavirus/cross-regional-statement-%E2%80%9Cinfodemic%E2%80%9D-context-covid-19>]; Accessed 26 August 2020.

[3] Reuters. "False Claim: Seven children killed in Senegal after receiving COVID-19 vaccine". [<https://www.reuters.com/article/uk-factcheck-children-senegal-vaccine-co/false-claim-seven-children-killed-in-senegal-after-receiving-covid-19-vaccine-idUSKBN21Y2SI>]; Accessed 26 August 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: 46**

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: 109.72**

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: 7.0

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: 10.0

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: 1

In the last year, there is no evidence that Senegal has issued a restriction, without international/bilateral support, on the export/import of medical goods (eg: medicines, oxygen, medical supplies, PPE) due to an infectious disease outbreak. On March 2020, Senegal announced a state of emergency due to COVID-19, however no evidence exists that restrictions on medical goods was placed. [1] The most recent report on the World Health Organization (WHO) Disease Outbreak News (DON) website was on 9 September 2015, when the Ministry of Health and Social Affairs (MOHSA) of Senegal notified WHO of active circulation of chikungunya virus in the region of Kédougou. WHO did not recommend any medical goods restriction to Senegal based on the information available. Even during the disease outbreak of the Rift Valley Fever from The Gambia, in February 2018, no evidence of medical goods restrictions were found resulting from this. [2] There was no evidence of such restrictions being issued on the websites of the OIE weekly information or Ministries of Health and Social Welfare or Agriculture and Rural Equipment. [3,4,5]

- [1] United States Embassy in Senegal. "COVID-19 Information". [<https://sn.usembassy.gov/covid-19-information/>]; Accessed 25 August 2020.
- [2] WHO, Emergencies preparedness, response, Disease Outbreak News. [<http://www.who.int/csr/don/>]; Accessed 25 August 2020.
- [3] OIE World animal health information. 2018. [[https://www.oie.int/wahis\\_2/public/wahid.php/Diseaseinformation/WI](https://www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/WI)]; Accessed 25 August 2020.
- [4] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 25 August 2020.
- [5] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 25 August 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**

In the last year, there is no evidence that Senegal has issued a restriction, without international/bilateral support, on the export/import of non-medical goods (eg: food, textiles, etc) due to an infectious disease outbreak. No evidence of restrictions on non-medical goods was available on the United States Embassy of Senegal website, despite the state of emergency announcement made in March 2020 due to COVID-19. [1] The most recent report on the World Health Organization (WHO) Disease Outbreak News (DON) website was on 9 September 2015, when the Ministry of Health and Social Affairs (MOHSA) of Senegal notified WHO of active circulation of chikungunya virus in the region of Kédougou. WHO did not recommend non-medical goods restriction to Senegal based on the information available. Even during the disease outbreak of the Rift Valley Fever from The Gambia, in February 2018, no evidence of non-medical goods restrictions were found resulting from this. [2] There was no evidence of such restrictions being issued on the websites of the OIE weekly information or the ministries of Health and Social Welfare or Agriculture and Rural Equipment. [3,4,5]

- [1] United States Embassy in Senegal. "COVID-19 Information". [<https://sn.usembassy.gov/covid-19-information/>]; Accessed 24 August 2020.
- [2] WHO, Emergencies preparedness, response, Disease Outbreak News. [<http://www.who.int/csr/don/>]; Accessed 24 August 2020.
- [3] OIE World animal health information. 2018. [[https://www.oie.int/wahis\\_2/public/wahid.php/Diseaseinformation/WI](https://www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/WI)]; Accessed 24 August 2020.
- [4] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 24 August 2020.
- [5] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 24 August 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 evidence that Senegal has issued a restriction in the past year on either the movement of people or the export/import of goods from another country, without international/bilateral support. In March 2020, in solidarity with other countries affected by the COVID-19, Senegal announced a state of emergency due to the risk posed by the infectious disease outbreak, however the World Health Organization (WHO) has not approved travel restrictions for covid-19. [1] The United States Embassy in Senegal announced that "Travelers who are not citizens or residents of Senegal or a country that is a member of the Economic Community of West African States, or who do not meet certain other exemptions outlined, may be denied entry or face difficulting traveling to Senegal". [2] Previous to this, the country had not been on the border of a disease outbreak since a case of Rift Valley Fever from The Gambia was diagnosed in Dakar in February 2018. [3] There is no other evidence of movement restrictions available on the Ministry of Health and Social Welfare or the Ministry of Agriculture websites. [4,5]

[1] International Monetary Fund (IMF). "Policy Responses to COVID-19". [<https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#S>]. Accessed 15 September 2020.

[2] United States Embassy in Senegal. "COVID-19 Information". [<https://sn.usembassy.gov/covid-19-information/>]; Accessed 27 March 2020.

[3] WHO, Emergencies preparedness, response, Disease Outbreak News. [<http://www.who.int/csr/don/>]; Accessed 27 March 2020.

[4] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 27 March 2020.

[5] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)). [<http://www.maer.gouv.sn/>]; Accessed 27 March 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: 6.91**

2017

WHO; national sources



#### 4.1.1b

##### Nurses and midwives per 100,000 people

Input number

Current Year Score: 31.27

2017

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 evidence that Senegal has a public workforce strategy (which has been updated in the past five years) to identify fields where there is an insufficient workforce and develop strategies to address these shortcomings. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states "While there is a national health workforce development strategy, the plan does not currently include all public health workers, such as epidemiologists, veterinarians and laboratory technicians." The JEE report does not note when this plan was developed or what it encompasses. [1] There is no evidence of this strategy on the websites of the Ministry of Health and Social Welfare, the Ministry of Education or the Ministry of Public Service, Employment, Labour and Professional Organisations. [2,3,4].

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 24 August 2020.

[2] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 24 August 2020.

[3] Ministry of Education (Ministère de l'Éducation Nationale). [<http://www.education.gouv.sn>]; Accessed 24 August 2020.

[4] Ministry of Public Service, Employment, Labour & Professional Organisations (Ministère de la Fonction publique, de la Rationalisation des Effectifs et du Renouveau du Service public). [<http://www.fonctionpublique.gouv.sn>]; Accessed 24 August 2020.

### 4.1.2 Facilities capacity

#### 4.1.2a

##### Hospital beds per 100,000 people

Input number

Current Year Score: 30

2008

WHO/World Bank; national sources

#### 4.1.2b

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no evidence that Senegal has the capacity to isolate patients with highly communicable diseases in a biocontainment patient care unit or patient isolation facility located within the country. Since the Ebola epidemic, Senegal has worked to strengthen its capacity to respond to public health emergencies and in January 2020 had been preparing for an eventual outbreak of COVID-19. When the first case was declared in March 2020, the country had already added beds to their hospitals to account for an increase in patients. Senegal has also been strict about hospitalizing anyone who tests positive for COVID-19. [1,2] Aside from increasing the bed count in hospitals, no evidence was found of their capacity to isolate patients in a biocontainment unit or isolations facility per se. There is no publicly available information on biocontainment units or patient isolation facilities on the websites of the Ministry of Health, the Pasteur Institute of Dakar or The Dakar Main Hospital. [3,4,5] None of the hospitals in Senegal, including Clinique Casahous, Clinique Pasteur, Clinique de la Madelaine, Hopital de Saint-Louis, Hopital Principal de Dakar, mention a biocontainment unit or facility on their website. [6] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report only covers point-of-entry isolation capacity, but not patient isolation for care. The report makes mention of the existence of an isolation section at the airport, but does not provide any further details. [7] The Pasteur Institute of Dakar does have a Pathogen Level 3 Facility in their virology unit, but there is no mention of patient biocontainment or if this facility is used for patient care. [8]

[1] National Public Radio. May 2020. "Senegal Pledges a Bed for Every Coronavirus Patient - and their Contacts too".

[<https://www.npr.org/sections/goatsandsoda/2020/05/17/856016429/senegal-pledges-a-bed-for-every-coronavirus-patient-and-their-contacts-too>]; Accessed 27 August 2020.

[2] Reasons to be cheerful. June 2020. "5 more countries dodging the virus". [<https://reasonstobecheerful.world/countries-defeating-coronavirus-bhutan-australia-senegal-slovakia-uruguay/>]; Accessed 27 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 27 August 2020.

[4] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [<http://www.pasteur.sn/>]; Accessed 27 August 2020.

[5] The Dakar Main Hospital (Hopital Main De Dakar). [<http://www.hopitalprincipal.sn/service%20nouveau.htm>]; Accessed 27 August 2020.

[6] International Health Cover. "Senegal Hospital List". [<https://www.international-health-cover.com/resources/senegal/senegal-hospital-list.html>]; Accessed 27 August 2020.

[7] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 27 August 2020.

[8] WHO. December 2016. 'Report on the Status of EDPLN BSL-3 (Emerging and Dangerous Pathogen Laboratory Network Biological Safety Laboratory, Level 3) in Select Countries in the African Region'.

[<https://reliefweb.int/sites/reliefweb.int/files/resources/Report%20on%20the%20Status%20of%20EDPLN%20BSL-3%20in%20Select%20Countries%20in%20the%20African%20Region.pdf>]; Accessed 27 August 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: 0**

There is no evidence that Senegal has demonstrated capacity to expand or to develop, update or test a plan to expand isolation capacity in response to an infectious disease outbreak in the past two years. Since the Ebola epidemic, Senegal has worked to strengthen its capacity to respond to public health emergencies and in January 2020 had been preparing for an eventual outbreak of COVID-19. When the first case was declared in March 2020, the country had already added beds to their hospitals to account for an increase in patients. Senegal has also been strict about hospitalizing anyone who tests positive for COVID-19. [1,2] Aside from increasing the bed count in hospitals, no evidence was found of their capacity to isolate patients in a biocontainment unit or isolations facility per se. And no evidence is available to demonstrate capacity to expand or to develop isolation capacity. There is no publicly available information on biocontainment units or patient isolation facilities on the websites of the Ministry of Health, the Pasteur Institute of Dakar or The Dakar Main Hospital. [3,4,5] None of the hospitals in Senegal, including Clinique Casahous, Clinique Pasteur, Clinique de la Madelaine, Hopital de Saint-Louis, Hopital Principal de Dakar, mention the capacity to expand biocontainment units or facilities on their website. [6] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report only covers point-of-entry isolation capacity, but not patient isolation for care. The report makes mention of the existence of an isolation section at the airport, but does not provide any further details. [7] The Pasteur Institute of Dakar does have a Pathogen Level 3 Facility in their virology unit, but there is no mention of patient biocontainment or having the capacity to expand isolation capacity. [8]

[1] National Public Radio. May 2020. "Senegal Pledges a Bed for Every Coronavirus Patient - and their Contacts too".

[<https://www.npr.org/sections/goatsandsoda/2020/05/17/856016429/senegal-pledges-a-bed-for-every-coronavirus-patient-and-their-contacts-too>]; Accessed 27 August 2020.

[2] Reasons to be cheerful. June 2020. "5 more countries dodging the virus". [<https://reasonstobecheerful.world/countries-defeating-coronavirus-bhutan-australia-senegal-slovakia-uruguay/>]; Accessed 27 August 2020.

[3] Ministry of Health and Social Action (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 27 August 2020.

[4] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [<http://www.pasteur.sn/>]; Accessed 27 August 2020.

[5] The Dakar Main Hospital (Hopital Main De Dakar). [<http://www.hopitalprincipal.sn/service%20nouveau.htm>]; Accessed 27 August 2020.

[6] International Health Cover. "Senegal Hospital List". [<https://www.international-health-cover.com/resources/senegal/senegal-hospital-list.html>]; Accessed 27 August 2020.

[7] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November–2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 27 August 2020.

[8] WHO. December 2016. 'Report on the Status of EDPLN BSL-3 (Emerging and Dangerous Pathogen Laboratory Network Biological Safety Laboratory, Level 3) in Select Countries in the African Region'.

[<https://reliefweb.int/sites/reliefweb.int/files/resources/Report%20on%20the%20Status%20of%20EDPLN%20BSL-3%20in%20Select%20Countries%20in%20the%20African%20Region.pdf>]; Accessed 27 August 2020.

## 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: 1**

There is evidence that Senegal has a public procurement system which can be used by the Ministry of Health and Social Welfare and the Ministry of Agriculture and Rural Equipment to acquire laboratory equipment and medical supplies.

The Public Procurement Regulatory Authority (ARMP) is responsible for procurement for the country. [1,2] The ARMP operates an open contracting portal, which has evidence that the procurement system has been used to acquire laboratory equipment for multiple types of laboratories and lab programs, including the Albert Royer National Children's Hospital and the Italy-Senegal Agricultural Program (PAIS). [3] Global Tenders, which is a website that shares "Procurement News [that] provides business development opportunities from the private and public sector" provides further evidence of a system that is in place and active within the country. It lists details of 407 tenders in Senegal. Examples of laboratory procurement are evidenced in this list of tenders. [4] As well, the Management of Infrastructure, Equipment and Maintenance within the Ministry of Health collaborates with the Ministry of Health and any other social or health organization partnering with them and is charged with maintaining the infrastructure, equipment and ensuring their proper management. [5]

[1] West Africa Open Contracting Assessment Project. February 2017. 'Open Contracting Scoping Study Senegal'. [<https://www.developmentgateway.org/sites/default/files/2017-04/Open%20Contracting%20West%20Africa%20-%20Senegal%20-%20Development%20Gateway.pdf>]; Accessed 27 August 2020.

[2] Public Procurement Regulatory Authority (Autorite de la Regulation des Marches Publics). "[http://www.armp.sn/index.php?option=com\\_content&view=frontpage&Itemid=1](http://www.armp.sn/index.php?option=com_content&view=frontpage&Itemid=1)"; Accessed 27 August 2020.

[3] Senegal Procurement Portal (Portail des Marches publics du Senegal). [[http://www.marchespublics.sn/index.php?option=com\\_offres&task=view&idcat=091&Itemid=104&gestion=2018&statut=0](http://www.marchespublics.sn/index.php?option=com_offres&task=view&idcat=091&Itemid=104&gestion=2018&statut=0)]; Accessed 27 August 2020.

[4] Global Tenders. "Procurement News from Senegal". [<https://www.globaltenders.com/global-procurement-senegal.php>]; Accessed 27 August 2020.

[5] Management of Infrastructure, Equipment and Maintenance (La Direction des Infrastructures, des Equipements et de la Maintenance). [<http://www.sante.gouv.sn/les-directions/la-direction-des-infrastructures-des-equipements-et-de-la-maintenance>]; Accessed 27 August 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 evidence that Senegal has a stockpile of medical supplies (e.g. MCMs, medicines, vaccines, medical equipment, PPE) for national use during a public health emergency but there is limited evidence about what the stockpile contains. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission (JEE) report states that "Stockpiles of medical countermeasures are available for use in a public health emergency". The report continues to say that "Senegal has had plans for organizing the response in the event of a disaster for a number of years. Under the aegis of WHO, a virtual stockpile was introduced within, and is managed by the national supply pharmacy". [1] The Ministry of Health and Social Welfare's 2017 plan titled The Intervention of National Emergency Medical Assistance Services (Service d'Assistance Medicale d'Urgence) (SAMU) in the case of National-Disaster Strategy, states that SAMU can deploy emergency medical assistance and resuscitation units that each have stockpiles of necessary countermeasures in the case of mass casualties. [2] There is no further detail on the stockpiles via the Ministry of Health, the national public health emergency plan (ORSEC), the Health Emergency Operation Centre or Ministry of Armed Forces. [3,4,5,6] The ORSEC-associated plans are not available via the Ministry of the Interior or the Ministry of Health and Social Welfare. [3,7]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 27 August 2020.

[2] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). 2017. "Plan for the intervention of national SAMU in the case of national-disaster - Plan-NOVI (Plan d'intervention du SAMU National en cas de Catastrophe : Plan Novi)". [<https://vdocuments.mx/plan-dintervention-du-samu-national-en-cas-de-catastrophe-plan-novi.html>]; Accessed 27 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 26 August 2020.

[4] Decree No. 93-1288 of 17 November 1993 adopting the national plan Emergency Relief Organization (ORSEC) (Organisation des secours en cas de catastrophe). [<http://www.servicepublic.gouv.sn/assets/textes/orsec.pdf>]; Accessed 26 August 2020.

[5] Centre des Opérations d'Urgence Sanitaire (COUS) [<http://www.cousenegal.sn/qui-sommes-nous/>]; Accessed 26 August 2020.

[6] Ministry of Armed Forces (Ministère des Forces armées). [<http://www.forcesarmees.gouv.sn>]; Accessed 26 August 2020.

[7] Ministry of the Interior (Ministere de l'Interieur). [<https://interieur.sec.gouv.sn>]; Accessed 26 August 2020.

**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 evidence that Senegal has a stockpile of laboratory supplies (e.g. reagents, media) for national use during a public health emergency. No evidence of a stockpile of laboratory supplies was found with regards to responses to COVID-19. Although, the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission (JEE) report states that "Stockpiles of medical countermeasures are available for use in a public health emergency", there was no further evidence found since the report was written in 2016. The report continues to say that "Senegal has had plans for organizing the response in the event of a disaster for a number of years. Under the aegis of WHO, a virtual stockpile was introduced within, and is managed by the national supply pharmacy". In other words, the national supply pharmacy manages an inventory of supplies that can be accessed from different locations in the case of a public health emergency. It is not

specified, however, whether these stockpiles include laboratory supplies. [1] The Ministry of Health and Social Welfare's 2017 plan titled The Intervention of National Emergency Medical Assistance Services (Service d'Assistance Médicale d'Urgence) (SAMU) in the case of National-Disaster Strategy, states that SAMU can deploy emergency medical assistance and resuscitation units that each have stockpiles of necessary countermeasures in the case of mass casualties, but there is no evidence that 'mass casualties' refers to a health emergency and there is no mention of laboratory supplies. [2] There is no further detail on the stockpiles of laboratory supplies via the JEE, the Ministry of Health and Social Welfare, the Ministry of Interior, the Ministry of Armed Forces, the Emergency Relief Organization (ORSEC) (Organisation des secours en cas de catastrophe) or the Health Emergency Operation Centre (HEOC). [1,3,4,5,6]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 27 August 2020.

[2] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "Plan for the intervention of national SAMU in the case of national-disaster - Plan-NOVI (Plan d'intervention du SAMU National en cas de Catastrophe : Plan Novi)". [<https://vdocuments.mx/plan-dintervention-du-samu-national-en-cas-de-catastrophe-plan-novi.html>]; Accessed 27 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 27 August 2020.

[4] Decree No. 93-1288 of 17 November 1993 adopting the national plan Emergency Relief Organization (ORSEC) (Organisation des secours en cas de catastrophe). [<http://www.servicepublic.gouv.sn/assets/textes/orsec.pdf>]; Accessed 27 August 2020.

[5] Centre des Opérations d'Urgence Sanitaire (COUS) [<http://www.cousenegal.sn/qui-sommes-nous/>]; Accessed 27 August 2020.

[6] Ministry of the Interior (Ministere de l'Interieur). [<https://interieur.sec.gouv.sn>]; Accessed 27 August 2020.

#### 4.2.2c

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no evidence that Senegal conducts or requires an annual review of the national stockpile to ensure the supply is sufficient for a public health emergency. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission (JEE) report states that "Stockpiles of medical countermeasures are available for use in a public health emergency". The report continues to say that "Senegal has had plans for organizing the response in the event of a disaster for a number of years. Under the aegis of WHO, a virtual stockpile was introduced within, and is managed by the national supply pharmacy". In other words, the national supply pharmacy manages an inventory of supplies that can be accessed from different locations in the case of a public health emergency, however, there is no evidence that there is a regular review of the stockpiles to ensure a sufficient supply in the event of a public health emergency. [1] The Ministry of Health and Social Welfare's 2017 plan titled The Intervention of National Emergency Medical Assistance Services (Service d'Assistance Médicale d'Urgence) (SAMU) in the case of National-Disaster Strategy, states that SAMU can deploy emergency medical assistance and resuscitation units that each have stockpiles of necessary countermeasures in the case of mass casualties. Again, no indication of regular reviews of the stockpiles exist. [2] There is no further detail on the stockpiles via the Ministry of Health, the national public health emergency plan (ORSEC), the Health Emergency Operation Centre or Ministry of Armed Forces. [3,4,5,6] The ORSEC-associated plans are not available via the Ministry of the Interior or the Ministry of Health and

Social Welfare. [3,7]

- [1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 27 August 2020.
- [2] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). 2017. "Plan for the intervention of national SAMU in the case of national-disaster - Plan-NOVI (Plan d'intervention du SAMU National en cas de Catastrophe : Plan Novi)". [<https://vdocuments.mx/plan-dintervention-du-samu-national-en-cas-de-catastrophe-plan-novi.html>]; Accessed 27 August 2020.
- [3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 26 August 2020.
- [4] Decree No. 93-1288 of 17 November 1993 adopting the national plan Emergency Relief Organization (ORSEC) (Organisation des secours en cas de catastrophe). [<http://www.servicepublic.gouv.sn/assets/textes/orsec.pdf>]; Accessed 26 August 2020.
- [5] Centre des Opérations d'Urgence Sanitaire (COUS) [<http://www.cousenegal.sn/qui-sommes-nous/>]; Accessed 26 August 2020.
- [6] Ministry of Armed Forces (Ministère des Forces armées). [<http://www.forcesarmees.gouv.sn>]; Accessed 26 August 2020.
- [7] Ministry of the Interior (Ministere de l'Interieur). [<https://interieur.sec.gouv.sn>]; Accessed 26 August 2020.

## 4.2.3 Manufacturing and procurement for emergencies

### 4.2.3a

Does the country meet one of the following criteria?

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

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

**Current Year Score: 0**

There is no evidence of a plan/agreement to leverage domestic manufacturing capacity to produce or to procure medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission (JEE) report states that "Senegal has had plans for organizing the response in the event of a disaster for a number of years. Under the aegis of WHO, a virtual stockpile was introduced within, and is managed by the national supply pharmacy." In other words, the national supply pharmacy manages an inventory of supplies that can be accessed from different locations in the case of a public health emergency, however, there is no evidence to show that the supplies include medical supplies or that an accompanying plan or agreement to leverage capacity exists. [1,2] There is no mention of PPEs in the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission (JEE) report. [1] There is also no further evidence of a plan/agreement to leverage domestic manufacturing capacity to produce medical supplies or to procure medical supplies available on the Ministry of Health, the national public health emergency plan (ORSEC) or the Health Emergency Operation Centre. [3,4,5] The ORSEC-associated plans are not available via the Ministry of the Interior or the Ministry of Health and Social Welfare. [3,6] A Ministry of Health and Social Action strategy document for the National Emergency Medical Assistance Service, SAMU (Service d'Assistance Médicale d'Urgence), states that SAMU can deploy emergency medical assistance and resuscitation units (SMUR - service médical d'urgence et de réanimation) that each have stockpiles of necessary countermeasures in the case of mass casualties. [7] No evidence of a plan or agreement to leverage capacity was found, however. No other evidence

on procuring or producing medical supplies could be found.

- [1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 26 August 2020.
- [2] Public Procurement Regulatory Authority (Autorite de la Regulation des Marches Publics). "[http://www.arp.sn/index.php?option=com\\_content&view=frontpage&Itemid=1](http://www.arp.sn/index.php?option=com_content&view=frontpage&Itemid=1)"; Accessed 24 August 2020.
- [3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "<http://www.sante.gouv.sn/programmes-et-projets>"; Accessed 24 August 2020.
- [4] Decree No. 93-1288 of 17 November 1993 adopting the national plan Emergency Relief Organization (ORSEC) (Organisation des secours en cas de catastrophe). [<http://www.servicepublic.gouv.sn/assets/textes/orsec.pdf>]; Accessed 24 August 2020.
- [5] Centre des Opérations d'Urgence Sanitaire (COUS) [<http://www.cousenegal.sn/qui-sommes-nous/>]; Accessed 24 August 2020.
- [6] Ministry of the Interior (Ministere de l'Interieur). [<https://interieur.sec.gouv.sn>]; Accessed 24 August 2020.
- [7] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "Plan for the intervention of national SAMU in the case of national-disaster - Plan-NOVI (Plan d'intervention du SAMU National en cas de Catastrophe : Plan Novi)". [<https://vdocuments.mx/plan-dintervention-du-samu-national-en-cas-de-catastrophe-plan-novi.html>]; Accessed 26 August 2020.

#### 4.2.3b

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

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

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

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

**Current Year Score: 0**

There is no evidence of a plan/agreement in Senegal to leverage domestic manufacturing capacity to produce or procure laboratory supplies (e.g. reagents, media) for national use during a public health emergency. There is a laboratory company that manages the supply of equipment, installation, commissioning and staff training for laboratories of the Ministry of Agricultural and Livestock, however there is no indication about whether there is a plan or agreement for producing or procuring laboratory supplies. [1] Another laboratory called the DRP Hospitals & Laboratories Suppliers exists but again no information or evidence of a plan with regards to producing or procuring laboratory supplies is available. [2] The Public Procurement Regulatory Authority (ARMP) is responsible for procurement for the country. [3,4] The ARMP operates an open contracting portal, which has evidence that the procurement system has been used to acquire laboratory equipment for multiple types of laboratories and lab programs. One example includes reference number F\_ITA\_005 for laboratory material and equipment for the Food Institute of Technology (Institut de Technologie Alimentaire). There is no indication, however whether a plan or agreement is in place for public health emergencies. [5] There is no other evidence on production or procurement of laboratory supplies via the Pasteur Institute of Dakar, the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission (JEE) report, the Ministry of Health and Social Welfare, the national public health emergency plan (ORSEC) or the Health Emergency Operation Centre. [6,7,8,9] ORSEC-associated plans are not available via the Ministry of the Interior or the Ministry of Health and Social Welfare. [8,10]



- [1] Grupo AGEM. "Laboratory Equipment Supply (Senegal)". [<https://grupo-agem.com/en/proyecto/laboratory-equipment-supply-senegal/>]; Accessed 24 August 2020.
- [2] SPINREACT. "Africa". [<https://www.spinreact.com/en/distributor/africa/senegal.html>]; Accessed 24 August 2020.
- [3] West Africa Open Contracting Assessment Project. February 2017. 'Open Contracting Scoping Study Senegal'. [<https://www.developmentgateway.org/sites/default/files/2017-04/Open%20Contracting%20West%20Africa%20-%20Senegal%20-%20Development%20Gateway.pdf>]; Accessed 24 August 2020.
- [4] Public Procurement Regulatory Authority (Autorite de la Regulation des Marches Publics). "[http://www.arp.sn/index.php?option=com\\_content&view=frontpage&Itemid=1](http://www.arp.sn/index.php?option=com_content&view=frontpage&Itemid=1)"; Accessed 24 August 2020.
- [5] Senegal Procurement Portal (Portail des Marches publics du Senegal). [[http://www.marchespublics.sn/index.php?option=com\\_offres&task=view&idcat=091&Itemid=104&gestion=2018&statut=0](http://www.marchespublics.sn/index.php?option=com_offres&task=view&idcat=091&Itemid=104&gestion=2018&statut=0)]; Accessed 24 August 2020.
- [6] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [<http://www.pasteur.sn/>]; Accessed 24 August 2020.
- [7] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 24 August 2020.
- [8] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 24 August 2020.
- [9] Decree No. 93-1288 of 17 November 1993 adopting the national plan Emergency Relief Organization (ORSEC) (Organisation des secours en cas de catastrophe). [<http://www.servicepublic.gouv.sn/assets/textes/orsec.pdf>]; Accessed 24 August 2020.
- [10] Ministry of the Interior (Ministere de l'Interieur). [<https://interieur.sec.gouv.sn>]; Accessed 24 August 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 information on whether Senegal has a plan in place for dispensing medical countermeasures for national use during a public health emergency (i.e. antibiotics, vaccines, therapeutics and diagnostics). No new or updated evidence exists since last year's research. There is no information on dispensing of medical countermeasures via the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report, the national health emergency plan (ORSEC), the Ministry of Health and Social Welfare, the Ministry of Armed Forces or at the Health Emergency Operations Centre. [1,2,3,4,5] The Ministry of Armed Forces website was not operational at the time of research and the ORSEC-associated plans are not available via the Ministry of the Interior or the Ministry of Health and Social Welfare. [3,6]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 24 August 2020.

[2] Decree No. 93-1288 of 17 November 1993 adopting the national plan Emergency Relief Organization (ORSEC) (Organisation des secours en cas de catastrophe). [<http://www.servicepublic.gouv.sn/assets/textes/orsec.pdf>]; Accessed 24 August 2020.

August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 24 August 2020.

[4] Ministry of Armed Forces (Ministère des Forces armées). [<http://www.forcesarmees.gouv.sn>]; Accessed 24 August 2020.

[5] Health Emergency Operations Centre (HEOC) (Centre des Opérations d'Urgence Sanitaire (COUS)).

[<http://www.cousenegal.sn/en/>]; Accessed 24 August 2020.

[6] Ministry of the Interior (Ministere de l'Interieur). [<https://interieur.sec.gouv.sn>]. Accessed 24 August 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 evidence that Senegal has a public plan to receive health personnel from other countries during a health emergency. No new or updated evidence was found since last year's research. There is no evidence of the plan via government websites, including the Ministry of Health and Social Welfare, the national public health emergency plan (ORSEC), or the Health Emergency Centre (COUS). [1,2,3] The ORSEC-associated plans are also not available via the Ministry of Health and Social Welfare or the Ministry of the Interior. [2,4] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report does note that "several sectors are involved in dispatching/receiving health personnel during an emergency (health sector, armed forces)" and that "a structure (emergency services) exists that is specialized in sending personnel to the scene of a disaster." In addition, "the country is party to regional and international agreements on the deployment of health personnel (WHO's Global Outbreak Alert and Response Network - GOARN). [5]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/>]; Accessed 24 August 2020.

[2] Decree No. 93-1288 of 17 November 1993 adopting the national plan Emergency Relief Organization (ORSEC) (Organisation des secours en cas de catastrophe). [<http://www.servicepublic.gouv.sn/assets/textes/orsec.pdf>]; Accessed 24 August 2020.

[3] Health Emergency Centre (Centre des Opérations d'Urgence Sanitaire (COUS)). [<http://www.cousenegal.sn/qui-sommes-nous/>]; Accessed 24 August 2020.

[4] Ministry of the Interior (Ministere de l'Interieur). [<https://interieur.sec.gouv.sn>]; Accessed 24 August 2020.

[5] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 24 August 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: 1

2020

World Policy Analysis Center

#### 4.4.1b

Access to skilled birth attendants (% of population)

Input number

Current Year Score: 68.4

2017

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: 74.98

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 evidence of legislation, a policy or a public statement committing to provide prioritized health care services to healthcare workers who become sick as a result of responding to a public health emergency. There is no evidence of such a commitment on the website of the Ministry of Health and Social Welfare or the Universal Health Coverage Agency (Agence de la Couverture Maladie Universelle - CMU). [1,2] Senegal does not have a national policy, program or profile on Occupational Safety and Health (OSH). [3] While there is nothing in Senegalese law committing the Government to provide this care, there is legislation compelling employers to do so (generic - not specifically public health emergency related). Law 97-17 of 1st December 1997 on Labour Code. Section 178 (Loi no 97-17 du 1er décembre 1997 portant Code du Travail. (§ 178)) includes arrangements for first-aid, stating that 'Employers must provide any measures for emergencies and accidents including adequate first aid arrangements.' [4]. There is no evidence of this commitment on the Health Emergency Operations Centre website. [5] The Senegal Emergency Relief Organization (ORSEC) (Organisation des secours en cas de catastrophe) does not have an online presence.

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 26 August 2020.

[2] Universal Health Coverage Agency (Agence de la Couverture Maladie Universelle - CMU). [<http://www.agencecmu.sn/>]; Accessed 26 August 2020.

[3] International Labour Organization. 'Occupational safety and health country profile: Senegal'.

[<http://www.ilo.org/safework/countries/africa/senegal/lang--en/index.htm>]; Accessed 26 August 2020.

[4] Equal Rights Trust. African Law (Droit Afrique). "Senegal - Labor Law".

[<https://www.equalrightstrust.org/sites/default/files/ertdocs//Senegal%20-%20Code%20du%20travail.pdf>]; Accessed 26 August 2020.

[5] Health Emergency Operations Centre (HEOC) (Centre des Opérations d'Urgence Sanitaire (COUS)).

[<http://www.cousenegal.sn/en/>]; Accessed 26 August 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 insufficient evidence of a system in place in Senegal for public health officials and healthcare workers to communicate during a public health emergency.

The Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that the function of the public Health Emergency Operations Centre (HEOC) is to coordinate emergency response operations. Its core missions include ensuring a link between emergency response workers and the Ministry of Health and Social Welfare. The EOC has a telephone line that is available 24/7 during emergencies, and a videoconferencing system and an internet connection with a specialized line with the service provider, TIGO. [1] The HEOC notes that it is responsible for supervising field operations and coordinating the different actors involved in the response to health emergencies. [2] A study conducted on the HEOC in 2019 states that "the idea of a communication unit mainly came from the Ebola Epidemic outbreak. After the outbreak, we then

turned it into a planification unit and appointed a communication manager that reports directly to the HEOC Director". [3]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 24 August 2020.

[2] Health Emergency Operations Centre (HEOC) (Centre des Opérations d'Urgence Sanitaire (COUS)). [<http://www.cousenegal.sn/en/>]; Accessed 24 August 2020.

[3] United States National Library of Medicine National Institutes of Health. July 2019. "Health emergency operation centers implementation challenges in Africa". [<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6756801/>]; Accessed 24 August 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 insufficient evidence of a system in place in Senegal for public health officials and healthcare workers to communicate during a public health emergency, therefore, there is no evidence of its inclusion of both the public and private sectors.

The Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that the function of the public Health Emergency Operations Centre (HEOC) is to coordinate emergency response operations. Its core missions include ensuring a link between emergency response workers and the Ministry of Health and Social Welfare. The EOC has a telephone line that is available 24/7 during emergencies, and a videoconferencing system and an internet connection with a specialized line with the service provider, TIGO. [1] The HEOC notes that it is responsible for supervising field operations and coordinating the different actors involved in the response to health emergencies. [2] A study conducted on the HEOC in 2019 states that "the idea of a communication unit mainly came from the Ebola Epidemic outbreak. After the outbreak, we then turned it into a planification unit and appointed a communication manager that reports directly to the HEOC Director". [3]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 24 August 2020.

[2] Health Emergency Operations Centre (HEOC) (Centre des Opérations d'Urgence Sanitaire (COUS)). [<http://www.cousenegal.sn/en/>]; Accessed 24 August 2020.

[3] United States National Library of Medicine National Institutes of Health. July 2019. "Health emergency operation centers implementation challenges in Africa". [<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6756801/>]; Accessed 24 August 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 insufficient evidence that the national public health system monitors and tracks the number of health care associated infections that take place in healthcare facilities. There is no evidence of this monitoring or tracking on the Ministry of Health and Social Welfare website [1]. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report cites, as a strength, "There are committees against nosocomial infections and committees for hygienic and safe working conditions." However, it also mentions in recommendations that these same committees need rejuvenating, and that surveys on the prevalence of nosocomial infections need to be systematized. [2] There is no evidence that the country has a plan in place on the World Health Organisation ' Library of National Action Plans ' web site. [3] While a 2011 study on HCAI in Africa notes that "infection control improvement has been undertaken nationally in some countries, such as Senegal, where a national programme to reduce HAI (Programme national de lutte contre les infections nosocomiales [PRONALIN]), implemented in 2004, has become a catalyst for similar programmes in other countries in the region." there is no specific mention of monitoring or tracking the number of HAIs. [4]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 24 August 2020.

[2] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 24 August 2020.

[3] WHO Library of National Action Plans. 2018. [<http://www.who.int/antimicrobial-resistance/national-action-plans/library/en>]; Accessed 24 August 2020.

[4] Bulletin of the World Health Organization. July 2011. 'Health-care-associated infection in Africa: a systematic review'. [<https://www.who.int/bulletin/volumes/89/10/11-088179/en/>]; Accessed 24 August 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: 0**

There is no evidence of a national requirement for ethical review before beginning a clinical trial. There is no mention of ethical review on the websites of the Ministries of Health and Social Welfare or Higher Education and Research or the Pasteur Institute of Dakar. [1,2,3] An undated (but post 2008) article, by a researcher from the Pasteur Institute of Dakar, states that Senegal has a National Health Research Council (Conseil national de recherche en santé [CNRS]) with a mission to evaluate ethical aspects of projects and ensure respect of ethical and legal principles pertaining to health research. Clinical trials are also mentioned as subject to review, however, there is no clear evidence that this is a mandatory or required process. [4] There are other sources that mention the CNRS but there is no evidence of ethical reviews. [5,6,7] The National Ethical Committee for Health Research (CNERS) (Comité National d'Ethique pour la Recherche en Santé) is also listed as a governing agency that works on ethical reviews and was established in 2009. [7,8] However, there is no evidence that the

agency requires an ethical review before a clinical trial. [8] There is no publicly available evidence in the media that a national requirement for ethical review before beginning clinical trials has been instituted.

- [1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [http://www.sante.gouv.sn/programmes-et-projets]; Accessed 26 August 2020.
- [2] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche). [http://www.mesr.gouv.sn]; Accessed 26 August 2020.
- [3] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [http://www.pasteur.sn/]; Accessed 26 August 2020.
- [4] United Nations Interregional Crime and Justice Research Institute (UNICRI). 'The experience of Senegal in conducting ethical research'. [http://www.unicri.it/special\_topics/clinical\_research/round\_table/presentations/14\_AISSATOU\_TOURE.pdf]; Accessed 26 August 2020.
- [5] United States Department of Health and Human Services. 2017. "International Compilation of Human Research Standards". [https://www.hhs.gov/ohrp/sites/default/files/international-compilation-of-human-research-standards-2017.pdf]; Accessed 26 August 2020.
- [6] World Health Organization. "List of National Ethics Committees". [https://apps.who.int/ethics/nationalcommittees/NEC\_full\_web.pdf]; Accessed 26 August 2020.
- [7] Havard School of Public Health. "Governing Agencies and Ethics Review Structure". [https://www.hsph.harvard.edu/region-map/research\_project/senegal/]; Accessed 26 August 2020.
- [8] The National Ethical Committee for Health Research (CNERS) (Comité National d'Ethique pour la Recherche en Santé). [http://www.cners.gouv.sn/?q=node/11]; Accessed 26 August 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 evidence of an expedited process for approving clinical trials for unregistered medical countermeasures to treat ongoing pandemics. No information of such an expedited process could be found in the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report or on websites of the Ministries of Health and Social Welfare or Higher Education and Research or the Pasteur Institute of Dakar (IPD). [1,2,3,4]

- [1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1]; Accessed 21 August 2020.
- [2] Ministry of Health and Social Welfare (Ministere de la Sante et de l'Action Sociale). [http://www.sante.gouv.sn/programmes-et-projets]; Accessed 21 August 2020.
- [3] Ministry of Higher Education and Research (Ministere de l'Enseignement supeieur et de la Recherche). [http://www.mesr.gouv.sn]; Accessed 21 August 2020.
- [4] Pasteur Institute of Dakar (Institut Pasteur de Dakar (IPD)). [http://www.pasteur.sn/]; Accessed 21 August 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 evidence that there is a government agency responsible for approving new medical countermeasures for humans. Per the Ministry of Health and Social Welfare, the Pharmacy and Medicines Directorate (Direction de la Pharmacie et du Médicament) is responsible for designing, implementing, and monitoring policy and programs in the field of pharmacy and medicine, including more specifically drugs, medical devices, vaccines, pharmaceutical products, among others. [1] With regards to the drugs more specifically, it oversees a registration process, which authorizes the drugs that can be marketed and provides a specific list of the drugs and their requirements for marketing. [2,3] There is no evidence of approval powers elsewhere on the website for the Ministry of Health and Social Action or the Ministry Higher Education and Research. [1,4]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "La Direction de la Pharmacie et du Médicament (Pharmacy and Medicines Directorate)". [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[2] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "List of products relevant for warehouses". [[https://www.dirpharm.net/images/sampled/lettres/lettres\\_CirculaireJuil2017.pdf](https://www.dirpharm.net/images/sampled/lettres/lettres_CirculaireJuil2017.pdf)]. Accessed 15 September 2020.

[3] Pharmacy and Medicines Directorate (Direction de la Pharmacie et du Médicament). [<https://www.dirpharm.net/index.php/dpm/presentation>]. Accessed 15 September 2020.

[4] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche). [<http://www.mesr.gouv.sn>]; Accessed 21 August 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 evidence of an expedited process for approving medical countermeasures for human use during public health emergencies. Per the Ministry of Health and Social Welfare, the Pharmacy and Medicines Directorate (Direction de la Pharmacie et du Médicament) is responsible for designing, implementing, and monitoring policy and programs in the field of pharmacy and medicine. [1] It specifically authorizes, through a registration process the drugs that can be marketed and provides a specific list of the drugs and their requirements. [2,3] However no evidence was found on its role in approving new medications or an expedited process for approval of medicines. There is no evidence of approval powers elsewhere on the website for the Ministry of Health and Social Action or the Ministry Higher Education and Research. [4]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "La Direction de la Pharmacie et du Médicament (Pharmacy and Medicines Directorate)". [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[2] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "List of products relevant for warehouses". [[https://www.dirpharm.net/images/sampled/lettres/lettres\\_CirculaireJuil2017.pdf](https://www.dirpharm.net/images/sampled/lettres/lettres_CirculaireJuil2017.pdf)]. Accessed 15 September 2020.



[3] Pharmacy and Medicines Directorate (Direction de la Pharmacie et du Medicament).

[<https://www.dirpharm.net/index.php/dpm/presentation>]. Accessed 15 September 2020.

[4] Ministry of Higher Education and Research (Ministère de l'Enseignement supérieur et de la Recherche).

[<http://www.mesr.gouv.sn>]; Accessed 21 August 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: 0

There is no evidence that pandemics are integrated into Senegal's national risk reduction strategy. There is no publicly available information on a standalone national disaster risk reduction strategy for pandemics. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that "Senegal has developed a platform for reducing major disaster risks, which is headed by the Prime Minister through an inter-ministerial committee on disaster risk reduction. However, the platform is not yet up and running." [1] In a 2016 Reliefweb report on the emergency plan of action for Ebola it states that "The Senegalese Red Cross Society (SRCS) has placed disaster risk management and preparedness at the forefront of its activities in community preparedness and resilience." Also according to the Reliefweb report, Senegal does have a National Disaster Response Team (NDRT). [2] There is no evidence of pandemic inclusion in a risk reduction strategy on the Ministry of Health and Social Welfare website or on the Ministry of Interior's page on the National Program

for Disaster Risk Reduction. [3,4].

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 24 August 2020.

[2] Reliefweb. February 2016. 'Emergency Plan of Action report Senegal; Ebola virus'. [[https://reliefweb.int/sites/reliefweb.int/files/resources/MDRSN010\\_FR\\_2016.05.02.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/MDRSN010_FR_2016.05.02.pdf)]; Accessed 24 August 2020.

[3] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 24 August 2020.

[4] Ministry of the Interior (Ministere de l'Interieur). "National Program for Disaster Risk Reduction (Programme national de réduction des risques de catastrophe)". [<https://interieur.sec.gouv.sn/programmes-et-projets/programme-national-de-reduction-des-risques-de-catastrophe>]; Accessed 24 August 2020.

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

### 5.2.1 Cross-border agreements

#### 5.2.1a

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

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

**Current Year Score: 0**

There is insufficient evidence to show that Senegal has cross-border agreements, protocols or MOUs with neighbouring countries, or as part of a regional group, with regards to public health emergencies. The United States Centers for Disease Control and Prevention (CDC) Division of Global Migration and Quarantine (DGMQ) created an International Border Team (IBT), which apparently established formal partnerships between 10 West African countries, including Senegal to strengthen border health measures, by applying the Global Health Security Agenda. The latest publically available report by the CDC about this partnership, however, was in December 2017, and stated that there was a draft memorandum of understanding (MOU) and 7 supporting SOPs and annexes. No recent evidence was found to suggest that the draft MoUs were formally signed. [1,2] Senegal is also part of the West Africa Network of Biomedical Analysis Laboratories (RESAOLAB), which is meant to coordinate the work of the countries' laboratories but does not reference aligning cross-border public health emergencies. [3] At the Economic Community of West African States (ECOWAS) level, there have been agreements and resolutions adopted to enhance border security, and there are some protocols and regulations that provide for interventions on border management. However these have not translated into a sub-regional border security strategy, and none are public health emergency specific. [4] The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report states that "Senegal cooperates with neighbouring countries sporadically, informally and not in a systematized manner." It also mentions an agreement on cross-border diseases between Senegal and Mauritania, but there is no more publicly available information on this. A priority action recommendation from the JEE is to "Put in place a legal framework for cross-border cooperation to ensure rapid exchanges of information on public health events". [5] There is no evidence of cross-border agreements, protocols or MOUs on the website of the Ministry of Health and Social Welfare. [6]

[1] Centers for Disease Control and Prevention - Emerging Infectious Diseases. December 2017. "Responding to Communicable Diseases in Internationally Mobile Populations at Points of Entry and along Porous Borders, Nigeria, Benin, and Togo". [[https://wwwnc.cdc.gov/eid/article/23/13/17-0520\\_article#r14](https://wwwnc.cdc.gov/eid/article/23/13/17-0520_article#r14)]; Accessed 24 August 2020.

[2] Global Health Security Agenda. "A partnership against global health threats". [<https://ghsagenda.org/>]; Accessed 24 August 2020.

[3] Fondation Merieux: I-LAB. [<https://www.fondation-merieux.org/en/projects/i-lab/>]; Accessed 24 August 2020.

[4] Kofi Anan International Peacekeeping Training Centre Policy Brief. December 2013. 'Rethinking Border Management Strategies in West Africa: Experiences from the Sahel'. [<https://www.africaportal.org/documents/12234/KAIPTC-Policy-Brief-12---Rethinking-Border-Managem.pdf>]; Accessed 24 August 2020.

[5] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 24 August 2020.

[6] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 24 August 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**

Senegal does not have cross-border agreements, protocols or MOUs with neighbouring countries, or as part of a regional group, with regards to animal health emergencies. No new or updated evidence exists since last year's research. There is no evidence of these on the website of the Ministry of Health and Social Welfare. [1] Although the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report mentions an agreement on cross-border diseases between Senegal and Mauritania, there is no more publicly available information on this. Further comment in the report states that Senegal cooperates with neighbouring countries "sporadically, informally and not in a systematized manner." The report also states that "a national and subregional laboratory exists for cross-border animal diseases, with a single window for receiving specimens" but no further information is provided on what this entails exactly. [2]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[2] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 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: 1

2021

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

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

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

#### 5.4.1a

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

Yes = 1 , No = 0

Current Year Score: 1

2021

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

#### 5.4.1b

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

Yes = 1 , No = 0

Current Year Score: 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: 1

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: 1**

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 evidence that Senegal has, in the past three years, allocated national funds to improve capacity to address epidemic threats. There is no mention of allocating any amount of national funds to improving Senegal's capacity to respond to epidemic threats in the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report. [1] No programs or projects listed on the Ministry of Health and Social Welfare website are dedicated to improving capacity either. [2] In an interview conducted by Institut Montaigne, with Gille YABI, the president of the West African Citizen's Think Tank (Le Think Tank Citoyen de l'Afrique de l'ouest) (WATHI) states that "shortfalls are glaring in terms of numbers of health workers, with a ratio of less than two doctors per 10,000 inhabitants, according to the World Health Organization (WHO) figures, and the geographical distribution of the workforce is highly uneven". He went on to state that "the crisis we are currently experiencing is particularly challenging, but weaknesses of the West African countries' healthcare systems and the urgent need to structural reforms pre-existed the crisis. Too many people, and especially children and young people, are still dying from diseases that can be cured in all the countries around the region". Mr. Yabi then adds that "Unfortunately, even if the health crisis does not turn into a disaster, negative economic consequences are already a certainty" which further highlights the gaps and needs of investment. [3]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 24 August 2020.

[2] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "Programme et projets". [<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 24 August 2020.

[3] Institut Montaigne. April 2020. "Coronavirus and Africa - in Senegal, Communication and Prevention are the Key Words". [<https://www.institutmontaigne.org/en/blog/coronavirus-and-africa-senegal-communication-and-prevention-are-key-words>]; Accessed 24 August 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: 1

Senegal has access to a variety of publicly identified special emergency public financing mechanisms and funds in the face of a public health emergency. Senegal is eligible to receive funding from both the International Development Association (IDA) and the Pandemic Emergency Financing Facility [PEF]. [1,2] Senegal is a member country of the African Public Health Emergency Fund (APHEF) whose aim is the provision of catalytic resources for initiating timely responses to public health emergencies [3]. Senegal is also eligible for European & Developing Countries Clinical Trials Partnership (EDCTP) funding. EDCTP considers a situation as an emergency if it is unforeseen and presents a serious and immediate risk to human health. [4] There is no evidence of these funds were found on the website of the Ministry of Health and Social Welfare. [5]

[1] International Development Association (IDA). [<http://ida.worldbank.org/about/what-is-ida>]; Accessed 21 August 2020.

[2] Pandemic Emergency Financing Facility. [<http://www.worldbank.org/en/topic/pandemics/brief/pandemic-emergency->

financing-facility]; Accessed 21 August 2020.

[3] The African Public Health Emergency Fund. 'The Way Forward (AFR/RC66/15) 2016'.

[<https://reliefweb.int/report/world/african-public-health-emergency-fund-way-forward-afrrc6615>]; Accessed 21 August 2020.

[4] EDCTP. 2018. 'Mobilisation of research funds in case of Public Health Emergencies'.

[<http://www.edctp.org/call/mobilisation-of-research-funds-in-case-of-public-health-emergencies/>]; Accessed 21 August 2020.

[5] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "Programme et projets".

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 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 senior Senegalese leaders (president or ministers) have made any public commitments either to support other countries to improve capacity to address epidemic threats by providing financing or support in the past three years, or to improve its own domestic capacity to address epidemic threats by expanding financing or requesting support to improve capacity. There is no evidence of such commitments on the websites of the Ministries of Health and Social Welfare or Foreign Affairs and Senegalese abroad, the WHO-Senegal country cooperation strategy or the 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report. [1,2,3,4] In 2016, Senegal, along with the other 14 members of the Economic Community of West African States (ECOWAS) and the West African Health Organisation (WAHO), with the financial support of the World Bank, established the West Africa Regional Disease Surveillance Systems Enhancement (REDISSE) project. This is aimed at strengthening the epidemic surveillance and response systems of ECOWAS countries. [5,6] The USAID/Senegal Health Project 2016 -2021 supports activities for improved surveillance and reporting systems to yield timely and accurate data for decision-making, including epidemic disease reporting. [7]

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 21 August 2020.

[2] Ministry of Foreign Affairs and Senegalese Abroad (Ministère des Affaires Etrangères et des Sénégalais de l'Extérieur).

[<http://www.diplomatie.gouv.sn/>]; Accessed 21 August 2020.

[3] WHO-Senegal country cooperation strategy at a glance.

[[http://apps.who.int/iris/bitstream/handle/10665/136843/ccsbrief\\_sen\\_en.pdf?sequence=1](http://apps.who.int/iris/bitstream/handle/10665/136843/ccsbrief_sen_en.pdf?sequence=1)]; Accessed 21 August 2020.

[4] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 21 August 2020.

[5] ECOWAS. September 2016. 'Regional Disease Surveillance Systems Enhancement (REDISSE) Project, Terms of Reference'.

[[http://www.wahooas.org/IMG/pdf/TDRs\\_LABORATOIRE\\_DISTRICT\\_ENG\\_REV.pdf](http://www.wahooas.org/IMG/pdf/TDRs_LABORATOIRE_DISTRICT_ENG_REV.pdf)]; Accessed 21 August 2020.



[6] World Bank. 'Regional Disease Surveillance Systems Enhancement (REDISSE) 2016 - 2023'.

[<http://projects.worldbank.org/P154807?lang=en>]; Accessed 21 August 2020.

[7] USAID. 'Senegal Health Project 2016 -2021: Redacted Project Appraisal Document (PAD)'.

[<https://www.usaid.gov/sites/default/files/documents/1860/USAID%20Senegal%20Health%20Redacted%20PAD%20DRAFT%2011-August-2015.pdf>]; Accessed 21 August 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 evidence that Senegal has, in the past three years, invested finances (from donors or national budget) to improve its domestic capacity, but there is no evidence that it has provided other countries with financing or technical support to improve capacity to address epidemic threats. The GHS Tracking Dashboard maps the flow of committed and disbursed funds for global health security. Between 2014-2018, it reported that US \$3.78 million was directed towards 'Emergency Response Operations', some of which were for projects addressing 'New Vaccine Support' and others for Ebola, HIV and malaria. The GHS Tracking Dashboard also shows evidence of Senegal taking part in programs such as the PREDICT II, which "strengthen global capacity for detection of viruses with pandemic potential that can move between animals and people". [1] Senegal is a party to various regional and subregional health initiatives and is a member of different steering bodies, such as the United Nations Development Assistance Framework (UNDAF) 2012-2018, joint programmes, the health thematic group, G12, and G50. The Global Health Security and Regional Disease Systems Enhancement Project (REDISSE) was launched to strengthen health security. [2] There is, however, no publicly available evidence of implementation of REDISSE commitments. In the October 2018 review of the implementation of the REDISSE programme, the World Bank expressed displeasure that REDISSE 1 (including Senegal) had a disbursement ratio of only 14%, which downgraded it in June 2018 from Satisfactory to Moderate. [3] The United States Agency for International Development (USAID)/Senegal has also invested in improving the performance of Senegal's health system, including expanding universal health coverage and it contributes to the Global Health Security Agenda to "work across the health system to increase Senegal's capacity to respond to new and emerging diseases". [4,5] There is no evidence that Senegal has provided other countries with financing or technical support to improve capacity to address epidemic threats, via a review of the GHS Tracking Dashboard and the Ministry of Health [1, 6]

[1] Talus Analytics - GHS Tracking Dashboard. [<https://tracking.ghscosting.org/#analysis/ZW/r>]; Accessed 24 August 2020.

[2] WHO-Senegal country cooperation strategy at a glance.

[[http://apps.who.int/iris/bitstream/handle/10665/136843/ccsbrief\\_sen\\_en.pdf?sequence=1](http://apps.who.int/iris/bitstream/handle/10665/136843/ccsbrief_sen_en.pdf?sequence=1)]; Accessed 24 August 2020.

[3] World Bank. 2018. 'World Bank commits additional \$120m to REDISSE Project, 2018'.

[<https://theeagleonline.com.ng/world-bank-commits-additional-120m-to-redisse-project/>]; Accessed 24 August 2020.

[4] USAID. "Global Health - Senegal". [<https://www.usaid.gov/senegal/global-health>]; Accessed 24 August 2020.

[5] Global Health Security Agenda. "About the Global Health Security Agenda". [<https://ghsagenda.org/>]; Accessed 24 August 2020.

[6] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 04 April 2021.

### 5.5.4c

Is there evidence that the country has fulfilled its full contribution to the WHO within the past two years?

Yes = 1 , No = 0

Current Year Score: 1

2021

Economist Impact analyst qualitative assessment based on official national sources, which vary by country

## 5.6 COMMITMENT TO SHARING OF GENETIC AND BIOLOGICAL DATA AND SPECIMENS

### 5.6.1 Commitment to sharing genetic data, clinical specimens, and/or isolated specimens (biological materials) in both emergency and nonemergency research

#### 5.6.1a

Is there a publicly available plan or policy for sharing genetic data, clinical specimens, and/or isolated specimens (biological materials) along with the associated epidemiological data with international organizations and/or other countries that goes beyond influenza?

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of Senegal having a publicly available plan or policy for sharing genetic data, epidemiological data, clinical specimens, or isolated specimens with international organizations or other countries that goes beyond influenza. No new or updated evidence was found since last year's research. There is no information in this regard on the websites of the Ministry of Health and Social Welfare or the Ministry of Agriculture & Rural Development [1,2]. The 2016 WHO Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report mentions as a priority area the establishment of a system which includes improvement to intersectoral collaboration and information sharing in key areas. [3] The Emergency Operations Centre (EOC) Strategic Plan 2016-2018 mentions the safe transport and export of biological and environmental specimens for testing and/or confirmation by national and international reference laboratories, but does not mention a plan or policy in this regard [4].

[1] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale).

[<http://www.sante.gouv.sn/programmes-et-projets>]; Accessed 24 August 2020.

[2] Ministry of Agriculture and Rural Equipment (Ministère de l'Agriculture et de l'Équipement rural (MAER)).

[<http://www.maer.gouv.sn/>]; Accessed 24 August 2020.

[3] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Republic of Senegal Mission report: 18 November-2 December 2016". [<http://apps.who.int/iris/bitstream/handle/10665/259849/WHO-WHE-CPI-REP-2017.31-eng.pdf?sequence=1>]; Accessed 24 August 2020.

[4] Ministry of Health and Social Welfare (Ministère de la Santé et de l'Action Sociale). "Strategic Plan (Plan Strategique) 2016-2018". [<http://www.sante.gouv.sn/sites/default/files/plcous.pdf>]; Accessed 24 August 2020.

### 5.6.1b

Is there public evidence that the country has not shared samples in accordance with the Pandemic Influenza Preparedness (PIP) framework in the past two years?

Yes = 0, No = 1

**Current Year Score: 1**

There is no public evidence that Senegal has not shared samples in accordance with the Pandemic Influenza Preparedness (PIP) framework in the past two years. There is no evidence via the World Health Organisation (WHO) or media reports of any non-compliance in the past year by Senegal. [1,2]

[1] World Health Organisation. 2018. "Virus sharing." [[http://www.who.int/influenza/pip/virus\\_sharing/en/](http://www.who.int/influenza/pip/virus_sharing/en/)]; Accessed 24 August 2020.

[2] World Health Organisation. [<http://www.who.int/>]; Accessed 24 August 2020.

### 5.6.1c

Is there public evidence that the country has not shared pandemic pathogen samples during an outbreak in the past two years?

Yes = 0, No = 1

**Current Year Score: 1**

There is no public evidence of Senegal not sharing pandemic pathogen samples during an outbreak in the past two years, including the most recent COVID-19 pandemic. The most recent outbreak recorded on the World Health Organization (WHO) website was on 9 September 2015, when the Ministry of Health and Social Affairs (MOHSA) of Senegal notified WHO of an active circulation of chikungunya virus. Samples were collected from 14 suspected cases for laboratory-confirmation at the Institut Pasteur of Dakar. There is no evidence that Senegal did not share pathogen samples at this time. There is also no evidence that Senegal did not share pathogen samples during the most recent COVID-19 pandemic either via the WHO or media reports. [1,2]

[1] World Health Organization. 'Emergencies preparedness, response, Senegal'.

[<http://www.who.int/csr/don/archive/country/sen/en/>]; Accessed 24 August 2020.

[2] World Health Organisation. [<http://www.who.int/>]; Accessed 24 August 2020.

## Category 6: Overall risk environment and vulnerability to biological threats

### 6.1 POLITICAL AND SECURITY RISK

#### 6.1.1 Government effectiveness

##### 6.1.1a

Policy formation (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 2

2020

Economist Intelligence

**6.1.1b**

Quality of bureaucracy (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 2

2020

Economist Intelligence

**6.1.1c**

Excessive bureaucracy/red tape (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 1

2020

Economist Intelligence

**6.1.1d**

Vested interests/cronyism (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 1

2020

Economist Intelligence

**6.1.1e**

Country score on Corruption Perception Index (0-100, where 100=best)

Input number

Current Year Score: 45

2020

Transparency International

### 6.1.1f

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

Input number

Current Year Score: 1

2020

Economist Intelligence

### 6.1.1g

Human rights risk (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 2

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: 3

2021

Economist Intelligence

## 6.1.3 Risk of social unrest

### 6.1.3a

What is the risk of disruptive social unrest?

Very low: Social unrest is very unlikely = 4, Low: There is some prospect of social unrest, but disruption would be very limited = 3, Moderate: There is a considerable chance of social unrest, but disruption would be limited = 2, High: Major social unrest is likely, and would cause considerable disruption = 1, Very high: Large-scale social unrest on such a level as to seriously challenge government control of the country is very likely = 0

Current Year Score: 2

2021

Economist Intelligence

## 6.1.4 Illicit activities by non-state actors

### 6.1.4a

How likely is it that domestic or foreign terrorists will attack with a frequency or severity that causes substantial disruption?

No threat = 4, Low threat = 3, Moderate threat = 2, High threat = 1, Very high threat = 0

Current Year Score: 2

2021

Economist Intelligence

### 6.1.4b

What is the level of illicit arms flows within the country?

4 = Very high, 3 = High, 2 = Moderate, 1 = Low, 0 = Very low

Current Year Score: 3

2020

UN Office of Drugs and Crime (UNODC)

### 6.1.4c

How high is the risk of organized criminal activity to the government or businesses in the country?

Very low = 4, Low = 3, Moderate = 2, High = 1, Very high = 0

Current Year Score: 3

2021

Economist Intelligence

## 6.1.5 Armed conflict

### 6.1.5a

Is this country presently subject to an armed conflict, or is there at least a moderate risk of such conflict in the future?

No armed conflict exists = 4, Yes; sporadic conflict = 3, Yes; incursional conflict = 2, Yes, low-level insurgency = 1, Yes; territorial conflict = 0

Current Year Score: 3

2021

Economist Intelligence

## 6.1.6 Government territorial control

### 6.1.6a

Does the government's authority extend over the full territory of the country?

Yes = 1, No = 0

Current Year Score: 1

2021

Economist Intelligence

## 6.1.7 International tensions

### 6.1.7a

Is there a threat that international disputes/tensions could have a negative effect?

No threat = 4, Low threat = 3, Moderate threat = 2, High threat = 1, Very high threat = 0

Current Year Score: 2

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: 51.9

2017

United Nations Development Programme (UNDP); United Nations Educational, Scientific and Cultural Organization (UNESCO);  
The Economist Intelligence Unit

### 6.2.2 Gender equality

#### 6.2.2a

United Nations Development Programme (UNDP) Gender Inequality Index score

Input number

Current Year Score: 0.48

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: 13.1

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: 2

According to the World Bank, Senegal had a percentage of 90% in the informal sector in 2020. No more recent information is available. [1] The International Labour Organization (ILOSTAT) does not include Senegal in its list of countries. [2]

[1] The World Bank. June 2020. "Informal Employment (% of total non-agricultural employment) - Senegal".

[[https://data.worldbank.org/indicator/SL.ISV.IFRM.ZS?name\\_desc=true&locations=SN](https://data.worldbank.org/indicator/SL.ISV.IFRM.ZS?name_desc=true&locations=SN)]; Accessed 24 August 2020.

[2] International Labour Organization (ILOSTAT). "Free and open access to labour statistics". [<https://ilostat.ilo.org/data/>]; Accessed 24 August 2020.

### 6.2.3c

Coverage of social insurance programs (% of population)

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

Current Year Score: 1

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: 1



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: 0.4

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: 2

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: 1

2021

Economist Intelligence

## 6.4 ENVIRONMENTAL RISKS

### 6.4.1 Urbanization

#### 6.4.1a

Urban population (% of total population)

Input number

Current Year Score: 47.65

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: -2.06

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: 1

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: 67.67

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: 551.4

2019

WHO

#### 6.5.1c

Population ages 65 and above (% of total population)

Input number

Current Year Score: 3.1

2019

World Bank

### 6.5.1d

Prevalence of current tobacco use (% of adults)

Input number

Current Year Score: 9.1

2018

World Bank

### 6.5.1e

Prevalence of obesity among adults

Input number

Current Year Score: 8.8

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: 80.68

2017

UNICEF; Economist Impact

### 6.5.2b

Percentage of homes with access to at least basic sanitation facilities

Input number

Current Year Score: 51.47

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: 34.8**

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: 1**

2018

Wellcome Trust Global Monitor 2018