

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

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## 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: 1**

There is publicly available evidence that the Government of Brunei has a national AMR plan that covers surveillance and reporting of priority AMR pathogens but there is insufficient evidence that detection is covered by this plan. The national AMR plan is a document titled 'Antimicrobial Resistance National Action Plan 2019-2023'. [1] "This plan is the result of joint multi-sectoral actions by the TWGs to identify gaps, challenges and opportunities at national and facility levels to strengthen AMR-related activities" according to the Joint External Evaluation (JEE) of IHR Core Capabilities of Brunei Darussalam published in 2019. [2] The JEE states that "accredited laboratory facilities in the country have the necessary capacity to detect and phenotypically categorize drug resistant microorganisms and collate data trends for common pathogens, and collaborate with established reference laboratories for antibiotic susceptibility testing (AST)". However, there is no such mention of detection capabilities in the NAP [1, 2] The plan itself primarily covers surveillance and reporting, detailing its objectives to build a national surveillance system for antimicrobial resistance to monitor AMR trends and support national policy decisions. [1] Under its Surveillance and Research objective, the plan aims to implement "Reporting of Drug Residue Limits and AMR Surveillance Program Testing to be done by program owners". [1] Further, there are ongoing 'Antibiotic Stewardship Program' aimed at monitoring and promoting optimized use of antimicrobials per international health standards. [1, 2] There is no evidence of an AMR plan which covers detection on the Ministry of Health and the Ministry of Agriculture websites. [3, 4]

[1] World Health Organisation (WHO). Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023". [http://apps.who.int/datacol/answer\_upload.asp?survey\_id=666&view\_id=722&question\_id=13163&answer\_id=19958&respondent\_id=317394]. Accessed February 1, 2021.

[2] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y]. Accessed February 1, 2021.

[3] Ministry of Health, Brunei Darussalam. "Introduction". [http://www.moh.gov.bn/SitePages/Introduction.aspx] Accessed February 1, 2021.

[4] Agriculture and Agrifood Department, Ministry of Primary Resources and Tourism, Brunei Darussalam. "Home". [http://www.agriculture.gov.bn/Theme/Home.aspx] Accessed February 1, 2021.

##### 1.1.1b

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

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

**Current Year Score: 0**

The government of Brunei does not have a national laboratory system that tests for priority AMR pathogens. According to the Antimicrobial Resistance National Action Plan (BDAMRNAP), there is a priority action in place to expand reporting of priority pathogens to district and private hospitals, but does not specify the names of these pathogens. [1] Similarly, the Joint External Evaluation (JEE) for Brunei, conducted in October 2019, states that the "Department of Laboratory Services ( DLS) monitors AMR pathogens in human samples while the Department of Pharmaceutical Services (DPS) monitors antimicrobial use and prescription by clinicians" but does not specify the names of these pathogens. The report states, "Accredited laboratory facilities have the capacity to detect and phenotypically categorize drug resistant microorganisms, collate data trends for common pathogens, and collaborate with established reference laboratories for AST" but there is no mention of testing for priority AMR pathogens in the JEE. [2] There is no evidence of such a lab system or testing for priority AMR pathogens on the websites of the Ministry of Health, the Agriculture and Agrifood Department, and the Department of Environment, Parks and Recreation [3, 4, 5].

[1] WHO Library of National Action Plans: Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[2] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[3] Ministry of Health Brunei Darussalam. "Laboratories".

[<http://www.moh.gov.bn/SitePages/Jabatan%20Perkhidmatan%20Saintifik.aspx>]. Accessed 21 November 2020.

[4] Agriculture and Agrifood Department. "Agriculture and Agrifood Department".

[<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 21 November 2020.

[5] Department of Environment, Parks and Recreation. "Department of Environment, Parks and Recreation".

[<http://www.env.gov.bn/Theme/Home.aspx>]. Accessed 21 November 2020.

### 1.1.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

The government of Brunei does not conduct environmental detection or surveillance activities for antimicrobial residues or AMR organisms. The Joint External Evaluation (JEE) for Brunei, conducted in October 2019, states "there is a need to identify a national government agency to oversee the impact of AMR on the environment". There is no further information about surveillance or detection for AMR residues or organisms in the JEE [1] The Environmental Health Division of the Department conducts environmental surveillance of vectors, but this is not specific to antimicrobial residues or AMR organisms [1]. The Disease Control Division under the Ministry of Health conducts communicable disease surveillance but does not specify whether it conducts surveillance for antimicrobial residues or AMR organisms [2]. No other information was found in the Antimicrobial Resistance National Action Plan (BDAMRNAP), Agriculture and Agrifood Department, the Department of Environment, Parks and Recreation [3, 4, 5].

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973->

eng.pdf?sequence=1&isAllowed=y]. Accessed 21 November 2020."

[2] Ministry of Health Brunei Darussalam. "Communicable Diseases Surveillance".

[<http://www.moh.gov.bn/SitePages/Communicable%20Disease%20Surveillance.aspx>]. Accessed 21 November 2020.

[3] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[4] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 21 November 2020.

[5] Department of Environment, Parks and Recreation. [<http://www.env.gov.bn/Theme/Home.aspx>]. Accessed 21 November 2020.

## 1.1.2 Antimicrobial control

### 1.1.2a

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

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

**Current Year Score: 2**

The government of Brunei has legislation in place requiring the prescription of antibiotic use in humans. According to the Antimicrobial Resistance National Action Plan (BDAMRNAP), the Medicines Order 2007 mandates all antimicrobials are classified as prescription-only medicines [1]. The Joint External Evaluation for Brunei, conducted in October 2019, states "Antibiotic Stewardship Programmes aimed at monitoring and promoting optimization of antimicrobial use in accordance with international standards are in place in selected facilities" [2]. No evidence was found of whether there are any gaps in enforcement, including from the Ministry of Health and news sources [3].

[1] WHO Library of National Action Plans: Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[2] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020."

[3] Ministry of Health Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 21 November 2020.

### 1.1.2b

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

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

**Current Year Score: 2**

The government of Brunei has legislation in place requiring the prescription of antibiotic use in animals. According to the Antimicrobial Resistance National Action Plan (BDAMRNAP), the Medicines Order 2007 mandates all antimicrobials are classified as prescription-only medicines "that can only be prescribed by registered Medical Practitioners, Dentists or Veterinarians" [1]. The Joint External Evaluation for Brunei, conducted in October 2019, states "Vaccination requirements for all practicing veterinarians and para-veterinarians are incorporated as best practices in veterinary clinics." It further states that "A pharmacovigilance programme and an animal feed programme will be introduced to strengthen regulation to restrict the use of antimicrobials as animal growth promoters and prophylactics among farmers and other stakeholders". [2]. No

evidence was found of whether there are any gaps in enforcement, including from the Ministry of Health and news sources [3].

[1] WHO Library of National Action Plans: Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[2] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[3] Ministry of Health Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 21 November 2020.

## 1.2 ZOO NOTIC DISEASE

### 1.2.1 National planning for zoonotic diseases/pathogens

#### 1.2.1a

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

Yes = 1 , No = 0

**Current Year Score: 1**

The government of Brunei has legislation in place to guide strategy and policy on zoonotic disease. According to the Ministry of Health, zoonotic diseases are listed under the Infectious Diseases Order 2003 [1]. The "Strategic Plan of Agriculture and Agrifood Department and 11th National Development Plan" is a general roadmap for the Agriculture and Agrifood Department for 2016 - 2020, which includes a strategy for zoonotic disease. [2]. It includes a strategy for active surveillance of zoonotic disease, naming salmonella, rabies and avian flu as examples. It also features a project that deals with importing agricultural goods and animal quarantine for the management of zoonotic diseases, but provides no other specifics. [2] Further, the Joint External Evaluation for Brunei, conducted in October 2019, states that mechanisms for interagency communication for surveillance and notification of zoonotic diseases are now explicitly outlined in the Joint Preparedness and Response Framework to Zoonotic Diseases of Public Health Concern [3]. According to the JEE, Brunei's strengths in zoonoses control and surveillance also include: "establishing priority zoonotic diseases for surveillance, identifying procedures for inter-agency communication and escalation of responses to zoonotic diseases, mandating joint risk assessment between the human and animal health sectors when handling notification, forming a joint Outbreak Control Team, and describing public risk communication processes for zoonotic disease incidents." [3]

[1] Ministry of Health, Brunei Darussalam. "Disease Control Division".

[<http://www.moh.gov.bn/SitePages/Disease%20Control%20Division.aspx>]. Accessed 22 November 2020.

[2] Ministry of Primary Resources and Tourism (KEMENTERIAN SUMBER-SUMBER UTAMA DAN PELANCONGAN). ""Strategic Plan of Agriculture and Agrifood Department and 11th National Development Plan (PELAN STRATEGIK JABATAN PERTANIAN DAN AGRIMAKANAN (2016-2020) DAN PROJEK-PROJEK RANCANGAN KEMAJUAN NEGARA KE 11)"".

[<http://www.agriculture.gov.bn/SiteCollectionDocuments/Strategic%20Plan/DOAA%20JPSE%20%20.pdf>]. Accessed 22 November 2020.

[3] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

### 1.2.1b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient evidence that Brunei has 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. According to The Joint External Evaluation for Brunei, conducted in October 2019, Brunei has in a plan titled the "Joint Framework for Preparedness and Response to Zoonotic Diseases of Public Health Concern", which establishes priority zoonotic diseases for surveillance, identifies procedures for inter-agency communication and escalation of responses to zoonotic diseases, mandates joint risk assessment between the human and animal health sectors when handling notification, and establishes a joint Outbreak Control Team between ministries, for zoonotic disease incidents. This however refers more to risk mitigation than it does risk reduction and no pathways to potential zoonotic risks are identified within this framework. [1] Further, this document itself is not publicly available. No other information was available on the websites of the Ministry of Health and the Agrifood and Agriculture Department. [2, 3]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[3] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 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 insufficient evidence that the government of Brunei has a national strategy document that accounts for the surveillance and control of multiple zoonotic pathogens. According to The Joint External Evaluation for Brunei, conducted in October 2019, Brunei has in a plan titled the 'Joint Framework for Preparedness and Response to Zoonotic Diseases of Public Health Concern' which deals with surveillance and inter-agency response. The plan is jointly developed and operationalized by the Ministry of Health and the Ministry of Ministry of Primary Resources and Tourism. As part of this Joint Framework, the country instituted the joint Outbreak Control Team (OCT) and the Joint Taskforce on Rabies to conduct surveillance, data collection, and prevention and control measures. [1] There is also the Schedule 4 of the Infectious Diseases Act, which lists notifiable zoonotic diseases as measure for preparedness [1]. There is no further mention of such a plan on the Ministry of Health and the Agriculture and Agrifood Department websites. [2, 3]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020."

[2] Ministry of Health, Brunei Darussalam. "Introduction". [<http://www.moh.gov.bn/SitePages/Introduction.aspx>] Accessed February 1, 2021.

[3] Agriculture and Agrifood Department, Ministry of Primary Resources and Tourism, Brunei Darussalam. "Home".

[<http://www.agriculture.gov.bn/Theme/Home.aspx>] Accessed February 1, 2021.

### 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: 1**

There is evidence that the government of Brunei has an agency dedicated to zoonotic disease that functions across ministries.

The Joint External Evaluation (JEE) for Brunei, conducted in October 2019, states that the Ministry of Health and the Ministry of Primary Resources and Tourism instituted an Outbreak Control Team (OCT) that focuses on field investigation, data collection and analysis, and implementation of outbreak control measures. The JEE adds, "mechanisms for interagency communication for surveillance and notification of zoonotic diseases are now explicitly outlined in the Joint Preparedness and Response Framework to Zoonotic Diseases of Public Health Concern. Joint actions to address specific zoonoses of concern, such as rabies, have also been collaboratively carried out. These have included the establishment of a joint Outbreak Control Team (OCT), the development of a national action plan, and the conduct of a tabletop exercise that tested the joint framework for preparedness for, and response to, zoonoses. The roles and responsibilities of the joint OCT are well-defined and centre primarily on field investigation, data collection and analysis, and implementation of outbreak control measures. The OCT reports concurrently to the Director of Environmental Health Services (for human health) and the Director of Agriculture and Agrifood (for animal health), both of whom chair the OCT." [1]

The Agriculture and Agrifood Department also has a dedicated zoonotic agency known as the National Committee on the Zoonotic Diseases but there is no evidence to indicate cross-ministry collaboration or function. [2] In fact, responsibility for zoonotic disease surveillance, prevention, and control is shared by various agencies, including the Disease Control Division (DCD) of the Ministry of Health, the Department of Laboratory Services (DLS), the Infectious Disease Unit of RIPAS hospital, the Livestock, Industry and Veterinary Services Division of the Ministry of Primary Resources and Tourism, and the Biosecurity Division. [1]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Department of Information. 2013 "Brunei Darussalam 2005 - 2009 (Part One).

[[http://www.information.gov.bn/Publication%20listsPDF/Annual\\_Report\\_BruneiDarussalam\\_2005-2009\(Part\\_One\).pdf](http://www.information.gov.bn/Publication%20listsPDF/Annual_Report_BruneiDarussalam_2005-2009(Part_One).pdf)]. Accessed 21 November 2020.

## 1.2.2 Surveillance systems for zoonotic diseases/pathogens

### 1.2.2a

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

Yes = 1, No = 0

**Current Year Score: 1**



The government of Brunei has a national mechanism for owners of livestock to conduct and report on disease surveillance. The Joint External Evaluation (JEE) for Brunei, conducted in October 2019 states the Department of Agriculture and Agrifood (DoAA) requires veterinarians and farmers who suspect or diagnose a priority disease in animals are required to report it via a phone call [1]. The document lists Rabies, Anthrax, E. coli O157, Salmonella or Avian Influenza as examples of priority diseases as a finalized list is in draft stage [1]. The JEE further states that "Although there is no electronic online tool for surveillance for animal health, surveillance data from farms and surveillance programme owners are submitted to MPRT via excel files. Informal joint risk assessments have been performed, and there is data sharing between human and animal health through the weekly epidemiological bulletins". [1] The Agriculture and Agrifood Department has a dedicated unit known as Animal Health and Quarantine whose function is "to establish, maintain and develop a comprehensive animal health control programme in order to safe guard public health and prevent spread of animal diseases" but it does not specify any mechanism for reporting [2]. No additional evidence was found in the Antimicrobial Resistance National Action Plan (BDAMRNAP) or on the websites of the Ministry of Health and the Department of Environment, Parks and Recreation [2, 3, 4, 5].

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Agriculture and Agrifood Department. "Investment Opportunity - Livestock Industry".

[<http://www.agriculture.gov.bn/SitePages/Investment%20Opportunity%20-%20Livestock%20Industry.aspx>] Accessed 22 November 2020.

[3] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 22 November 2020.

[5] Department of Environment, Parks and Recreation. [<http://www.env.gov.bn/Theme/Home.aspx>]. Accessed 22 November 2020.

### 1.2.2b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that the government of Brunei has laws that safeguard the confidentiality of information generated through surveillance activities for animals for owners. Included in the Quarantine and Prevention of Disease Act are provisions for surveillance but it does not mention any measures to maintain confidentiality [1]. In addition, Brunei does not have any laws in place to secure privacy of personal data and has instead been guided by a Data Protection Policy since 2014. Though the Data Protection Policy covers personal data in electronic or manual form, there is no information about whether it safeguards the confidentiality of data generated through surveillance [2]. In 2016, Brunei, as part of ASEAN, adopted the 'Framework on Personal Data Protection' which seeks to protect data against unauthorized access, collection, use, disclosure, copying, modification, destruction or similar risks. However, this legislation does not cover protection of data generated through surveillance either. [3] No further information was found in The Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019, the Antimicrobial Resistance National Action Plan (BDAMRNAP), or on the websites of the Ministry of Health and the Agriculture and Agrifood Department [ 4, 5, 6, 7].

- [1] E-Government National Centre, Government of Brunei. "Data Protection Policy". [http://www.information.gov.bn/PublishingImages/SitePages/New%20Media%20and%20IT%20Unit/Data%20Protection%20Policy%20V.2.2.pdf]. Accessed 22 November 2020.
- [2] Deloitte. "Data and Privacy Protection in ASEAN". [https://www2.deloitte.com/content/dam/Deloitte/sg/Documents/risk/sea-risk-data-privacy-in-asean.pdf]. Accessed 26 January 2021.
- [3] ASEAN. 25 November 2016. "Framework on Personal Data Protection". [https://asean.org/storage/2012/05/10-ASEAN-Framework-on-PDP.pdf] Accessed February 2, 2021.
- [4] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y]. Accessed 21 November 2020.
- [5] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023". [http://apps.who.int/datacol/answer\_upload.asp?survey\_id=666&view\_id=722&question\_id=13163&answer\_id=19958&respondent\_id=317394]. Accessed 21 November 2020.
- [6] Ministry of Health, Brunei Darussalam. [http://www.moh.gov.bn/Pages/Home.aspx]. Accessed 22 November 2020.
- [7] Agriculture and Agrifood Department. [http://www.agriculture.gov.bn/Theme/Home.aspx]. Accessed 21 November 2020.

### 1.2.2c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei conducts surveillance of zoonotic disease in wildlife.

The Joint External Evaluation (JEE) of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019, states the Department of Agriculture and Agrifood (DoAA) manages event-based and indicator based surveillance systems for animal health in addition to having active surveillance programmes for avian influenza and salmonellosis in farms across the country but there is no mention of surveillance of zoonoses in the wildlife [1]. According to the JEE, Brunei has in a plan titled the 'Joint Framework for Preparedness and Response to Zoonotic Diseases of Public Health Concern' which deals with surveillance and inter-agency response, however it does not detail whether surveillance of zoonoses in the wild is covered. [1]

Further, the Strategic Plan of Agriculture and Agrifood Department and 11th National Development Plan covers active surveillance and early detection of zoonotic disease, reinforced by the Quarantine and Prevention of Diseases Act, however there is no mention of wildlife for the same. [2, 3] In addition, Brunei's Health Information Booklet details a list of zoonotic diseases - specifically on Anthrax, Bovine Spongiform Encephalitis, Nipah Virus, Rabies, which are regularly surveilled but there is no information of zoonotic disease surveillance in wildlife in the Booklet. [4]

No additional evidence of zoonotic disease surveillance in the wild was found in the Antimicrobial Resistance National Action Plan (BDAMRNAP) or on the websites of the Ministry of Health, Agriculture and Agrifood Department, Department of Environment, Parks and Recreation. [4, 5, 6, 7, 8].

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y]. Accessed 21 November 2020.

[2] Ministry of Primary Resources and Tourism (KEMENTERIAN SUMBER-SUMBER UTAMA DAN PELANCONGAN). "Strategic Plan of Agriculture and Agrifood Department and 11th National Development Plan (PELAN STRATEGIK JABATAN PERTANIAN

DAN AGRIMAKANAN (2016-2020) DAN PROJEK-PROJEK RANCANGAN KEMAJUAN NEGARA KE 11)".

[<http://www.agriculture.gov.bn/SiteCollectionDocuments/Strategic%20Plan/DOAA%20JPSE%20%20.pdf>]. Accessed 22 November 2020.

[3] Attorney-General Chambers. Chapter 47, 5 of 1934. "Quarantine and Prevention of Disease Act".

[<http://www.agc.gov.bn/AGC%20Images/LOB/PDF/Chp.47.pdf>] Accessed 22 November 2020.

[4] Ministry of Health Brunei Darussalam. 2016. "Health Information Booklet 2016".

[[http://www.moh.gov.bn/Downloadables/Health%20Information%20Booklet%202016%20\(21st%20Edition%20Revision%20\).pdf](http://www.moh.gov.bn/Downloadables/Health%20Information%20Booklet%202016%20(21st%20Edition%20Revision%20).pdf)] Accessed 22 November 2020.

[5] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[6] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 22 November 2020.

[7] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 22 November 2020.

[8] Department of Environment, Parks and Recreation. [<http://www.env.gov.bn/Theme/Home.aspx>]. Accessed 22 November 2020.

### 1.2.3 International reporting of animal disease outbreaks

#### 1.2.3a

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

Yes = 1, No = 0

Current Year Score: 0

2019

OIE WAHIS database

### 1.2.4 Animal health workforce

#### 1.2.4a

Number of veterinarians per 100,000 people

Input number

Current Year Score: 10.15

2018

OIE WAHIS database

#### 1.2.4b

Number of veterinary para-professionals per 100,000 people

Input number

Current Year Score: 11.77

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**

There is no publicly available evidence that the government of Brunei has a mechanism for working with the private sector in controlling or responding to zoonoses. There was no evidence found in the Antimicrobial Resistance National Action Plan (BDAMRNAP) or on the websites of the Ministry of Health, Agriculture and Agrifood Department, Department of Environment, Parks and Recreation, and the United Nations Confidence Building Measures. [1, 2, 3, 4]

[1] World Health Organisation (WHO) Library of National Action Plans: Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 22 November 2020.

[3] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 21 November 2020.

[4] United Nations Office at Geneva. "Confidence Building Measures.". [[https://bwc-ecbm.unog.ch/?field\\_form\\_year\\_tid=548](https://bwc-ecbm.unog.ch/?field_form_year_tid=548)] Accessed 22 November 2020.

## 1.3 BIOSECURITY

### 1.3.1 Whole-of- government biosecurity systems

#### 1.3.1a

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

Yes = 1 , No = 0

**Current Year Score: 1**

The government of Brunei has a record of facilities for storing and processing dangerous pathogens and toxins. The Joint External Evaluation for Brunei, conducted in October 2019, states "Brunei Darussalam is finalizing a process to develop and monitor an updated record and inventory of pathogens within facilities that store or process dangerous pathogens and toxins. The DoAA has established active monitoring, and keeps an updated record and inventory of pathogens. Both government and private facilities have collections of identified pathogens and toxins. These records are updated annually. Dangerous pathogens are consolidated in two facilities: the RIPAS Hospital and the Serasa Branch of the DSS. Culturing of dangerous pathogens is minimized through the use of molecular techniques wherever feasible." [1] No further information was found in the Antimicrobial Resistance National Action Plan (BDAMRNAP) [2] or on the websites of the Ministry of Health, Agriculture and Agrifood Department, Department of Environment, Parks and Recreation, the United Nations Confidence

Building Measures, and the VERTIC database. [3, 4, 5, 6, 7]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] WHO Library of National Action Plans: Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[3] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 22 November 2020.

[4] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 21 November 2020.

[5] Department of Environment, Parks and Recreation. [<http://www.env.gov.bn/Theme/Home.aspx>]. Accessed 22 November 2020.

[6] United Nations Office at Geneva. "Confidence Building Measures: Brunei Darussalam". [<https://bwc-ecbm.unog.ch/state/brunei-darussalam>] Accessed 22 November 2020.

[7] Verification Research, Training and Information Centre "Brunei". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 25 November 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 insufficient evidence that the government of Brunei has legislation and regulation in place related to biosecurity that addresses physical containment, operation practices, failure reporting systems, and/or cybersecurity of facilities in which especially dangerous pathogens and toxins are stored or processed. The Joint External Evaluation for Brunei, conducted in October 2019, states " Biosafety and biosecurity practices and pathogen control measures—including physical containment, operational practices, and containment failure reporting systems—are implemented in both the human and animal health sectors, based on departmental laboratory safety manuals, and institutional protocols and standard operating procedures (SOPs). [1] Additionally, the JEE assessment states" The Workplace Safety and Health Order 2009 serves as a framework to document, report, investigate and address biosafety and biosecurity incidents and accidents". [1] The Workplace Safety and Health Order 2009 has provision for facility management and control of major accident hazards in its schedule [2]. However, no other information was found in the Antimicrobial Resistance National Action Plan (BDAMRNAP) [3] or on the websites of the Ministry of Health, Agriculture and Agrifood Department, Department of Environment, Parks and Recreation, the United Nations Confidence Building Measures and the VERTIC database. [3, 4, 5, 6, 7]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Attorney-General's Chambers. "Workplace Safety and Health Order 2009 [[http://agc.gov.bn/AGC%20Images/LAWS/Gazette\\_PDF/2009/EN/s044.pdf](http://agc.gov.bn/AGC%20Images/LAWS/Gazette_PDF/2009/EN/s044.pdf)]. Accessed Jan 9, 2021.

[3] WHO Library of National Action Plans: Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&res](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&res)]

pondent\_id=317394]. Accessed 21 November 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 22 November 2020.

[5] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 21 November 2020.

[6] Department of Environment, Parks and Recreation. [<http://www.env.gov.bn/Theme/Home.aspx>]. Accessed 22 November 2020.

[7] United Nations Office at Geneva. "Confidence Building Measures: Brunei Darussalam". [<https://bwc-ecbm.unog.ch/state/brunei-darussalam>] Accessed 22 November 2020.

[8] Verification Research, Training and Information Centre "Brunei". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 25 November 2020.

### 1.3.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei has an established agency for the enforcement of biosecurity regulations. The Joint External Evaluation for Brunei, conducted in October 2019, states that the country has drafted a biosafety and biosecurity guideline which is being finalized, however, "policies and procedures for controlling access to sensitive laboratory information are lacking". [1] The Agriculture and Agrifood Department has a 'Biosecurity Division' which has a sub-unit for biosecurity enforcement and regulation but it does not specify whether it is responsible for the protection, control, and accountability for high-consequence biological agents and toxins to prevent unauthorized possession, loss, theft, misuse, diversion, or intentional release. The unit's objectives instead are "to protect economy, environment and local agricultural production, social amenity or human health against exotic plant and animal pests and diseases"; "to strengthen pre-border, border and post-border measures related to Sanitary and Phytosanitary (SPS)"; and "to provide an internationally accepted certification service, hence facilitating agricultural trade". [2]. No other information was found in the Antimicrobial Resistance National Action Plan (BDAMRNAP) or on the websites of the Ministry of Health, Agriculture and Agrifood Department, Department of Environment, Parks and Recreation, and the VERTIC database. [3, 4, 5, 6, 7] Although Brunei is a state party to the the United Nations Confidence Building Measures, there is no evidence that it has submitted any Confidence-Building Measure reports in accordance with decisions of BWC Review Conferences. [8]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Agriculture and Agrifood Department. "Biosecurity Division". [<http://www.agriculture.gov.bn/SitePages/Biosecurity.aspx>]. Accessed 26 January 2021.

[3] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 22 November 2020.

[5] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 21 November 2020.

[6] Department of Environment, Parks and Recreation. [<http://www.env.gov.bn/Theme/Home.aspx>]. Accessed 22 November 2020.

[7] Verification Research, Training and Information Centre (VERTIC). "Brunei".

[<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 25 November 2020.

[8] United Nations Office at Geneva. "Confidence Building Measures". [[https://bwc-ecbm.unog.ch/?field\\_form\\_year\\_tid=548](https://bwc-ecbm.unog.ch/?field_form_year_tid=548)]

Accessed 22 November 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 insufficient evidence that the government of Brunei has taken action to consolidate its inventories of especially dangerous pathogens and toxins into a minimum number of facilities. The Joint External Evaluation for Brunei, conducted in October 2019, states that dangerous pathogens are consolidated in two facilities: the RIPAS Hospital and the Serasa Branch of the DSS and "Culturing of dangerous pathogens is minimized through the use of molecular techniques wherever feasible". [1] No other information was found in the Antimicrobial Resistance National Action Plan (BDAMRNAP) [2] or on the websites of the Ministry of Health, Agriculture and Agrifood Department, Department of Environment, Parks and Recreation, the United Nations Confidence Building Measures and the VERTIC database. [3, 4, 5, 6, 7]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://www.who.int/publications/i/item/97892400069731>]. Accessed 21 November 2020.

[2] WHO Library of NAPs: Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023". [[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 25 January 2021.

[3] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 22 November 2020.

[4] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 21 November 2020.

[5] Department of Environment, Parks and Recreation. [<http://www.env.gov.bn/Theme/Home.aspx>]. Accessed 22 November 2020.

[6] United Nations Office at Geneva. "Confidence Building Measures: Brunei Darussalam". [<https://bwc-ecbm.unog.ch/state/brunei-darussalam>] Accessed 22 November 2020.

[7] Verification Research, Training and Information Centre "Brunei". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 25 November 2020.

### 1.3.1e

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence of the government of Brunei's in-country capacity to conduct Polymerase Chain Reaction (PCR)-based diagnostic testing for anthrax and/or Ebola, which would preclude culturing a live pathogen. Evidence exists of the country's capacity to conduct PCR tests, but not specific to Ebola or anthrax [1, 2]. No other evidence was found in The Joint External Evaluation for Brunei, conducted in October 2019, the Antimicrobial Resistance National Action Plan (BDAMRNAP) on the websites of the Ministry of Health, the Ministry of Defence, the Agriculture and Agrifood Department and the Universiti Brunei Darussalam PAPRSB Institute of Health Sciences. [3, 4, 5, 6, 7, 8]

[1] Rahman ZH et al. 2013. "The prevalence of dengue virus in Brunei Darussalam during January-November 2010." Southeast Asian J Trop Med Public Health, 44

- [4] :594-601. [<http://www.tm.mahidol.ac.th/seameo/2013-44-4-full/07-5526-21.pdf>]. Accessed 20 December 2020.
- [2] Rizidah, Zaidah et al. 2014. "Investigating Brunei's Seafood Markets for *Vibrio parahaemolyticus* using the Most Probable Number-Polymerase Chain Reaction". *Asian Journal of Medical Sciences*, [5] 33-39. [<https://www.nepjol.info/index.php/AJMS/article/view/8948>]. Accessed 20 December 2020.
- [3] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.
- [4] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023". [[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.
- [5] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.
- [6] Ministry of Defence Brunei Darussalam. [<http://www.mindef.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.
- [7] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.
- [8] Universiti Brunei Darussalam. "PAPRSB Institute of Health Sciences". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 2020.

## 1.3.2 Biosecurity training and practices

### 1.3.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei requires biosecurity training for personnel working in facilities housing dangerous pathogens or toxins. The Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019, states that training is conducted and needs are assessed, but not in a systematic manner. It also states that induction and refresher trainings on biosafety and biosecurity, but does not state whether this training is a requirement. [1] No other evidence was found in the Antimicrobial Resistance National Action Plan (BDAMRNAP) on the websites of the Ministry of Health, the Ministry of Defence, the Agriculture and Agrifood Department, the PAPRSB Institute of Health Sciences, and the VERTIC database [2, 3, 4, 5, 6, 7]. Although Brunei is a state party to the the United Nations Confidence Building Measures, there is no evidence that it has submitted any Confidence-Building Measure reports in accordance with decisions of BWC Review Conferences. [8]

- [1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.
- [2] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023". [[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.
- [3] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.
- [4] Ministry of Defence Brunei Darussalam. [<http://www.mindef.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.
- [5] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.
- [6] Universiti Brunei Darussalam. ""PAPRSB Institute of Health Sciences"". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 2020.



[7] Verification Research, Training and Information Centre "Brunei". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 25 November 2020.

[8] United Nations Office at Geneva. "Confidence Building Measures.". [[https://bwc-ecbm.unog.ch/?field\\_form\\_year\\_tid=548](https://bwc-ecbm.unog.ch/?field_form_year_tid=548)] Accessed 26 January 2021.

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

#### 1.3.3a

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

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

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei has regulations or licensing conditions that specify 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. No other evidence was found in the Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019, the Antimicrobial Resistance National Action Plan (BDAMRNAP) on the websites of the Ministry of Health, the Ministry of Defence, the Agriculture and Agrifood Department, the PAPRSB Institute of Health Sciences, and the VERTIC database. [1, 2, 3, 4, 5, 6, 7] Although Brunei is a state party to the the United Nations Confidence Building Measures, there is no evidence that it has submitted any Confidence-Building Measure reports in accordance with decisions of BWC Review Conferences. [8]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[3] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[4] Ministry of Defence Brunei Darussalam. [<http://www.mindef.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[5] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[6] Universiti Brunei Darussalam. "'PAPRSB Institute of Health Sciences'". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 2020.

[7] Verification Research, Training and Information Centre "Brunei". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 25 November 2020.

[8] United Nations Office at Geneva. "Confidence Building Measures.". [[https://bwc-ecbm.unog.ch/?field\\_form\\_year\\_tid=548](https://bwc-ecbm.unog.ch/?field_form_year_tid=548)] Accessed 26 January 2021.

## 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 insufficient evidence that the government of Brunei has regulations on the safe and secure transport of infectious substances, including Categories A and B. The Hazardous Waste Control Order has provision for secure transport of 'hazardous waste' according to the Basel Convention but does not specify Category A and B of infectious substances in that list. [1]. However The Joint External Evaluation for Brunei, conducted in October 2019, states the government of Brunei has trained staff and resources to ship Category B specimens, while Category A substances are outsourced to couriers [2]. No other evidence was found in the Antimicrobial Resistance National Action Plan (BDAMRNAP) on the websites of the Ministry of Health, the Ministry of Defence, the Agriculture and Agrifood Department, the PAPRSB Institute of Health Sciences and the VERTIC database. [3, 4, 5, 6, 7, 8]

[1] Constitution of Brunei Darussalam. Article 83

[3]. "HAZARDOUS WASTE (CONTROL OF EXPORT, IMPORT AND TRANSIT) ORDER, 2013".

[<http://extwprlegs1.fao.org/docs/pdf/bru138947.pdf>]. Accessed 20 December 2020.

[2] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[3] WHO Library of NAPs: Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[5] Ministry of Defence Brunei Darussalam. [<http://www.mindef.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[6] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[7] Universiti Brunei Darussalam. "PAPRSB Institute of Health Sciences". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 2020.

[8] Verification Research, Training and Information Centre "Brunei". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 25 November 2020.

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

### 1.3.5a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei has any legislation to oversee cross-border transfer and end-user screening of dangerous pathogens and toxins. No evidence was found in the Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam conducted in October 2019, the Antimicrobial Resistance National Action Plan (BDAMRNAP) on the websites of the Ministry of Health, the Ministry of Defence, the Agriculture and Agrifood Department,

the PAPRSB Institute of Health Sciences, and the VERTIC database. [1, 2, 3, 4, 5, 6, 7] Although Brunei is a state party to the the United Nations Confidence Building Measures, there is no evidence that it has submitted any Confidence-Building Measure reports in accordance with decisions of BWC Review Conferences. [8]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023". [[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[3] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[4] Ministry of Defence Brunei Darussalam. [<http://www.mindef.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[5] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[6] Universiti Brunei Darussalam. "PAPRSB Institute of Health Sciences". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 2020.

[7] Verification Research, Training and Information Centre "Brunei". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 25 November 2020.

[8] United Nations Office at Geneva. "Confidence Building Measures.". [[https://bwc-ecbm.unog.ch/?field\\_form\\_year\\_tid=548](https://bwc-ecbm.unog.ch/?field_form_year_tid=548)] Accessed 26 January 2021.

## 1.4 BIOSAFETY

### 1.4.1 Whole-of-government biosafety systems

#### 1.4.1a

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei has in place national biosafety legislation or regulation. The Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019, states that a National Biosafety and Biosecurity guideline has been drafted and is in the finalization stage, while the National Biosafety Framework and Health Care Management Guidelines is in development.[1] Brunei has adopted the Cartagena Protocol on Biosafety. [2] In the past, the country has conducted seminars and workshops on biosafety, and has also accepted funds from other countries for biosafety and biosecurity programmes. [3, 4] No publicly available evidence of a biosafety legislation was found in the Antimicrobial Resistance National Action Plan (BDAMRNAP) on the websites of the Ministry of Health, the Ministry of Defence, the Agriculture and Agrifood Department, the PAPRSB Institute of Health Sciences, and the VERTIC database. [5, 6, 7, 8, 9, 10] Although Brunei is a state party to the the United Nations Confidence Building Measures, there is no evidence that it has submitted any Confidence-Building Measure reports in accordance with decisions of BWC Review Conferences. [11]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Convention on Biological Diversity. " Brunei Darussalam - National Focal Points". [<https://www.cbd.int/countries/nfp/?country=bn>]. Accessed 20 December, 2020.

- [3] Ministry of Industry and Primary Resources. "THE SEMINAR ON BIOSAFETY FRAMEWORK FOR BRUNEI DARUSSALAM". [<http://www.agriculture.gov.bn/SiteCollectionDocuments/Press%20Release/Press%20Release%202.pdf>] Accessed 20 December, 2020.
- [4] World Health Organization. "Brunei - Contributions". [<https://extranet.who.int/sph/donor-contribution/9639/9103/1854>]. Accessed 20 December, 2020.
- [5] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023". [[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.
- [6] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.
- [7] Ministry of Defence Brunei Darussalam. [<http://www.mindef.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.
- [8] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.
- [9] Universiti Brunei Darussalam. "PAPRSB Institute of Health Sciences". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 2020.
- [10] Verification Research, Training and Information Centre "Brunei". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 25 November 2020.
- [11] United Nations Office at Geneva. "Confidence Building Measures". [[https://bwc-ecbm.unog.ch/?field\\_form\\_year\\_tid=548](https://bwc-ecbm.unog.ch/?field_form_year_tid=548)] Accessed 26 January 2021.

#### 1.4.1b

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei has an established agency for the enforcement of biosafety legislation and regulations as there is no legislation for biosafety in place. The Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019, states that a National Biosafety and Biosecurity guideline has been drafted and is in the finalization stage, while the National Biosafety Framework and Health Care Management Guidelines is in development. [1] Responsibility for biosafety and biosecurity is decentralised across ministries, with the the Department of Laboratories Services (DLS) and the Department of Scientific Services (DSS) covering laboratory services while the Ministry for Primary Resources and Tourism manages animal health programmes and issues [1]. No other information was found in the Antimicrobial Resistance National Action Plan (BDAMRNAP) [2] or on the websites of the Ministry of Health, Agriculture and Agrifood Department, Department of Environment, Parks and Recreation, and the VERTIC database. [3, 4, 5, 6] Although Brunei is a state party to the the United Nations Confidence Building Measures, there is no evidence that it has submitted any Confidence-Building Measure reports in accordance with decisions of BWC Review Conferences. [7]

- [1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.
- [2] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023". [[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.
- [3] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 22 November 2020.
- [4] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 21 November 2020.
- [5] Department of Environment, Parks and Recreation. [<http://www.env.gov.bn/Theme/Home.aspx>]. Accessed 22 November 2020.
- [6] Verification Research, Training and Information Centre "Brunei". [<https://www.vertic.org/programmes/biological->

weapons-and-materials/bwc-legislation-database/b/]. Accessed 25 November 2020.

[7] United Nations Office at Geneva. "Confidence Building Measures.". [https://bwc-ecbm.unog.ch/?field\_form\_year\_tid=548] Accessed 22 November 2020.

[7]

## 1.4.2 Biosafety training and practices

### 1.4.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei requires biosafety training for personnel working in facilities housing dangerous pathogens or toxins. The Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019, states that training is conducted and needs are assessed, but not in a systematic manner. It also states that induction and refresher trainings on biosafety and biosecurity, but does not state whether this training is a requirement. [1] No other evidence was found in the Antimicrobial Resistance National Action Plan (BDAMRNAP) on the websites of the Ministry of Health, the Ministry of Defence, the Agriculture and Agrifood Department, the PAPRSB Institute of Health Sciences, and the VERTIC database [2, 3, 4, 5, 6, 7]. Although Brunei is a state party to the the United Nations Confidence Building Measures, there is no evidence that it has submitted any Confidence-Building Measure reports in accordance with decisions of BWC Review Conferences. [8]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y]. Accessed 21 November 2020.

[2] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[http://apps.who.int/datacol/answer\_upload.asp?survey\_id=666&view\_id=722&question\_id=13163&answer\_id=19958&respondent\_id=317394]. Accessed 21 November 2020.

[3] Ministry of Health, Brunei Darussalam. [http://www.moh.gov.bn/Pages/Home.aspx]. Accessed 20 December 2020.

[4] Ministry of Defence Brunei Darussalam. [http://www.mindef.gov.bn/Theme/Home.aspx]. Accessed 20 December 2020.

[5] Agriculture and Agrifood Department. [http://www.agriculture.gov.bn/Theme/Home.aspx]. Accessed 20 December 2020.

[6] Universiti Brunei Darussalam. "PAPRSB Institute of Health Sciences". [http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html]. Accessed 20 December 2020.

[7] Verification Research, Training and Information Centre "Brunei". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/]. Accessed 25 November 2020.

[8] United Nations Office at Geneva. "Confidence Building Measures.". [https://bwc-ecbm.unog.ch/?field\_form\_year\_tid=548] Accessed 26 January 2021.

## 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 the government of Brunei has conducted any assessments on ongoing dual-use research. The country has conducted collaborative workshops on dual-use goods training but nothing could be found to determine whether there is ongoing research. [1, 2] No other evidence was found in The Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019, the Antimicrobial Resistance National Action Plan (BDAMRNAP) on the websites of the Ministry of Health, the Ministry of Defence, the Agriculture and Agrifood Department, the PAPRSB Institute of Health Sciences, and the VERTIC database. [3, 4, 5, 6, 7, 8, 9] Although Brunei is a state party to the the United Nations Confidence Building Measures, there is no evidence that it has submitted any Confidence-Building Measure reports in accordance with decisions of BWC Review Conferences. [10]

[1] European Union External Action. "Brunei hosts 'Export Control Programme on Dual-use Goods' training". [https://eeas.europa.eu/headquarters/headquarters-homepage/9509/brunei-hosts-export-control-programme-dual-use-goods-training\_az]. Accessed 20 December 2020.

[2] Export Control Programme for dual use goods. "The legal framework of dual-use trade controls in Brunei Darussalam and its perspectives". [https://eeas.europa.eu/sites/eeas/files/p\_47\_brn\_20170314-15\_conclusions\_and\_next\_steps.pdf]. Accessed 20 December 2020.

[3] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y]. Accessed 21 November 2020.

[4] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023". [http://apps.who.int/datacol/answer\_upload.asp?survey\_id=666&view\_id=722&question\_id=13163&answer\_id=19958&respondent\_id=317394]. Accessed 21 November 2020.

[5] Ministry of Health, Brunei Darussalam. [http://www.moh.gov.bn/Pages/Home.aspx]. Accessed 20 December 2020.

[6] Ministry of Defence Brunei Darussalam. [http://www.mindef.gov.bn/Theme/Home.aspx]. Accessed 20 December 2020.

[7] Agriculture and Agrifood Department. [http://www.agriculture.gov.bn/Theme/Home.aspx]. Accessed 20 December 2020.

[8] Universiti Brunei Darussalam. ""PAPRSB Institute of Health Sciences"". [http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html]. Accessed 20 December 2020.

[9] Verification Research, Training and Information Centre "Brunei". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/]. Accessed 25 November 2020.

[10] United Nations Office at Geneva. "Confidence Building Measures.". [https://bwc-ecbm.unog.ch/?field\_form\_year\_tid=548] Accessed 26 January 2021.

#### 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 public evidence that the government of Brunei has a national policy requiring oversight of dual use research. The Joint External Evaluation for Brunei, conducted in October 2019, states there is no mechanism for biosecurity oversight of dual-use research of concern. [1]. Brunei has conducted collaborative workshops on dual-use goods training but no evidence could be found on a national policy of oversight. [2, 3] No other evidence was found in the Antimicrobial Resistance National Action Plan (BDAMRNAP) on the websites of the Ministry of Health, the Ministry of Defence, the Agriculture and Agrifood Department, the PAPRSB Institute of Health Sciences, and the VERTIC database. [3, 4, 5, 6, 7, 8, 9] Although Brunei is a state party to the the United Nations Confidence Building Measures, there is no evidence that it has submitted any Confidence-Building Measure reports in accordance with decisions of BWC Review Conferences. [10]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] European Union External Action. "Brunei hosts 'Export Control Programme on Dual-use Goods' training". [[https://eeas.europa.eu/headquarters/headquarters-homepage/9509/brunei-hosts-export-control-programme-dual-use-goods-training\\_az](https://eeas.europa.eu/headquarters/headquarters-homepage/9509/brunei-hosts-export-control-programme-dual-use-goods-training_az)]. Accessed 20 December 2020.

[3] Export Control Programme for dual use goods. "The legal framework of dual-use trade controls in Brunei Darussalam and its perspectives". [[https://eeas.europa.eu/sites/eeas/files/p\\_47\\_brn\\_20170314-15\\_conclusions\\_and\\_next\\_steps.pdf](https://eeas.europa.eu/sites/eeas/files/p_47_brn_20170314-15_conclusions_and_next_steps.pdf)]. Accessed 20 December 2020.

[4] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[5] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[6] Ministry of Defence Brunei Darussalam. [<http://www.mindef.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[7] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[8] Universiti Brunei Darussalam. ""PAPRSB Institute of Health Sciences"". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 2020.

[9] Verification Research, Training and Information Centre "Brunei". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 25 November 2020.

[10] United Nations Office at Geneva. "Confidence Building Measures.". [[https://bwc-ecbm.unog.ch/?field\\_form\\_year\\_tid=548](https://bwc-ecbm.unog.ch/?field_form_year_tid=548)] Accessed 26 January 2021.

### 1.5.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei has an agency responsible for oversight of research with dangerous pathogens and other dual use research. The closest the country has is a Biosecurity Division under the Agriculture and Agrifood Department, but it does not explicitly cover research on dangerous pathogens and other dual use research. [1] No other evidence was found in The Joint External Evaluation for Brunei, conducted in October 2019, the Antimicrobial Resistance National Action Plan (BDAMRNAP) on the websites of the Ministry of Health, the Ministry of Defence, the Agriculture and Agrifood Department, the PAPRSB Institute of Health Sciences, and the VERTIC database. [2, 3,

4, 5, 6, 7, 8] Although Brunei is a state party to the the United Nations Confidence Building Measures, there is no evidence that it has submitted any Confidence-Building Measure reports in accordance with decisions of BWC Review Conferences. [9]

[1] Agriculture and Agrifood Department. "Biosecurity Division". [<http://www.agriculture.gov.bn/SitePages/Biosecurity.aspx>]. Accessed 20 December 2020.

[2] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[3] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023". [[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[5] Ministry of Defence Brunei Darussalam. [<http://www.mindef.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[6] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[7] Universiti Brunei Darussalam. "'PAPRSB Institute of Health Sciences'". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 2020.

[8] Verification Research, Training and Information Centre "Brunei". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 25 November 2020.

[9] United Nations Office at Geneva. "Confidence Building Measures.". [[https://bwc-ecbm.unog.ch/?field\\_form\\_year\\_tid=548](https://bwc-ecbm.unog.ch/?field_form_year_tid=548)] Accessed 26 January 2021.

## 1.5.2 Screening guidance for providers of genetic material

### 1.5.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei has in place national legislation requiring the screening of synthesised DNA before it is sold. No evidence was found in The Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019, the Antimicrobial Resistance National Action Plan (BDAMRNAP) on the websites of the Ministry of Health, the Ministry of Defence, the Agriculture and Agrifood Department, the PAPRSB Institute of Health Sciences, the Ministry of Transport, and the VERTIC database. [1, 2, 3, 4, 5, 6, 7, 8] Although Brunei is a state party to the the United Nations Confidence Building Measures, there is no evidence that it has submitted any Confidence-Building Measure reports in accordance with decisions of BWC Review Conferences. [9]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[3] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[4] Ministry of Defence Brunei Darussalam. [<http://www.mindef.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[5] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.



- [6] Universiti Brunei Darussalam. ""PAPRSB Institute of Health Sciences"". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 2020.
- [7] Ministry of Transport and Infocommunications. [<http://www.mtic.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.
- [8] Verification Research, Training and Information Centre "Brunei". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 25 November 2020.
- [9] United Nations Office at Geneva. "Confidence Building Measures.". [[https://bwc-ecbm.unog.ch/?field\\_form\\_year\\_tid=548](https://bwc-ecbm.unog.ch/?field_form_year_tid=548)] Accessed 26 January 2021.

## 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: 2

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: 1**

There is publicly available evidence that the government of Brunei has the capacity to conduct diagnostic tests for at least 5 of the 10 WHO-defined core tests, however the tests are not named. The Joint External Evaluation for Brunei, conducted in October 2019, states the national laboratory has capacity to test for nine of the ten specified core tests namely influenza, poliomyelitis, HIV, TB, typhoid fever, gonorrhoea, dengue, Hepatitis B, measles, and malaria), but it does not state the type of test. [1] According to the Department of Laboratory Services, the type of tests are Rapid immunochromatographic assay followed by polymerase chain reaction (PCR) for confirmation for influenza, electrochemiluminescence immunology (ECLIA) for HIV, strand displacement amplification (SDA) using BD ProbeTec System for tuberculosis, and light microscopy for malaria. [2] No other evidence was found in the Antimicrobial Resistance National Action Plan (BDAMRNAP), or on the websites of the Ministry of Health, the Ministry of Defence, the Agriculture and Agrifood Department, and the PAPRSB Institute of Health Sciences[3, 4, 5, 6, 7]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[2] Department of Laboratory Services. 2016. "Laboratory Handbook".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Laboratory%20Services/LH-4Ed.pdf>] Accessed 20 December 2020.

[3] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[5] Ministry of Defence Brunei Darussalam. [<http://www.mindef.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[6] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[7] Universiti Brunei Darussalam. "PAPRSB Institute of Health Sciences". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 2020.

##### 2.1.1b

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

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

**Current Year Score: 0**

There is insufficient evidence of a national strategy for the government of Brunei in conducting testing during a public health emergency, which includes considerations for scaling capacity, for testing novel pathogens or defining those goals. The Ministry of Health has a five-year plan called the 'Strategic Plan 2019-2023' which includes an action plan for upgrading laboratory facilities including to "set up new laboratory facilities and services to provide extensive clinical laboratory tests and upgrade the existing ones to become national referral clinical laboratories". The plan also aims to "Improve quality and expand International Standards Organisation (ISO) accreditations for laboratory facilities / services and tests" [1] However, there is no further evidence of a plan for novel pathogens and defining goals for testing on the Ministry of Health and Agriculture and Agrifoods Department websites. [2, 3]

[1] Ministry of Health, Brunei Darussalam. 2019. "Strategic Plan 2019 - 2023".

[[http://moh.gov.bn/Shared%20Documents/Strategic%20Plan%20MOH%202019-2023/FINAL%20MOH%20Strategic%20Book%202019-compressed%20\(5MB\).pdf](http://moh.gov.bn/Shared%20Documents/Strategic%20Plan%20MOH%202019-2023/FINAL%20MOH%20Strategic%20Book%202019-compressed%20(5MB).pdf)]. Accessed 9 January 2021.

[2] Ministry of Health, Brunei Darussalam. "Introduction". [<http://www.moh.gov.bn/SitePages/Introduction.aspx>] Accessed February 1, 2021.

[3] Agriculture and Agrifood Department, Ministry of Primary Resources and Tourism, Brunei Darussalam. "Home". [<http://www.agriculture.gov.bn/Theme/Home.aspx>] Accessed February 1, 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**

The government of Brunei's Department of Laboratory Services has achieved ISO15189 accreditation. According to Department of Laboratory Services "Laboratory Handbook", the ISO15189 accreditation was achieved in 2011 by the Singapore Accreditation Council. [1] The lab is located at Raja Isteri Pengiran Anak Saleha (RIPAS) Hospital and is presently known as the Central State Laboratory. [2] The Joint External Evaluation for Brunei, conducted in October 2019, states that all laboratories area accredited to ISO standards (ISO:15189 and ISO:17025). [3]

[1] Department of Laboratory Services. 2016. "Laboratory

Handbook". [<http://www.moh.gov.bn/SiteCollectionDocuments/Laboratory%20Services/LH-4Ed.pdf>] Accessed 21 November 2020.

[2] Ministry of Health. "Laboratory Services". [<http://www.moh.gov.bn/SitePages/Laboratory%20Services.aspx>]. Accessed 21 November 2020.

[3] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

### 2.1.2b

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

Yes = 1 , No = 0

**Current Year Score: 1**

The government of Brunei's Department of Laboratory Services is subject to external quality assurance review. According to Department of Laboratory Services "Laboratory Handbook", the laboratories participate in external quality assessment (EQA) programs, the Royal College of Pathologist of Australasia (RCPA) on: anatomical pathology, chemical pathology, gynaecological cytopathology, general haematology, specialised haematology, immunology, microbiology, serology, and blood transfusion. [1] The lab is located at Raja Isteri Pengiran Anak Saleha (RIPAS) Hospital and is presently known as the Central State Laboratory. [2] The Joint External Evaluation for Brunei, conducted in October 2019, also states that all laboratories perform quality assurance of tests through participation in international external quality assessment (EQA) programmes. [3]

[1] Department of Laboratory Services. 2016. "Laboratory Handbook". [http://www.moh.gov.bn/SiteCollectionDocuments/Laboratory%20Services/LH-4Ed.pdf] Accessed 21 November 2020.

[2] Ministry of Health. "Laboratory Services". [http://www.moh.gov.bn/SitePages/Laboratory%20Services.aspx]. Accessed 21 November 2020.

[3] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y]. Accessed 25 January 2021."

## 2.2 LABORATORY SUPPLY CHAINS

### 2.2.1 Specimen referral and transport system

#### 2.2.1a

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

Yes = 1 , No = 0

**Current Year Score: 1**

The government of Brunei has a nationwide specimen transport system. The Joint External Evaluation (JEE) for Brunei, conducted in October 2019, under question D.1.2 scores Brunei a "4", stating that it has a comprehensive functional system of specimen transportation to respective national laboratories for testing. The JEE further notes that "Brunei Darussalam enjoys a comprehensive, functional system of specimen transportation that takes samples from community health clinics and animal farms at district level to the national laboratories, via water and land, within 24 hours. There is a functional system for specimen referrals to respective national laboratories for confirmation of the nine listed core tests performed locally". However, it also notes that the transportation system relies heavily on government transportation and that there is a need to build lab capacity to this end [1].

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y]. Accessed 25 January 2021.

## 2.2.2 Laboratory cooperation and coordination

### 2.2.2a

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

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

**Current Year Score: 0**

There is no publicly available evidence of a plan for the government of Brunei to rapidly authorize or license laboratories to supplement the capacity of the national public health laboratory system to scale-up testing during an outbreak. The Borneo Bulletin reports an auxiliary National Virology Reference Laboratory was successfully built within a month to meet the large capacity with the increasing needs of COVID-19 laboratory tests. [1] A presentation by the National Virology Reference Laboratory also showed capacity building strategies via workflow optimisation, extended working hours, and construction of a new laboratory facility following the COVID-19 outbreak. [2] However, neither of these examples specify a plan that authorised these actions. No publicly available evidence was available on the websites of the Department of Laboratory Services, Ministry of Health, the Agriculture and Agrifood Department, and the PAPRSB Institute of Health Sciences [3, 4, 5, 6].

[1] Borneo Bulletin. 8 April 2020. "New lab makes road to recovery smoother". [<https://borneobulletin.com.bn/new-lab-makes-road-to-recovery-smoother/>]. Accessed 10 January 2021.

[2] Dr Zainun Zaini, Department of Laboratory Services. 2020. "Laboratory surge response to COVID-19 outbreak Brunei experience ". [[http://mimls.org/uploads/pdf/Dr\\_Zainun\\_Zaini\\_-\\_Laboratory\\_Surge\\_Response\\_to\\_COVID-19\\_Outbreak\\_-\\_Brunei\\_Experience.pdf](http://mimls.org/uploads/pdf/Dr_Zainun_Zaini_-_Laboratory_Surge_Response_to_COVID-19_Outbreak_-_Brunei_Experience.pdf)]. Accessed 10 January 2021

[3] Department of Laboratory Services. 2016. "Laboratory Handbook [<http://www.moh.gov.bn/SiteCollectionDocuments/Laboratory%20Services/LH-4Ed.pdf>] Accessed 20 December 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[5] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[6] Universiti Brunei Darussalam. ""PAPRSB Institute of Health Sciences"". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 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: 2**

There is publicly available evidence that the government of Brunei conducts ongoing event-based surveillance and analysis for infectious disease. The Joint External Evaluation for Brunei, conducted in October 2019, states that the national surveillance system is comprised of indicator-based, event-based and syndromic surveillance systems with a legislative basis in the Infectious Disease Act Cap.204. [1] It also states a duty officer system is in place to support event-based surveillance, with daily screening and risk assessments. [1] Additionally, The Ministry of Health reports that as part of its communicable

disease surveillance system, the country conducts event-based surveillance "monitoring of unusual events of occurrence, including rumours. It provides early warning and alert on emerging infectious diseases and potential disease outbreak. Information is obtained through formal and informal channels and it allows for appropriate investigative actions." [2].

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[2] Ministry of Health, Brunei Darussalam. "Communicable Diseases Surveillance". [<http://www.moh.gov.bn/SitePages/Communicable%20Disease%20Surveillance.aspx>]. Accessed 20 December 2020.

### 2.3.1b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient evidence that the government of Brunei has reported a potential public health emergency of international concern to WHO within the last two years. The Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019, states that Brunei has a well-established system for efficient identification and reporting of PHEICs to WHO as required under the IHR. [1] It further states that "coordination mechanisms have been tested in real events such as the declaration of Ebola as a PHEIC in 2019, the Zika Virus Disease outbreak in 2016/17, the West African Ebola outbreak in 2014/15, and the emergence of Middle East respiratory syndrome coronavirus (MERS-CoV) in 2013/14". [1] However, there is no further evidence of Brunei reporting a PHEIC to the WHO under IHR in the last two years on the WHO Disease Outbreak News page, the Ministry of Health and the Agrifood and Agriculture Department. [2, 3, 4] WHO's Disease Outbreak News pages for 2020 and 2019 do not mention any reports by Brunei Darussalam. [5, 6]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] World Health Organization". Emergency preparedness response: Brunei Darussalam" [<https://www.who.int/csr/don/archive/country/brn/en/>]. Accessed 20 December 2020.

[3] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[4] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[5] World Health Organisation (WHO). 2020. "Emergencies preparedness, response: 2020". [<https://www.who.int/csr/don/archive/year/2020/en/>] Accessed May 14, 2021.

[6] World Health Organisation (WHO). 2019. "Emergencies preparedness, response: 2019". [<https://www.who.int/csr/don/archive/year/2019/en/>] Accessed May 14, 2021.

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

### 2.3.2a

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

Yes = 1 , No = 0

**Current Year Score: 1**

The government of Brunei operates an electronic reporting surveillance system at both the national and sub-national level. According to the ASEAN e-health bulletin on Brunei, "all health care providers from public and private healthcare settings, including laboratories, are required to notify all gazette diseases, including vector-borne diseases such as Dengue, to respective District Health Offices and Disease Control Division (DCD). Notifications are received through electronic system, Bru-HIMS (Brunei Darussalam Healthcare Information and Management System), fax and dispatch-paper based notifications". [1] The Joint External Evaluation for Brunei, conducted in October 2019, states that the Epidemic Intelligence System (EIS), an online platform linked to Bru-HIMS in hospitals ensures electronic real-time reporting for surveillance [2].

[1] Association of Southeast Asian Nations. "e-Health Bulletin". [https://asean.org/storage/2017/02/19-e-Health-Bulletin-11th-Issue\_Final-printing.pdf]. Accessed 20 December 2020.

[2] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y]. Accessed 25 January 2021.

### 2.3.2b

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

Yes = 1, No = 0

**Current Year Score: 1**

There is publicly available evidence that the government of Brunei's electronic reporting surveillance system collects ongoing or real-time laboratory data. The Joint External Evaluation for Brunei, conducted in October 2019, states that the Epidemic Intelligence System (EIS), an online platform linked to Bru-HIMS in hospitals ensures electronic real-time reporting for surveillance. [1] There is also daily screening and risk assessment of all notifications via a duty officer system, and aggregate data analysis is conducted at least weekly with peer review at PHEOC meetings.[1]According to the ASEAN e-health bulletin on Brunei "all health care providers from public and private healthcare settings, including laboratories, are required to notify all gazette diseases, including vector-borne diseases such as Dengue, to respective District Health Offices and Disease Control Division (DCD). Notifications are received through electronic system, Bru-HIMS (Brunei Darussalam Healthcare Information and Management System), fax and dispatch-paper based notifications". [2]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y]. Accessed 21 November 2020.

[2] Association of Southeast Asian Nations. "e-Health Bulletin". [https://asean.org/storage/2017/02/19-e-Health-Bulletin-11th-Issue\_Final-printing.pdf]. Accessed 20 December 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: 2**

Electronic health records are commonly in use in Brunei. The government of Brunei has Bru-HIMS, "a Ministry of Health's ICT initiative where the management of all patients data in Government Hospitals, Out Patient Departments, Treatment Centres and Clinics in Brunei Darussalam are done electronically through a Electronic Patient Record System". [1] "The Bru-HIMS System adopts the concept of One Patient One Record where patients' medical data that has been recorded from all government hospitals, outpatient services, treatment centres and clinics can be collected together under one Electronic Patient Record". [1] No other publicly available evidence was found in the Joint External Evaluation for Brunei, conducted in October 2019, in the Antimicrobial Resistance National Action Plan (BDAMRNAP) or on the websites of the Department of Laboratory Services, Ministry of Health, the Agriculture and Agrifood Department, and the PAPRSB Institute of Health Sciences [2, 3, 4, 5, 6, 7]

[1] Ministry of Health, Brunei Darussalam. "Bru-HIMS: Overview". [<http://www.moh.gov.bn/SitePages/Bru-HIMS.aspx>]. Accessed 20 December 2020.

[2] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[3] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023". [[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[4] Department of Laboratory Services. 2016. "Laboratory Handbook [<http://www.moh.gov.bn/SiteCollectionDocuments/Laboratory%20Services/LH-4Ed.pdf>] Accessed 20 December 2020.

[5] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[6] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[7] Universiti Brunei Darussalam. "PAPRSB Institute of Health Sciences". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 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: 1**

The government of Brunei national public health system have access to electronic health records of individuals in their country. The country has Bru-HIMS, "a Ministry of Health's ICT initiative where the management of all patients data in Government Hospitals, Out Patient Departments, Treatment Centres and Clinics in Brunei Darussalam are done electronically through a Electronic Patient Record System". [1] "The Bru-HIMS System adopts the concept of One Patient One Record where patients' medical data that has been recorded from all government hospitals, outpatient services, treatment centres and clinics can be collected together under one Electronic Patient Record". [1] No other publicly available evidence was found in the Joint External Evaluation for Brunei, conducted in October 2019, in the Antimicrobial Resistance National Action Plan (BDAMRNAP) or on the websites of the Department of Laboratory Services, Ministry of Health, the Agriculture and Agrifood Department, and the PAPRSB Institute of Health Sciences [2, 3, 4, 5, 6, 7]

[1] Ministry of Health, Brunei Darussalam. "Bru-HIMS: Overview". [<http://www.moh.gov.bn/SitePages/Bru-HIMS.aspx>]. Accessed 20 December 2020.

[2] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[3] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".



[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[4] Department of Laboratory Services. 2016. "Laboratory Handbook

[<http://www.moh.gov.bn/SiteCollectionDocuments/Laboratory%20Services/LH-4Ed.pdf>] Accessed 20 December 2020.

[5] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[6] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[7] Universiti Brunei Darussalam. "PAPRSB Institute of Health Sciences". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 2020.

### 2.4.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei has data standards to ensure data is comparable. The government of Brunei has Bru-HIMS, "a Ministry of Health's ICT initiative where the management of all patients data in Government Hospitals, Out Patient Departments, Treatment Centres and Clinics in Brunei Darussalam are done electronically through a Electronic Patient Record System". [1] "The Bru-HIMS System adopts the concept of One Patient One Record where patients' medical data that has been recorded from all government hospitals, outpatient services, treatment centres and clinics can be collected together under one Electronic Patient Record". [1] However, this does not contain any information on whether there are data standards for the electronic records. No other publicly available evidence was found in the Joint External Evaluation for Brunei, conducted in October 2019, in the Antimicrobial Resistance National Action Plan (BDAMRNAP) or on the websites of the Department of Laboratory Services, Ministry of Health, the Agriculture and Agrifood Department, and the PAPRSB Institute of Health Sciences [2, 3, 4, 5, 6, 7]

[1] Ministry of Health, Brunei Darussalam. "Bru-HIMS: Overview". [<http://www.moh.gov.bn/SitePages/Bru-HIMS.aspx>]. Accessed 20 December 2020.

[2] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[3] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[4] Department of Laboratory Services. 2016. "Laboratory Handbook

[<http://www.moh.gov.bn/SiteCollectionDocuments/Laboratory%20Services/LH-4Ed.pdf>] Accessed 20 December 2020.

[5] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[6] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[7] Universiti Brunei Darussalam. "PAPRSB Institute of Health Sciences". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 2020."

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

### 2.4.2a

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

Yes = 1, No = 0

**Current Year Score: 1**

The government of Brunei has established mechanisms at the relevant ministries responsible for animal, human, and wildlife surveillance to share data. The Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019, states the Ministry of Health (MOH) and the Ministry for Primary Resources and Tourism (MPRT) have jointly developed the Joint Framework for Preparedness and Response to Zoonotic Diseases, establishing priority zoonotic diseases for surveillance, identifying procedures for inter-agency communication and escalation of responses to zoonotic diseases, mandating joint risk assessment between the human and animal health sectors when handling notification, forming a joint Outbreak Control Team, and describing public risk communication processes for zoonotic disease incidents. [1] Regular and routine information sharing across the animal and human sectors is established, and mechanisms for urgent notifications are also operational. [1] According to the JEE, these surveillance systems are in place for the identified 5 priority zoonotic diseases in the country - Avian Influenza, Salmonella, Rabies, E. coli O157, and Anthrax. [1]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

## 2.4.3 Transparency of surveillance data

### 2.4.3a

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei makes de-identified health surveillance data on infectious diseases publicly available on government websites. No publicly available evidence was found on the Joint External Evaluation for Brunei, conducted in October 2019, in the Antimicrobial Resistance National Action Plan (BDAMRNAP) or on the websites of the Department of Laboratory Services, Ministry of Health, the Agriculture and Agrifood Department, and the PAPRSB Institute of Health Sciences. [1, 2, 3, 4, 5, 6,]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[2] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023". [[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[3] Department of Laboratory Services. 2016. "Laboratory Handbook [<http://www.moh.gov.bn/SiteCollectionDocuments/Laboratory%20Services/LH-4Ed.pdf>] Accessed 20 December 2020.

- [4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.
- [5] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.
- [6] Universiti Brunei Darussalam. "PAPRSB Institute of Health Sciences". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 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 government of Brunei makes de-identified COVID-19 surveillance data available via daily reports. The Ministry of Health publishes updates on the news section on its website. [1] This information is also shared via the Ministry of Health's Facebook page. [2]

[1] Ministry of Health, Brunei Darussalam. "Latest News". [<http://www.moh.gov.bn/SitePages/Latest%20News.aspx>]. Accessed 9 January 2021.

[2] Facebook. "Ministry of Health, Brunei Darussalam". [<https://www.facebook.com/MOHBrunei>]. Accessed 8 January 2021.

## 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: 0**

The government of Brunei does not have any laws that safeguard the confidentiality of health information generated through health surveillance. Brunei has a general Data Protection Policy, but this does not apply to health surveillance or other activities carried out in the interest of national security. [1] Private law firms on the other hand, stress that Brunei has no data protection laws. [2] No publicly available evidence was found on the Joint External Evaluation for Brunei, conducted in October 2019, in the Antimicrobial Resistance National Action Plan (BDAMRNAP) or on the websites of the Department of Laboratory Services, Ministry of Health, the Agriculture and Agrifood Department, and the PAPRSB Institute of Health Sciences. [3, 4, 5, 6, 7,8]

[1] E-Government National Centre. "Data Protection Policy".

[<http://www.information.gov.bn/PublishingImages/SitePages/New%20Media%20and%20IT%20Unit/Data%20Protection%20Policy%20V.2.2.pdf>]. Accessed 20 December 2020.

[2] International Comparative Legal Guides. "Data Protection 2018: Brunei". [<https://iclg.com/practice-areas/data-protection-laws-and-regulations/brunei>]. Accessed 20 December 2020.

[3] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[4] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&res](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&res)

pondent\_id=317394]. Accessed 21 November 2020.

[5] Department of Laboratory Services. 2016. "Laboratory Handbook

[<http://www.moh.gov.bn/SiteCollectionDocuments/Laboratory%20Services/LH-4Ed.pdf>] Accessed 20 December 2020.

[6] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[7] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[8] Universiti Brunei Darussalam. "PAPRSB Institute of Health Sciences". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 2020."

### 2.4.4b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei has any laws that safeguard the confidentiality of health information generated through health surveillance. Brunei has a general Data Protection Policy, but this does not mention cyber attacks. [1] Private law firms on the other hand, stress that Brunei has no data protection laws. No publicly available evidence was found on the Joint External Evaluation for Brunei, conducted in October 2019, in the Antimicrobial Resistance National Action Plan (BDAMRNAP) or on the websites of the Department of Laboratory Services, Ministry of Health, the Agriculture and Agrifood Department, and the PAPRSB Institute of Health Sciences. [3, 4, 5, 6, 7,8]

[1] E-Government National Centre. "Data Protection Policy".

[<http://www.information.gov.bn/PublishingImages/SitePages/New%20Media%20and%20IT%20Unit/Data%20Protection%20Policy%20V.2.2.pdf>]. Accessed 20 December 2020.

[2] International Comparative Legal Guides. "Data Protection 2018: Brunei". [<https://iclg.com/practice-areas/data-protection-laws-and-regulations/brunei>]. Accessed 20 December 2020.

[3] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[4] Brunei Darussalam. 2019. "Antimicrobial Resistance National Action Plan 2019-2023".

[[http://apps.who.int/datacol/answer\\_upload.asp?survey\\_id=666&view\\_id=722&question\\_id=13163&answer\\_id=19958&respondent\\_id=317394](http://apps.who.int/datacol/answer_upload.asp?survey_id=666&view_id=722&question_id=13163&answer_id=19958&respondent_id=317394)]. Accessed 21 November 2020.

[5] Department of Laboratory Services. 2016. "Laboratory Handbook

[<http://www.moh.gov.bn/SiteCollectionDocuments/Laboratory%20Services/LH-4Ed.pdf>] Accessed 20 December 2020.

[6] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[7] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[8] Universiti Brunei Darussalam. "PAPRSB Institute of Health Sciences". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 2020."

## 2.4.5 International data sharing

### 2.4.5a

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

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

**Current Year Score: 1**

There is publicly available evidence that the government of Brunei 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 but for one disease only (covid-19).

The foreign minister of Brunei made a joint statement with ASEAN and the People's Republic of China on February 20, 2020 to increase cooperation during the COVID-19 pandemic to share information in a timely manner which includes "exchanging available epidemiological information, technical guidelines and solution for epidemic prevention and control, diagnosis, treatment and surveillance." [1]

No additional publicly available evidence was found on local/regional news portals, the ASEAN web portal, or on the websites of the Ministry of Health and the PAPRSB Institute of Health Sciences. [2,3,4]

[1] Association for Southeast Asian Nations (ASEAN). "Statement of the Special ASEAN-China Foreign Ministers' Meeting on the Coronavirus Disease 2019 (COVID-19)". [<https://asean.org/statement-special-asean-china-foreign-ministers-meeting-coronavirus-disease-2019-covid-19/>]. Accessed 8 September 2020.

[2] Association of Southeast Asian Nations. "Statements and Communiques". [<https://asean.org/category/asean-statement-communiques/>]. Accessed 20 December 2020.

[3] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[4] Universiti Brunei Darussalam. "PAPRSB Institute of Health Sciences". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 2020.

## 2.5 CASE-BASED INVESTIGATION

### 2.5.1 Case investigation and contact tracing

#### 2.5.1a

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

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

**Current Year Score: 1**

There is evidence that the government of Brunei has a national system in place to provide support at the sub-national level to conduct contact tracing in the event of a public health emergency. However, the structure is currently only intended for TB.

The government of Brunei provides extensive support measures for contact tracing in its Tuberculosis plan titled, "Guidelines for Tuberculosis Control in Brunei Darussalam" published in March 2013. [1] The plan assigns the DOTS (Directly Observed Treatment Short Course) Centers, located mainly in hospitals and health centres / clinics and also function as a Tuberculosis referral and reporting unit, to conduct contact tracing of sputum smear positive pulmonary TB cases. The plan assigns notification and coordination responsibilities across agencies including to the Ministry of Education and Occupational Health Unit. It provides information on when to undertake contact tracing for Tuberculosis through a risk assessment check. It also mentions that the National Tuberculosis Committee is responsible for supervising the DOTS centre and ensuring adequate

training of its health workers, including contact tracers. However, no further explanation of how this is to be carried out is given. [1]

In light of the covid-19 pandemic, the Ministry of Health released a mobile application called BruHealth, which "contains an overview of Brunei and the global COVID-19 situation (latest statistics and trends)", including self identification and contact tracing data. The application shows "the activity trace of the confirmed cases in Brunei and locations of medical resources". However, the application is geared to support general public movement during the pandemic, rather than supporting contact tracing at the sub-national level through training, metrics standardization, and/or financial resources. [2]

There is no further information found in the websites of Ministry of Health and Department of Laboratory Services [3,4]

- [1] Ministry of Health, Brunei Darussalam. 2013. "Guidelines for Tuberculosis Control in Brunei Darussalam". [<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/TB-Guideline.pdf>]. Accessed 10 January 2021.
- [2] Ministry of Health, Brunei Darussalam. "BruHealth". [<http://www.moh.gov.bn/SitePages/bruhealth.aspx>]. Accessed 10 January 2021.
- [3] Ministry of Health, Brunei Darussalam. [<http://moh.gov.bn/Pages/Home.aspx>]. Accessed 10 January 2021.
- [4] Department of Laboratory Services, Brunei Darussalam. [<http://moh.gov.bn/SitePages/Laboratory%20Services.aspx>]. Accessed 10 January 2021

### 2.5.1b

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

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

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei provides wraparound services to infected people and their contacts to self-isolate or quarantine as recommended, whether for economic support or medical attention. No evidence was found on the websites of Department of Laboratory Services, Ministry of Health, the Agriculture and Agrifood Department, and the PAPRSB Institute of Health Sciences. [1, 2, 3, 4]

- [1] Department of Laboratory Services. 2016. "Laboratory Handbook [<http://www.moh.gov.bn/SiteCollectionDocuments/Laboratory%20Services/LH-4Ed.pdf>] Accessed 20 December 2020.
- [2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.
- [3] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.
- [4] Universiti Brunei Darussalam. "PAPRSB Institute of Health Sciences". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 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 government of Brunei makes de-identified contact tracing efforts for COVID-19. The Ministry of Health publishes updates on the news section on its website which provides information about COVID-19 cases and contact tracing details however, these are not reported on a daily basis. [1] A daily news bulletin typically includes de-identified contract tracing data. [2] This information is also shared via the Ministry of Health's Facebook page. [3] The Ministry of Health also has a COVID-19 dashboard but further information regarding cases is restricted. [4] The statistics and resources on the website of the ' National Health Screening Programme (NHSP)' have not been updated since 2017 and do not include any relevant information on contact tracing for COVID-19 either. [5]

[1] Ministry of Health, Brunei Darussalam. "Latest News". [<http://www.moh.gov.bn/SitePages/Latest%20News.aspx>]. Accessed 9 January 2021.

[2] Ministry of Health, Brunei Darussalam. "Media Statement on the Current COVID-19 Infection in Brunei Darussalam". [<http://www.moh.gov.bn/Lists/Latest%20news/NewDispForm.aspx?ID=370>]. Accessed 28 January 2021.

[3] Facebook. "Ministry of Health, Brunei Darussalam". [<https://www.facebook.com/MOHBrunei>]. Accessed 8 January 2021.

[4] Ministry of Health, Brunei Darussalam. "COVID-19". [<http://www.moh.gov.bn/COVID-19/SitePages/homepage.aspx>] Accessed February 2, 2021.

[5] PPKK. " National Health Screening Programme (NHSP)". [<http://www.ppkk.gov.bn/SitePages/Home.aspx>] Accessed February 2, 2021.

## 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 publicly available evidence that the government of Brunei's public health system and border control authorities have a cooperative agreement to identify suspected potential cases in international travelers, whether for active or future public health emergencies. The Ministry of Health details directives that prohibit international travellers from specific countries but there is no evidence of cooperation between public health and border control for contact tracing purposes. [1] No other evidence was found on the Ministry of Health and National Disaster Management Centre websites. [2, 3]

[1] Ministry of Health, Brunei Darussalam. ""Directives Under the Infectious Diseases Act Chapter 204"". [[http://www.moh.gov.bn/SitePages/Arahan-](http://www.moh.gov.bn/SitePages/Arahan-Arahan%20di%20bawah%20BAB%2062A%20Akta%20Penyakit%20Berjangkit%20Penggal%20204.aspx)

[Arahan%20di%20bawah%20BAB%2062A%20Akta%20Penyakit%20Berjangkit%20Penggal%20204.aspx](http://www.moh.gov.bn/SitePages/Arahan-Arahan%20di%20bawah%20BAB%2062A%20Akta%20Penyakit%20Berjangkit%20Penggal%20204.aspx)]. Accessed 9 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[3] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

## 2.6 EPIDEMIOLOGY WORKFORCE

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

#### 2.6.1a

Does the country meet one of the following criteria?

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

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

**Current Year Score: 1**

There is insufficient evidence that the government of Brunei hosts applied epidemiology training program (such as FETP) is available in country though there is some evidence that resources are provided by the government to send citizens to another country to participate in applied epidemiology training programs. According to a report by ASEAN, "A key strategy of the Ministry of Health (MoH) Vision 2035 focuses on upgrading human resources competencies and continuous professional development, with an emphasis on FET." [1] "In terms of human resource development, this is done through enhancing national public health professionals' competencies in field epidemiology." [1] "In addition, the Department of Health Services regularly conducts lectures on epidemiology and biostatistics to healthcare professionals." [1] The Joint External Evaluation for Brunei, conducted in October 2019, states that Brunei has established a Frontline FETP programme based on US CDC curriculum that would become active from December 2019. However, there is no further publicly available evidence of such a training in the country on the ASEAN Plus Three Field Epidemiology Training Network website, the CDC website, and . [2, 3, 4, 5, 6] Additionally, The Joint External Evaluation for Brunei, conducted in October 2019, states that "one senior medical officer is currently undergoing advanced FETP training through an arrangement with the Thailand Ministry of Public Health and the ASEAN Plus Three Field Epidemiology Training Network." [2] Brunei also receives informal support from the ASEAN Plus Three Field Epidemiology Training Network and the the US Centers for Disease Control and Prevention (US CDC). [2]

[1] Association of Southeast Asian Nations. "ASEAN Plus Three Field Epidemiology Training Programs".

[[http://www.aseanplus3fetn.net/read\\_more\\_pdf/FETNP21-30.pdf](http://www.aseanplus3fetn.net/read_more_pdf/FETNP21-30.pdf)] Accessed 20 December 2020.

[2] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[3] ASEAN Plus Three Field Epidemiology Training Network. "List of offered interesting activities for Exchange Training Trainer in Host Country". [<http://www.aseanplus3fetn.net/document/List%20of%20Interested%20offered%20activities.pdf>] Accessed February 02, 2021.

[4] Center for Disease Control. June 16, 2020. "Field Epidemiology Training Program (FETP)".

[<https://www.cdc.gov/globalhealth/healthprotection/fetp/index.htm>] Accessed February 02, 2021.

[5] TEPHINET. January 15, 2020. "FETP Updates: October-December 2019". [<https://www.tephinet.org/fetp-updates-october-december-2019>] Accessed February 02, 2021.

[6] TEPHINET. January 15, 2020. "Training Programs". [<https://www.tephinet.org/training-programs>] Accessed February 02, 2021.



### 2.6.1b

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

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available evidence that the government of Brunei includes animal health professionals in its epidemiology training programs, nor is there any evidence of specific animal health epidemiology training programs. The Joint External Evaluation (JEE) of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019, states that Brunei has established a Frontline FETP programme based on US CDC curriculum that has been active since December 2019, however there is no mention of an animal health training program. According to the JEE, "There are no veterinarians in Brunei Darussalam who have received formal veterinary epidemiology training through an FETP". [1] No publicly available evidence was found on the websites of ASEAN Plus Three Field Epidemiology Training Programs, ASEAN Plus Three Field Epidemiology Training Network, the Ministry of Health and the Department for Laboratory Services. [2, 3, 4, 5]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[2] Association of Southeast Asian Nations. "ASEAN Plus Three Field Epidemiology Training Programs". [[http://www.aseanplus3fetn.net/read\\_more\\_pdf/FETNP21-30.pdf](http://www.aseanplus3fetn.net/read_more_pdf/FETNP21-30.pdf)] Accessed 20 December 2020.

[3] ASEAN PLUS THREE FIELD EPIDEMIOLOGY TRAINING NETWORK. "Who we are" [<http://www.aseanplus3fetn.net/?s=1&j=whoweare>]. Accessed 20 December 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[5] Department of Laboratory Services. 2016. "Laboratory Handbook". [<http://www.moh.gov.bn/SiteCollectionDocuments/Laboratory%20Services/LH-4Ed.pdf>] Accessed 20 December 2020.

## 2.6.2 Epidemiology workforce capacity

### 2.6.2a

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

Yes = 1, No = 0

Current Year Score: 0

2020

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

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

### 3.1 EMERGENCY PREPAREDNESS AND RESPONSE PLANNING

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

##### 3.1.1a

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

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

**Current Year Score: 2**

The government of Brunei has an overarching national public health emergency response plan in place which addresses planning for multiple communicable diseases with pandemic potential. Brunei has a Public Health Emergency Operation Plan (PHEOP) which contains a general strategy for dealing with potential pandemics including three phases: preparedness, response and recovery. [1] This plan is publicly available. Additionally, the Joint External Evaluation for Brunei, conducted in October 2019, states that the PHEOP received a 1st revision in August 2019, however the revised version is not publicly available. [2] Brunei also has a broad disaster management plan but it does not address diseases with pandemic potential, which is publicly available. [3]

[1] Ministry of Health. April 2008. "Public Health Emergency Operation Plan".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 20 December 2020.

[2] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[3] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 20 December 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**

The government of Brunei has updated its public health response plan within the last three years. The Joint External Evaluation for Brunei, conducted in October 2019, states that the Public Health Emergency Operation Plan has been developed (PHEOP) first dated 2008, was revised and endorsed in 2019. [1, 2] The Brunei: Disaster Management Reference Handbook 2018, a broad disaster management plan is dated 2018. [3]

[3] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

### 3.1.1c

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

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

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei has any plan that includes considerations for pediatric and/or other vulnerable populations. The Joint External Evaluation for Brunei, conducted in October 2019, states that Brunei has a Public Health Emergency Operation Plan (PHEOP) but there is no evidence that it includes considerations for vulnerable populations. [1]. The government of Brunei's Public Health Emergency Plan does not have considerations for pediatric and other vulnerable populations [2]. Brunei also has a broad disaster management plan but it does not address vulnerable groups. [3] No other information was found including from the Ministry of Health, and the National Disaster Management Centre. [4, 5]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[2] Ministry of Health. April 2008. "Public Health Emergency Operation Plan". [<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 20 December 2020.

[3] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 20 December 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[5] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

### 3.1.1d

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

Yes = 1 , No = 0

**Current Year Score: 0**

2020

WHO Strategic Partnership for IHR and Health Security (SPH)

## 3.1.2 Private sector involvement in response planning

### 3.1.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei has specific mechanisms for engaging with the private sector to assist with outbreak emergency preparedness and response. No evidence was found in the Joint External Evaluation

for Brunei, conducted in October 2019, the Public Health Emergency Operation Plan, the Brunei: Disaster Management Reference Handbook 2018, or on the websites of Ministry of Health, and the National Disaster Management Centre. [1, 2, 3, 4, 5]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[2] Ministry of Health. April 2008. "Public Health Emergency Operation Plan".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 20 December 2020.

[3] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018. [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 20 December 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[5] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 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: 1**

The government of Brunei has guidelines in place to implement non-pharmaceutical interventions (NPIs) during an epidemic or pandemic but the policy, plan and/or guidelines exist only for one disease. The Ministry of Health website contains a section specifically for COVID-19, outlining guidelines for the implementation of NPIs. These include social distancing at public events and spaces, hygiene and sanitation considerations, reduced capacity on public transportation, closure of gyms, museums, and libraries, and staggering working hours for vulnerable or at risk populations. [1] However, there was no evidence to suggest that these guidelines can be used for other diseases. No other publicly available information was found on the websites of the Ministry of Health, and the National Disaster Management Centre. [2, 3]

[1] Ministry of Health, Brunei Darussalam. "Useful Guidelines on COVID-19". [<http://www.moh.gov.bn/SitePages/guidelinesCOVID-19.aspx>]. Accessed 10 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[3] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 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 evidence that the government of Brunei has activated their national emergency response plan for an infectious disease outbreak in the past year, but not that have they completed a national-level biological threat focused exercise. In the past year (2020), the Ministry of Health has issued a series of directives to respond to covid-19 under the Infectious Diseases Act Chapter 204 since 30 January 2020. These directives range from border movement restrictions, quarantine and isolation measures, fines for non compliances, and travel prohibitions to the adoption of NPIs and are issued for when they are activated or relaxed. [1] There is no evidence that Brunei's National Standard Operating Procedure (NaSOP) or the Public Health Emergency Operation Plan (PHEOC) were activated during this time on the websites of Ministry of Health, and the National Disaster Management Centre. [2, 3, 4] No evidence was found in the Joint External Evaluation for Brunei, conducted in October 2019 or the Brunei: Disaster Management Reference Handbook 2018. [5, 6] The WHO Simulation Exercises webpage does not provide any information regarding Brunei's completion or plan for a national-level biological threat focused exercise. [7] There is no further evidence of such an exercise on the websites of the Ministry of Health or the National Disaster Management Center. [3, 4]

[1] Ministry of Health, Brunei Darussalam. "Directives under the Infectious Diseases Act Chapter 204"

[[http://www.moh.gov.bn/SitePages/Arahan-](http://www.moh.gov.bn/SitePages/Arahan-Arahan%20di%20bawah%20BAB%2062A%20Akta%20Penyakit%20Berjangkit%20Penggal%20204.aspx)

[Arahan%20di%20bawah%20BAB%2062A%20Akta%20Penyakit%20Berjangkit%20Penggal%20204.aspx](http://www.moh.gov.bn/SitePages/Arahan-Arahan%20di%20bawah%20BAB%2062A%20Akta%20Penyakit%20Berjangkit%20Penggal%20204.aspx)]. Accessed 10 January 2021.

[2] Ministry of Health. April 2008. "Public Health Emergency Operation Plan".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 20 December 2020.

[3] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[4] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020."

[5] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[6] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 20 December 2020.

[7] World Health Organisation (WHO). 01 February 2021. "Simulation Exercise". [<https://extranet.who.int/sph/simulation-exercise?region=All&country=336>] Accessed February 2, 2021.

### 3.2.1b

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

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

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei has in the past year identified a list of gaps and best practices in response. The Ministry of Health has devised a Strategic Plan 2019-2023 that addresses the need to strengthen national capacities but there is no evidence to suggest it was developed as an after action review.[1] No other evidence was found on in the Joint External Evaluation for Brunei, conducted in October 2019 or on the websites of the WHO After Action Review, the Ministry of Health and the National Disaster Management Centre [2, 3, 4, 5].

[1] Ministry of Health, Brunei Darussalam. 2019. "Strategic Plan 2019 - 2023".

[[http://moh.gov.bn/Shared%20Documents/Strategic%20Plan%20MOH%202019-2023/FINAL%20MOH%20Strategic%20Book%202019-compressed%20\(5MB\).pdf](http://moh.gov.bn/Shared%20Documents/Strategic%20Plan%20MOH%202019-2023/FINAL%20MOH%20Strategic%20Book%202019-compressed%20(5MB).pdf)]. Accessed 9 January 2021.

[2] World Health Organisation (WHO). "After Action Review". [<https://extranet.who.int/sph/after-action-review?region=All&country=2844>]. Accessed 9 January 2021.

[3] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[5] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

## 3.2.2 Private sector engagement in exercises

### 3.2.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei has in the past year undergone a national-level biological threat-focused exercise that has included private sector representatives. No evidence of such an exercise was found on the websites of the World Health Organisation (WHO) After Action Review, the WHO Simulation Exercise, the WHO Brunei, the WHO Western Pacific, the Ministry of Health and the National Disaster Management Centre [1, 2, 3, 4, 5, 6].

[1] World Health Organisation (WHO). "After Action Review". [<https://extranet.who.int/sph/after-action-review?region=All&country=2844>]. Accessed 9 January 2021.

[2] World Health Organisation (WHO). "Simulation Exercise". [<https://extranet.who.int/sph/simulation-exercise>]. Accessed 28 January 2021.

[3] World Health Organisation (WHO). "Brunei Darussalam". [<https://www.who.int/brunei>]. Accessed 2 February 2021

[4] World Health Organisation (WHO). "Western Pacific". [<https://www.who.int/westernpacific>]. Accessed 2 February 2021.

[5] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[6] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 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**

The government of Brunei has in place emergency operations centres. According to the Public Health Emergency Response Plan, Brunei has a "Public Health Central Command, situated at the Office of Director of Environmental Services" for public health emergencies [1]. The government of Brunei also has a National Disaster Management Centre that broadly covers disasters[2]. This is emphasised by the Joint External Evaluation for Brunei, conducted in October 2019, which states that the National Disaster Management Centre (NDMC) is the lead agency for disaster management, while the Ministry of Health EOC (MOHEOC) is the national strategic health EOC responsible for coordinating public health emergency responses. [3]

[1] Ministry of Health. April 2008. "Public Health Emergency Operation Plan".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 20 December 2020.

[2] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018. [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 20 December 2020.

[3] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

**3.3.1b**

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Brunei's Emergency Operations Center (EOC) is required to conduct a drill but there is some evidence that it has conducted drills for a public health emergency scenario at least once a year. The Joint External Evaluation (JEE) of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019, states that several tabletop exercises have been conducted to test the coordination and response operations of relevant stakeholders, including coordinated exercises for the Eksesais Perisai Kebangsaan 2015, in preparation for Jubli Emas 2017, a Safety Emergency Drill in 2018 that involved security authorities and health personnel at the Brunei International Airport, and an exercise held in 2019 to test the coordination of the MOH with various security agencies at the airport during a suspected case of communicable disease of public health concern onboard an aircraft. [1] According to the JEE, the National Disaster Management Centre (NDMC), the lead agency for disaster management in Brunei Darussalam, "manages an ongoing programme of periodic exercises addressing various emergencies, usually held at district level" as well as "participates in regional exercises through the AHA Centre and ASEAN Regional Capacity on Disaster Health Management (ARCH) Project". [1] However, there is no further information on an annual drill or exercise conducted by the EOC in Brunei given in the Public Health Emergency Operation Plan (PHEOC), the Brunei: Disaster Management Reference Handbook 2018, and on the websites of the Ministry of Health and the National Disaster Management Centre. [2, 3, 4, 5]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Ministry of Health. April 2008. "Public Health Emergency Operation Plan".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 20 December 2020.

[3] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018. [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 20 December 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[5] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

### 3.3.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that the EOC can conduct, or has conducted within the last year, a coordinated emergency response or emergency response exercise activated within 120 minutes of the identification of the public health emergency/scenario. The Joint External Evaluation for Brunei, conducted in October 2019 states that "Unclear ownership and lack of documentation prevents most existing EOCs from validating their ability to activate within 120 minutes". [1]. No additional available evidence was found in the Joint External Evaluation for Brunei, conducted in October 2019, the Public Health Emergency Operation Plan, the Brunei: Disaster Management Reference Handbook 2018, or on the websites of Ministry of Health, and the National Disaster Management Centre. [2, 3, 4, 5]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Ministry of Health. April 2008. "Public Health Emergency Operation Plan".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 20 December 2020.

[3] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018. [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 20 December 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[5] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 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 insufficient evidence that the government of Brunei has standard operating procedures between public health and security authorities to respond to a potential deliberate biological event, but there is no publicly available evidence that the government of Brunei's public health and national security authorities have carried out response exercises.. The Joint External Evaluation for Brunei, conducted in October 2019, states that the government of Brunei has developed the National Standard Operating Procedure (NaSOP) in 2012 which addresses disaster response SOPs for all agencies. [1]. Brunei was also finalising the Disaster Management Strategic Policy Framework (DMSPF) which is a disaster management policy that adopts an all-hazards, all-agencies approach. [1]. For CBRN incidents, the Royal Brunei Police Force (RBPF) are the initial first responders, and if CBRN materials are suspected to be involved, the CBRE (chemical/biological/radiological/explosives) Unit of the Brunei Royal Land Force is deployed. [1] Further, there is no 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) on the Public Health Emergency Operation Plan, the Brunei: Disaster Management Reference Handbook 2018, or on the websites of Ministry of Health, and the National Disaster Management Centre. [2, 3, 4, 5]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Ministry of Health. April 2008. "Public Health Emergency Operation Plan".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 20 December 2020.

[3] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 20 December 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[5] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

## 3.5 RISK COMMUNICATIONS

### 3.5.1 Public communication

#### 3.5.1b

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

Yes = 1, No = 0

**Current Year Score: 1**

There is evidence that Brunei has a risk communication plan (or other legislation, regulation or strategy document used to guide national public health response) that outlines how messages will reach populations and sectors with different communications needs (eg different languages, location within the country, media reach). The Joint External Evaluation for Brunei, conducted in October 2019 states that in accordance with the National Standard Operating Procedure, the Information Department of the Prime Minister's Office adopts the communication plan accounts for local languages and takes a whole-of-nation approach, using media guided by preferences expressed in audience surveys. [1]. No other publicly available information was found in Public Health Emergency Operation Plan, the Brunei: Disaster Management Reference

Handbook 2018, or on the websites of Ministry of Health, and the National Disaster Management Centre. [2, 3, 4, 5]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Ministry of Health. April 2008. "Public Health Emergency Operation Plan". [<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 20 December 2020.

[3] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 20 December 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[5] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

### 3.5.1 Risk communication planning

#### 3.5.1a

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

Yes = 1, No = 0

**Current Year Score: 1**

There is evidence that the government of Brunei has a risk communication plan intended for use during public health emergencies. The Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019, states the country's National Standard Operating Procedure (NaSOP) guides a fully operational, whole-of-nation system of risk communication, with the Ministry of Health enjoying a dedicated Corporate Communications Unit that develops messages during national emergencies or disasters. [1] Communication is done through multiple channels and platforms, taking into consideration audiences' preferred sources of information, including the use of press releases to mainstream media, radio, MOH website, and social media channels such as Facebook and Instagram. The communications teams have access to audience surveys done by the media to assess public reactions to key messages, and there is also a well-established relationship with local communities that is used for quick dissemination of information, with materials available in English or Malay. [1] Risk perception assessment is routinely done as part of the communications response, and results are used to guide the development of communication materials and address the information needs of at-risk communities. [1] In addition to an online portal, the public can also report, and get clarification on fake news and other misinformation via a hotline (Talian Darussalam 123) which is a single national call centre for government services and enquiries, with misinformation is swiftly identified and addressed, within hours. [1] Additionally, community risk perceptions, risky behaviours and misinformation are regularly evaluated and analysed to guide subsequent communication responses. [1] However, there is no mention of any particular plan or legislation for risk communication in the JEE. [1] Additionally, the Public Health Emergency Operation Plan contains a section on media relations, stating the media "must be able to give important protective actions to the public", but this is not a comprehensive risk communications plan. [2] It also states that "in a disaster or public health emergency, a spokesperson will be appointed and media releases will be published through appropriate channel". [2] A section on preventive health measures also covers conveying relevant health information to the public. [2] There is no further evidence available on the websites of the Ministry of Health. [3]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Ministry of Health. April 2008. "Public Health Emergency Operation Plan".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 20 December 2020.

[3] Ministry of Health. April 2008. "Home". [<http://www.moh.gov.bn/>] Accessed February 2, 2021.

### 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 insufficient information that the government of Brunei has designated a specific position within the government to serve as the primary spokesperson to the public during a public health emergency. The Joint External Evaluation for Brunei, conducted in October 2019, however, states that the National Standard Operating Procedure (NaSOP) designates the Information Department of the Prime Minister's Office as the lead for risk communication, communicating and coordinating with other relevant agencies and stakeholders in times of national emergencies or disasters. [1] No other publicly available information was found in Public Health Emergency Operation Plan, the Brunei: Disaster Management Reference Handbook 2018, or on the websites of Ministry of Health, and the National Disaster Management Centre. [2, 3, 4, 5]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Ministry of Health. April 2008. "Public Health Emergency Operation Plan".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 20 December 2020.

[3] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018. [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 20 December 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[5] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

## 3.5.2 Public communication

### 3.5.2a

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

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

**Current Year Score: 2**

There is publicly available evidence that the government of Brunei's public health system has actively shared messages via online media platforms to inform the public about ongoing public health concerns. The Ministry of Health, Brunei Darussalam's Facebook page has regular, almost daily updates on the COVID-19 status in the country. [1] The platform is also used for general public health discussions including hosting webinars on different topics. [1] The Joint External Evaluation for Brunei, conducted in October 2019 states that "Trained communication teams (public information officers, liaison officers and public relations officers) manage communication during non-emergency times and peacetime, give warnings prior to disasters, disseminate information during disasters, and provide advice during recovery periods". It also states that the national online portal and hotline Talian Darussalam 123 is used for reporting and gaining clarification on fake news and other misinformation. [2, 3].

[1] Facebook. "Ministry of Health, Brunei Darussalam". [<https://www.facebook.com/MOHBrunei>]. Accessed 8 January 2021.

[2] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[3] Talian Darussalam 123. [<https://www.123.gov.bn/>]. Accessed 8 January 2021.

### 3.5.2b

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

No = 1, Yes = 0

**Current Year Score: 1**

There is no publicly available evidence that senior leaders of the government of Brunei have shared misinformation or disinformation on infectious diseases in the past two years. There was no publicly evidence found on international and national news outlets including the Borneo Bulletin, South China Morning Post, Channel NewsAsia and The Borneo Post. [1,2,3,4]

[1] Borneo Bulletin. [<https://borneobulletin.com.bn/>]. Accessed 29 January 2021.

[2] South China Morning Post. [<https://www.scmp.com/asia>]. Accessed 29 January 2021.

[3] Channel NewsAsia. [<https://www.channelnewsasia.com/news/international>]. Accessed 29 January 2021.

[4] The Borneo Post. [<https://www.theborneopost.com/>]. Accessed 29 January 2021.

## 3.6 ACCESS TO COMMUNICATIONS INFRASTRUCTURE

### 3.6.1 Internet users

#### 3.6.1a

**Percentage of households with Internet**

Input number

**Current Year Score: 95**

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: 128.65

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: 2.87

2018-2019

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: 4.44

2018-2019

Gallup; Economist Impact calculation

## 3.7 TRADE AND TRAVEL RESTRICTIONS

### 3.7.1 Trade restrictions

#### 3.7.1a

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

Yes = 0, No = 1

**Current Year Score: 1**

There is no publicly available evidence that the government of Brunei has issued a restriction without international/bilateral support on the export/import of medical goods due to an infectious disease outbreak. No evidence was found on the websites of the WHO Disease Outbreak News, the Ministry of Health, the Agriculture and Agrifood Department and the Ministry of Foreign Affairs. [1, 2, 3, 4]

[1] World Health Organization. "Emergency preparedness response: Brunei Darussalam"

[<https://www.who.int/csr/don/archive/country/brn/en/>]. Accessed 10 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 10 January 2021.

[3] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 10 January 2021.

[4] Ministry of Foreign Affairs, Brunei Darussalam. [<http://www.mfa.gov.bn/site/home.aspx>]. Accessed 10 January 2021.

### 3.7.1b

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

Yes = 0, No = 1

**Current Year Score: 1**

There is no publicly available evidence that the government of Brunei has issued a restriction without international/bilateral support on the export/import of non-medical goods due to an infectious disease outbreak. No evidence was found on the websites of the WHO Disease Outbreak News, the Ministry of Health, the Agriculture and Agrifood Department and the Ministry of Foreign Affairs. [1, 2, 3, 4]

[1] World Health Organization. ""Emergency preparedness response: Brunei Darussalam""

[<https://www.who.int/csr/don/archive/country/brn/en/>]. Accessed 10 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 10 January 2021.

[3] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 10 January 2021.

[4] Ministry of Foreign Affairs, Brunei Darussalam. [<http://www.mfa.gov.bn/site/home.aspx>]. Accessed 10 January 2021.

## 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**

In the past year, Brunei has implemented a ban, without international/bilateral support, on travelers arriving from a specific country or countries due to an infectious disease outbreak. The government of Brunei has implemented a ban on travelers arriving from specific countries due to an infectious disease outbreak. The Ministry of Health issued a directive in June 2020 prohibiting travellers coming from the Hubei province in China, Iran, Europe and the United Kingdom as a result of the COVID-19 outbreak. [1]

[1] Ministry of Health. "Directive 6/2020 under Section 62A of the Infectious Diseases Act Chapter 204. [http://www.moh.gov.bn/Shared%20Documents/2019%20ncov/6-2020%20No%20more%20risk%20categorization%2017.03.2020\_EN.pdf]. Accessed 10 January 2021.

## 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: 160.9

2017

WHO; national sources

##### 4.1.1b

Nurses and midwives per 100,000 people

Input number

Current Year Score: 589.74

2018

WHO; national sources

##### 4.1.1c

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

Yes = 1, No = 0

Current Year Score: 1

The government of Brunei has a health workforce strategy in place (which has been updated in the past five years) to identify fields where there is an insufficient workforce and strategies to address these shortcomings. The Ministry of Health has a Strategic Plan for 2019-2023, where the strategic goals include "Strengthen availability and accessibility of quality allied

health services through needs analysis, workforce and service planning to enhance positive patient experience", and "Improve attraction and retention strategies to retain quality and talented healthcare workforce". In addition, the strategy includes an action plan which aims to upgrade lab facilities and add a BSL3 laboratory. [1]

[1] Ministry of Health, Brunei Darussalam. 2019. "Strategic Plan 2019 - 2023". [http://moh.gov.bn/Shared%20Documents/Strategic%20Plan%20MOH%202019-2023/FINAL%20MOH%20Strategic%20Book%202019-compressed%20(5MB).pdf]. Accessed 9 January 2021.

## 4.1.2 Facilities capacity

### 4.1.2a

**Hospital beds per 100,000 people**

Input number

**Current Year Score: 285**

2017

WHO/World Bank; national sources

### 4.1.2b

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

Yes = 1 , No = 0

**Current Year Score: 1**

The government of Brunei has the capacity to isolate patients with highly communicable diseases. According to the Borneo Post Online, the National Isolation Centre launched in 2012 and housed at the Pengiran Muda Mahkota Pengiran Muda Haji Al-Muhtadee Billah (PMMPMHAMB) Hospital, "is equipped with medical and infrastructural facilities in accordance with infection prevention and control guideline of the World Health Organisation including the Negative Pressure System and Individual Isolation Room with special ventilation system." [1, 2] The Report: Brunei Darussalam 2013 also stated that "the centre's main function is to manage and treat patients with infectious diseases [3]. The government of Brunei also opened a new National Isolation Centre in 2020 to control the spread of the Covid-19 (coronavirus) outbreak in the country. [4]

[1] Borneo Post Online. 15 November 2012. "Crown Prince Launches National Isolation Centre". [http://www.theborneopost.com/2012/11/15/crown-prince-launches-national-isolation-centre/] Accessed 9 January 2021.  
[2] Ministry of Health. "Pengiran Muda Mahkota Pengiran Muda Haji Al-Muhtadee Billah, Tutong Hospital". [http://moh.gov.bn/SitePages/BACKGROUND%20INFO.aspx]. Accessed 9 January 2021.  
[3] Oxford Business Group. 2013. The Report: Brunei Darussalam 2013. "Health Overview" [https://books.google.com.my/books?id=iLvSX0WJaQsC&pg=PA172&lpg=PA172&dq=brunei+national+isolation+centre&source=bl&ots=SHa21FAjS2&sig=ACfU3U2FEG6\_P1PB5iBjX588yne1fz9LtA&hl=en&sa=X&ved=2ahUKEwjS4dz8-\_bgAhXG63MBHRJMCSQ6AEwC3oECAIQAQ#v=onepage&q=brunei%20national%20isolation%20centre&f=false]. Accessed 9 January 2021.  
[4] The Star. 2020. "Brunei opens new isolation centre to fight Covid-19, no news cases reported". [https://www.thestar.com.my/news/regional/2020/04/25/brunei-opens-new-isolation-centre-to-fight-covid-19-no-news-



cases-reported]. Accessed 9 January 2021.

#### 4.1.2c

Does the country meet one of the following criteria?

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

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

Yes = 1, No = 0

**Current Year Score: 1**

There is evidence that the government of Brunei has demonstrated capacity to expand isolation capacity in response to an infectious disease outbreak in the past two years but no evidence that the country has developed, updated or tested a plan to expand isolation capacity in response to an infectious disease outbreak in the past two years. Brunei opened a new National Isolation Centre on April 25 2020 to combat and control the COVID-19 outbreak. [1] According to The Joint External Evaluation for Brunei, conducted in October 2019, states "SOPs for the management and transport of highly infectious patients in the MOH National Influenza Pandemic Action Plan, the Ebola Preparedness Plan, and the National Isolation Centre Guidelines, and these are implemented and exercised", but it does not state whether this has been done within the last two years. [2] No other information was available in the Public Health Emergency Operation Plan, the Brunei: Disaster Management Reference Handbook 2018, or on the websites of Ministry of Health, and the National Disaster Management Centre. [3, 4, 5, 6]

[1] The Star, "Brunei opens new isolation centre to fight Covid-19, no news cases reported".

[<https://www.thestar.com.my/news/regional/2020/04/25/brunei-opens-new-isolation-centre-to-fight-covid-19-no-news-cases-reported>]. Accessed 29 April 2021.

[2] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[3] Ministry of Health. April 2008. ""Public Health Emergency Operation Plan".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 20 December 2020.

[4] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. ""Brunei: Disaster Management Reference Handbook 2018. [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 20 December 2020.

[5] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[6] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 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: 0**

There is no evidence that the government of Brunei has a national procurement protocol that refers specifically to the acquisition of laboratory supplies and medical supplies. According to the Ministry of Finance and Economy, "All of Government Procurement (GP) activities in Brunei Darussalam is decentralized to the individual Ministries and Departments that make their own arrangements. [1] However, they must adhere to Financial Regulations and procurement guidelines issued by State Tender Board, Ministry of Finance and Economy. [1] "Individual ministries and departments can conduct their own procurement however if the value of goods, services or works more than BND250,000.00 they must refer to State Tender Board, Ministry of Finance and Economy first for approval." [1]. No other information could be found including from the Ministry of Health and the Agriculture, Agrifood Department, Department of Laboratory Services and National Institute of Health Sciences. [2, 3, 4, 5, 6]

[1] Ministry of Finance and Economy. "General Information". [<http://www.mofe.gov.bn/Divisions/state-tenders-board-general-information.aspx>]. Accessed 10 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 10 January 2021.

[3] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 10 January 2021.

[4] Department of Laboratory Services. 2016. "Laboratory Handbook [<http://www.moh.gov.bn/SiteCollectionDocuments/Laboratory%20Services/LH-4Ed.pdf>] Accessed 20 December 2020.

[5] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[6] Universiti Brunei Darussalam. "'PAPRSB Institute of Health Sciences'". [<http://www.ubd.edu.bn/academic-faculties/paprsb-institute-of-health-sciences.html>]. Accessed 20 December 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: 2**

There is publicly available evidence that the government of Brunei has a stockpile of medical supplies (e.g. MCMs, medicines, vaccines, medical equipment, PPE) for national use during a public health emergency. The Joint External Evaluation for Brunei, conducted in October 2019 states that the government of Brunei has in place, the "State Medical Store WABAK Stockpile" and the "NIC (National Isolation Centre) PPE Stockpile" as part of its PPE stockpiles. [1] It also states that "there is a very limited stockpile of medical countermeasures for distribution even within the country" but does not provide further

details. [1] There is no further information found in the websites of the Ministry of Health, Ministry of Defence, Ministry of Home Affairs, Internal Security Department, National Disaster Management Centre, and Center for Excellence in Disaster Management and Humanitarian Assistance. [2, 3, 4, 5, 6, 7]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[3] Ministry of Defence Brunei Darussalam. [<http://www.mindef.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[4] Ministry of Home Affairs. [<http://www.moha.gov.bn/en/Theme/Home.aspx>]. Accessed 20 December 2020.

[5] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>]. Accessed 20 December 2020.

[6] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[7] Internal Security Department. [<http://www.isd.gov.bn/Theme/Home.aspx>]. Accessed 10 January 2021.

#### 4.2.2b

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

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

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei have a stockpile of laboratory supplies (e.g. reagents, media) for national use during a public health emergency. There is no information found in the Joint External Evaluation for Brunei as well as the websites of the Ministry of Health, Ministry of Defence, Internal Security Department, National Disaster Management Centre, and Center for Excellence in Disaster Management and Humanitarian Assistance. [1, 2, 3, 4, 5, 6]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[3] Ministry of Defence Brunei Darussalam. [<http://www.mindef.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[4] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>]. Accessed 20 December 2020.

[5] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[6] Internal Security Department. [<http://www.isd.gov.bn/Theme/Home.aspx>]. Accessed 10 January 2021.

#### 4.2.2c

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no publicly available evidence that the government of Brunei conducts or requires an annual review of the national stockpile to ensure the supply is sufficient for a public health emergency. No information was available in The Joint External Evaluation for Brunei, conducted in October 2019, or on the websites of the Ministry of Health, Ministry of Defence, Ministry of Home Affairs, Internal Security Department, National Disaster Management Centre, and Center for Excellence in Disaster Management and Humanitarian Assistance. [1, 2, 3, 4, 5, 6, 7]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y]. Accessed 21 November 2020.

[2] Ministry of Health, Brunei Darussalam. [http://www.moh.gov.bn/Pages/Home.aspx]. Accessed 20 December 2020.

[3] Ministry of Defence Brunei Darussalam. [http://www.mindef.gov.bn/Theme/Home.aspx]. Accessed 20 December 2020.

[4] Ministry of Home Affairs. [http://www.moha.gov.bn/en/Theme/Home.aspx]. Accessed 20 December 2020.

[5] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf]. Accessed 20 December 2020.

[6] National Disaster Management Centre. [http://ndmc.gov.bn/Theme/Home.aspx]. Accessed 20 December 2020.

[7] Internal Security Department. [http://www.isd.gov.bn/Theme/Home.aspx]. Accessed 10 January 2021.

## 4.2.3 Manufacturing and procurement for emergencies

### 4.2.3a

Does the country meet one of the following criteria?

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

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

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

**Current Year Score: 1**

There is insufficient evidence of a plan/agreement with the government of Brunei to leverage domestic manufacturing capacity to produce medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency. However, there is evidence of a plan/mechanism with the government of Brunei procure medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency. The Joint External Evaluation for Brunei, conducted in October 2019 states that "the MOH has procedures for urgent procurement of vaccines and other medical supplies" as part of the "system in place for activating and coordinating medical countermeasures during a public health emergency". [1] It also states that "MOH has established mechanisms in place for the urgent procurement of vaccine stockpiles and other medical countermeasures. In addition, the Brunei Darussalam Medicines Control Authority can provide urgent regulatory clearance or exemptions for importing unlicensed products." [1] There is no further information found in the websites of the Ministry of Health, Ministry of Defence, Ministry of Home Affairs, Internal Security Department, National Disaster Management Centre, and Center for Excellence in Disaster Management and Humanitarian Assistance. [2, 3, 4, 5, 6, 7]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y]. Accessed 21 November 2020.

[2] Ministry of Health, Brunei Darussalam. [http://www.moh.gov.bn/Pages/Home.aspx]. Accessed 20 December 2020.

[3] Ministry of Defence Brunei Darussalam. [<http://www.mindef.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[4] Ministry of Home Affairs. [<http://www.moha.gov.bn/en/Theme/Home.aspx>]. Accessed 20 December 2020.

[5] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>]. Accessed 20 December 2020.

[6] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[7] Internal Security Department. [<http://www.isd.gov.bn/Theme/Home.aspx>]. Accessed 10 January 2021.

#### 4.2.3b

Does the country meet one of the following criteria?

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

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

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

**Current Year Score: 0**

There is no publicly available evidence of a plan/mechanism with the government of Brunei to procure laboratory supplies (e.g. reagents, media) for national use during a public health emergency; and no 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. There is no evidence of such plans or mechanisms in the Joint External Evaluation for Brunei as well as the websites of the Ministry of Health, Ministry of Defence, Ministry of Home Affairs, Internal Security Department, National Disaster Management Centre, and Center for Excellence in Disaster Management and Humanitarian Assistance. [1, 2, 3, 4, 5, 6, 7]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 20 December 2020.

[3] Ministry of Defence Brunei Darussalam. [<http://www.mindef.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[4] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>]. Accessed 20 December 2020.

[5] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 20 December 2020.

[6] Internal Security Department. [<http://www.isd.gov.bn/Theme/Home.aspx>]. Accessed 10 January 2021.

## 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 available evidence on government of Brunei having a plan, program, or guidelines in place for dispensing medical countermeasures for national use during a public health emergency. There is no further information found in the websites of the Ministry of Health, Ministry of Defence, National Public Health Emergency Response Plan, Disaster Management Plan, and the National Disaster Management Centre. [1, 2, 3, 4, 5, 6]

[1] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 10 January 2021.

[2] Ministry of Defence Brunei Darussalam. [<http://www.mindef.gov.bn/Theme/Home.aspx>]. Accessed 10 January 2021.

[3] Ministry of Health. April 2008. ""Public Health Emergency Operation Plan"". [<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 10 January 2021.

[4] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 10 January 2021.

[5] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 10 January 2021.

### 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 of a public plan in place from the government of Brunei to receive health personnel from other countries to respond to a public health emergency. However, there is evidence that Brunei does have processes to facilitate their arrival in country. The Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019 states that Brunei "can expedite customs, immigration and quarantine procedures to facilitate verification and movements of assets and capabilities." More specifically, the Ministry of Health "can facilitate temporary registration of incoming medical, nursing and other health personnel." [1] However, this plan is not publicly available. Additionally, the JEE report states that the "ASEAN Agreement on Disaster Management and Emergency Response (AADMER — "One ASEAN, One Response") sanctions the AHA Centre, using the ASEAN Joint Disaster Response Plan (AJDRP), to mobilize standby assets and personnel." [1] The ASEAN Joint Disaster Response Plan outlines 9 areas where assets and capabilities can be rolled out to support disaster scenarios, including Emergency Medical Teams Type 1, Type 2, and Type 3. However, this plan is primarily geared toward natural disasters, and does not mention how countries can facilitate the arrival of emergency personnel to assist in disasters. [2] No other information was publicly available including from the Ministry of Health, National Public Health Emergency Response Plan, Disaster Management Plan and the National Disaster Management Centre [3, 4, 5, 6]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management (AHA Centre). 2017. "ASEAN Joint Disaster Response Plan". [<https://ahacentre.org/publication/ajdrp/>]. Accessed 10 January 2021.

[3] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 10 January 2021.

[4] Ministry of Health. April 2008. ""Public Health Emergency Operation Plan"". [1]

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 10 January 2021.

[5] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. ""Brunei: Disaster Management Reference Handbook 2018"". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 10 January 2021.

[6] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 10 January 2021.

## 4.4 HEALTHCARE ACCESS

### 4.4.1 Access to healthcare

#### 4.4.1a

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

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

**Current Year Score: 0**

2020

World Policy Analysis Center

#### 4.4.1b

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

Input number

**Current Year Score: 100**

2016

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: 97.06**

2017

WHO Global Health Expenditure database

### 4.4.2 Paid medical leave

#### 4.4.2a

**Are workers guaranteed paid sick leave?**

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

Current Year Score: 2

2020

World Policy Analysis Center

### 4.4.3 Healthcare worker access to healthcare

#### 4.4.3a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence of a policy that provides for prioritised healthcare services for healthcare workers responding to a public health emergency. Although general guidelines for healthcare workers exists, it makes no mention of priority treatment during times of emergency. [1] No other information was publicly available including from the Ministry of Health, National Public Health Emergency Response Plan, Disaster Management Plan and the National Disaster Management Centre [2, 3, 4, 5]

[1] Ministry of Health. "Guidelines for the Health and Safety of Healthcare workers in Brunei Darussalam".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Occupational%20Health%20Division/healthcare%20industry/Guidelines-Healthcare-Workers-2nd-ed.pdf>] Accessed 10 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 10 January 2021.

[3] Ministry of Health. April 2008. "Public Health Emergency Operation Plan".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 10 January 2021.

[4] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 10 January 2021.

[5] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 10 January 2021.

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

### 4.5.1 Communication with healthcare workers

#### 4.5.1a

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

Yes = 1 , No = 0

Current Year Score: 1

There is evidence that the government of Brunei has in place a system for public health officials and healthcare workers to communicate during an emergency.



According to the Public Health Emergency Operation Plan, a chain of communication is in place for reporting and communications, where it details the chain of command between MOH Central Command and the emergency response team during a public health emergency. A list of activities to be performed for communications between organisations is also listed, such as exercising emergency authority, advising team leaders, liaising with other agencies, prepare for emergency evacuations, and documenting actions and activities, among others. [1] The emergency response team comprise of senior medical officer of health, senior medical officer / medical officer, public health officers, health inspectorate staff, taken from frontline workers during a public health emergency. [1] As Public Health Emergency Operation Plan stipulates that the plan is "intended to guide all staff of Department of Health Services in carrying out duties and responsibilities during a PHE Response Operation". [1]

In fact, according to the WHO's Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam, conducted in 2019, Brunei has "established mechanisms for integrating IHR-relevant sectors, including both health and non-health stakeholders". [2] Communication is also detailed in Brunei's Joint Framework for Preparedness and Response to Zoonotic Diseases which mandates inter-agency information sharing as well as "describes public risk communication processes when handling incidents of zoonotic diseases."

[1] Ministry of Health. April 2008. "Public Health Emergency Operation Plan".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 10 January 2021.

[2] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

#### 4.5.1b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Brunei's system for public health officials and healthcare workers to communicate during an emergency encompasses healthcare workers in both the public and private sector. The Chain of Communication within the Department of Health Services' Public Health Emergency Operation Plan does not specify whether it encompasses healthcare workers in both the public and private sector. [1] No other information was found including from Ministry of Health, Disaster Management Plan, and the National Disaster Management Centre. [2, 3, 4] There is also no evidence of the same in the WHO's Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam, conducted in 2019. [5]

[1] Ministry of Health. April 2008. "Public Health Emergency Operation Plan".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 10 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 10 January 2021.

[3] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 10 January 2021.

[4] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 10 January 2021.

[5] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of

Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 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 Brunei's national public health system is monitoring for and tracking the number of healthcare associated infections (HCAI) that take place in healthcare facilities. The Occupational Health Division monitors health and safety at hospitals which includes "worker's health surveillance, worksite surveillance and occupational hygiene, training, information and advisory functions as well as in the areas of compensation, counselling and rehabilitation." [1]. A news report also highlights the government's efforts to manage HCAI by practicing good hygiene in hospitals. [2] The Joint External Evaluation for Brunei, conducted in October 2019 states that the Brunei Darussalam AMR Committee (BDAMRC), established in 2018, "has identified three priority areas of improvement: IPC education and training; healthcare associated infection (HCAI) surveillance and monitoring; and auditing and feedback for IPC practices". The BDAMRC has put various guidelines and policies in place to minimise HCAs as per the JEE report. [3] Further, Brunei's Hand Hygiene policy of December 2018, states that "Infection prevention and control activities are integrated into the hospital's quality improvement and patient safety program" and "Monitoring data are collected and analyzed for the infection prevention and control activities and include epidemiologically important infections". [4] In fact, the National Action Plan for AMR in Brunei (updated December 9, 2019) notes "Periodic Point Prevalence Survey on Hospital-Acquired Infections (HAI) and antimicrobial use in acute care hospitals" as a key objective of the BDAMRC. [5] However, no further information, including statistics, on healthcare acquired infections (HAIs) is available from the JEE, the Hand Hygiene Policy, the National Action Plan for AMR, or the Ministry of Health. [3, 4, 5, 6]

[1] Ministry of Health Brunei Darussalam. 2016. "Health Information Booklet 2016".

[[http://www.moh.gov.bn/Downloadables/Health%20Information%20Booklet%202016%20\(21st%20Edition%20Revision%20\).pdf](http://www.moh.gov.bn/Downloadables/Health%20Information%20Booklet%202016%20(21st%20Edition%20Revision%20).pdf)]. Accessed 10 January 2021.

[2] Roslan, W. Asia News Network. 14 Jan 2019. ""Healthcare-related infections' prevention high priority: Brunei Minister"". [<http://annx.asianews.network/content/healthcare-related-infections%E2%80%99-prevention-high-priority-brunei-minister-89806>]. Accessed Accessed 10 January 2021.

[3] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 January 2021.

[4] Ministry of Health Brunei Darussalam. December 2018. "Hand Hygiene Policy".

[[http://www.moh.gov.bn/Shared%20Documents/Hand%20Hygiene/latest%20\[1\].pdf](http://www.moh.gov.bn/Shared%20Documents/Hand%20Hygiene/latest%20[1].pdf)] Accessed May 14, 2021.

[5] Ministry of Health Brunei Darussalam. December 2019. "Antimicrobial Resistance National Action Plan".

[<http://www.moh.gov.bn/Shared%20Documents/Antibiotic%20Awareness/Antimicrobial%20Resistance%20NAP%20Booklet.pdf#search=hai>] Accessed May 14, 2021.

[6] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 10 January 2021.

## 4.7 CAPACITY TO TEST AND APPROVE NEW MEDICAL COUNTERMEASURES

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

#### 4.7.1a

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

Yes = 1, No = 0

**Current Year Score: 0**

There is insufficient evidence that the government of Brunei has a national requirement for ethical review before beginning a clinical trial. The Medical Health Research and Ethics Committee (MHREC), "established under the auspices of the Ministry of Health" evaluates both the scientific and ethical components of research although no further details are provided. [1] There is no further information found in the websites of the Ministry of Health. [2]

[1] Tan et al. 2013. "Role of the Medical Health Research and Ethics Committee (MHREC) in Brunei Darussalam". Brunei International Medical Journal 9 [1] : 67-70.

[[https://www.researchgate.net/publication/292846887\\_Role\\_of\\_the\\_medical\\_health\\_research\\_and\\_ethics\\_committee\\_MHREC\\_in\\_Brunei\\_Darussalam](https://www.researchgate.net/publication/292846887_Role_of_the_medical_health_research_and_ethics_committee_MHREC_in_Brunei_Darussalam)]. Accessed 10 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 10 January 2021.

#### 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 available evidence to suggest that the government of Brunei has an expedited process for approving clinical trials for unregistered medical countermeasures to treat ongoing pandemics. There is no further information found in the websites of the Ministry of Health, National Public Health Emergency Response Plan, the Disaster Management Plan, the Medical Health Research and Ethics Committee (MHREC), and Brunei Research Council. [1, 2, 3, 4, 5, 6] The Joint External Evaluation for Brunei, conducted in October 2019 states that there is an expedited process for MCM procurement, specifically for vaccines, however, there is no information regarding an expediting process for approval of clinical trials for unregistered MCMs: "Although Brunei Darussalam does not manufacture medical countermeasures, MOH has established mechanisms in place for the urgent procurement of vaccine stockpiles and other medical countermeasures. In addition, the Brunei Darussalam Medicines Control Authority can provide urgent regulatory clearance or exemptions for importing unlicensed products." [7]

[1] Ministry of Health. "Guidelines for the Health and Safety of Healthcare workers in Brunei Darussalam".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Occupational%20Health%20Division/healthcare%20industry/Guidelines-Healthcare-Workers-2nd-ed.pdf>] Accessed 10 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 10 January 2021.

[3] Ministry of Health. April 2008. "Public Health Emergency Operation Plan".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 10 January 2021.

[4] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "'Brunei: Disaster Management Reference Handbook 2018'". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 10 January 2021.

[5] Tan et al. 2013. "Role of the Medical Health Research and Ethics Committee (MHREC) in Brunei Darussalam". Brunei International Medical Journal 9 [1] : 67-70.

[[https://www.researchgate.net/publication/292846887\\_Role\\_of\\_the\\_medical\\_health\\_research\\_and\\_ethics\\_committee\\_MHREC\\_in\\_Brunei\\_Darussalam](https://www.researchgate.net/publication/292846887_Role_of_the_medical_health_research_and_ethics_committee_MHREC_in_Brunei_Darussalam)]. Accessed 10 January 2021.

[6] Economic Planning and Development. "'Brunei Research Council'". [<http://www.deps.gov.bn/SitePages/BRC.aspx>]. Accessed 10 January 2021.

[7] World Health Organisation (WHO). 2019. "The Joint External Evaluation for Brunei, conducted in October 2019".

[<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>] Accessed January 26, 2021

## 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**

The government of Brunei has a government agency responsible for approving new medical countermeasures for humans. The Drug Administration Section (under Ministry of Health) has a Drug Registration Unit that ensures "pharmaceutical products imported, manufactured, supplied and sold are safe, efficacious and of acceptable quality for use", and Provisional Drug Registration Committee. [1] According to the Ministry of Health, "no person shall manufacture, sell, supply or import any medicinal product unless "the medicinal product is a registered product", and the assessment is conducted by the Drug Registration Committee. [2]

[1] Ministry of Health. "'Drug Administration Section'".

[<http://www.moh.gov.bn/SitePages/Drug%20Administration%20Section.aspx>]. Accessed 8 February 2019.

[2] Ministry of Health. "'Importation, Manufacture, Sale and Supply of Medicinal Products into Brunei Darussalam'".

[<http://www.moh.gov.bn/SitePages/Registration%20Medical%20Product.aspx>]. Accessed 10 January 2021.

### 4.7.2b

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

Yes = 1 , No = 0

**Current Year Score: 1**

There is publicly available evidence to suggest that the government of Brunei has an expedited process for approving medical countermeasures for human use during public health emergencies. The Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam, conducted in October 2019 states that "although Brunei Darussalam does not manufacture medical

countermeasures, MOH has established mechanisms in place for the urgent procurement of vaccine stockpiles and other medical countermeasures. In addition, the Brunei Darussalam Medicines Control Authority can provide urgent regulatory clearance or exemptions for importing unlicensed products." [1] It also states that "Brunei Darussalam can expedite customs, immigration and quarantine procedures to facilitate verification and movements of assets and capabilities highlighted in the SASOP (Standard Operating Procedure For Regional Standby Arrangements And Coordination Of Joint Disaster Relief And Emergency Response Operations) , as per the directives of the Minister of Home Affairs or the NDMC (National Disaster Management Center) Director. [1] The Brunei Medicines Order 2007 states that the Brunei Darussalam Medicines Control Authority "may exempt from the provisions of section 10 (1), any person wishing to manufacture or import any medicinal product solely for the treatment of any person suffering from a life-threatening illness. [2] The Infectious Diseases Act also states that the director-general of health services "may, with the approval of the Minister, formulate and implement emergency measures for the control of an infectious disease in any area; such measures shall be published in the Gazette before implementation." [3] There is no further information on the website of the Ministry of Health. [4]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 November 2020.

[2] Attorney General's Chambers. 2007. "Medicines Order 2007".

[<http://www.agc.gov.bn/AGC%20Images/LOB/Order/MNOP/Medicines%20Order,%202007.pdf>]. Accessed 28 January 2021.

[3] Attorney General's Chambers. Chapter 204 of 2010. "Infectious Diseases".

[[http://www.agc.gov.bn/AGC%20Images/LAWS/ACT\\_PDF/Cap204.pdf](http://www.agc.gov.bn/AGC%20Images/LAWS/ACT_PDF/Cap204.pdf)]. Accessed 28 January 2021.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 10 January 2021.

## 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: 0

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 the government of Brunei has pandemics integrated into the national risk reduction strategy or that a standalone plan exists for pandemics. A disaster risk reduction strategy exists in the form of the Strategic National Action Plan for Disaster Risk Reduction but no information is available on whether pandemics are a part of the plan. [1] No other information was available including from the Ministry of Health, National Disaster Management Centre and academic sources. [2, 3, 4]

[1] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 9 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 9 January 2021.

[3] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 9 January 2021.

[4] Anthony, B.N. 2017. "A Systematic Study of Disaster Risk in Brunei Darussalam and Options for Vulnerability-Based Disaster Risk Reduction". *International Journal of Disaster Risk Science*, 8

[2] [<https://link.springer.com/article/10.1007/s13753-017-0125-x>]. Accessed 9 January 2021.

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

### 5.2.1 Cross-border agreements

#### 5.2.1a

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

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

**Current Year Score: 2**

The government of Brunei has cross-border protocols with ASEAN countries and China for public health emergencies, with no evidence of gaps in implementation. The ASEAN Joint Disaster Response Plan includes areas covering health and medical services. [1] The plan also states "The ASEAN Leaders at the 14th ASEAN Summit in 2009 "agreed to entrust the ASEAN Secretary-General to serve as the ASEAN's Humanitarian Assistance Coordinator (SG-AHAC) which can be activated any time at the request of the affected Member State in the event of a major disaster, whether it be a natural disaster or a pandemic". [1] The 6th ASEAN-China Health Ministers Meeting (ACHMM) in September 2017 stated that public health emergency response is an existing priority area under the ASEAN-China health cooperation. [2] However, there is no further evidence of implementation of these protocols in the Ministry of Health, National Disaster Management Centre or local news media. [3,4,5]

[1] ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management (AHA Centre). 2017. "ASEAN Joint Disaster Response Plan". [<https://ahacentre.org/publication/ajdrp/>]. Accessed 10 January 2021.

[2] Association of Southeast Asian Nations. "6 th ASEAN-China Health Ministers Meeting (ACHMM) September 2017".

[[https://asean.org/storage/2017/09/6th-ACHMM-Joint-Statement\\_FINAL.pdf](https://asean.org/storage/2017/09/6th-ACHMM-Joint-Statement_FINAL.pdf)]. Accessed 9 January 2021.

[3] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 9 January 2021.

[4] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 9 January 2021.

[5] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 9 January 2021.

### 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**

The government of Brunei does not have any cross-border agreements with neighbouring countries (including ASEAN countries) for animal health emergencies. Brunei has an agreement with other ASEAN countries but specifically for disaster management and response, and not for animal health emergencies. [1]. There is no other information found in websites of the Ministry of Health, National Public Health Emergency Response Plan, the Disaster Management Plan, and the National Disaster Management Centre. [2, 3, 4, 5]

"[1] Association of Southeast Asian Nations. "ASEAN Agreement on Disaster Management and Response".

[<http://agreement.asean.org/media/download/20140119170000.pdf>]. Accessed 9 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 9 January 2021.

[3] Ministry of Health. April 2008. "Public Health Emergency Operation Plan".

[<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 9 January 2021.

[4] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. "Brunei: Disaster Management Reference Handbook 2018". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 8 February 2019.

[5] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 9 January 2021.

## 5.3 INTERNATIONAL COMMITMENTS

### 5.3.1 Participation in international agreements

#### 5.3.1a

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

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

**Current Year Score: 2**

2021

Biological Weapons Convention

### 5.3.1b

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

Yes = 1 , No = 0

Current Year Score: 1

2021

Biological Weapons Convention

### 5.3.1c

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

Yes = 1 , No = 0

Current Year Score: 1

2021

Biological Weapons Convention

### 5.3.1d

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

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

Current Year Score: 1

2021

Biological Weapons Convention

## 5.3.2 Voluntary memberships

### 5.3.2a

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

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

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

Current Year Score: 0



2021

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

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

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

#### 5.4.1a

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

Yes = 1, No = 0

Current Year Score: 1

2021

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

#### 5.4.1b

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

Yes = 1, No = 0

Current Year Score: 0

2021

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

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

#### 5.4.2a

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

Yes = 1, No = 0

Current Year Score: 0

2021

OIE PVS assessments

### 5.4.2b

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

Yes = 1, No = 0

Current Year Score: 0

2021

OIE PVS assessments

## 5.5 FINANCING

### 5.5.1 National financing for epidemic preparedness

#### 5.5.1a

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

Yes = 1, No = 0

Current Year Score: 1

There is evidence to show that Brunei has allocated national funds to improve capacity to address epidemic threats within the past three years. The news have reported that the government of Brunei has made allocations for public health for the 2019/2020 financial year including. "construction of a new health centre in Pandan, Kuala Belait; construction of a new block for the Jubli Perak Health Centre in Sengkurong; construction of an Emergency Services Building at the Suri Seri Begawan Hospital in Kuala Belait; construction of a Certified BSL3 Laboratory for an Accredited National TB Reference Laboratory (NTRL) and Virology Services; and system upgrade for Bru-HIMS". [1] It was also stated that the budget provision "will focus on several strategies which among others include investment on local healthcare professional, healthcare infrastructure, utilising innovative healthcare system and continuous prevention of non-communicable disease while maintaining basic healthcare for the public". [1] There is no other information found in websites of the Ministry of Health, Ministry of Finance and Economy, Agriculture and Agrifood Department, and Prime Minister's Office. [2, 3, 4, 5].

[1] Borneo Bulletin. 21 March 2019. "Ministry of Health proposed budget goes up by 12pc to BND386M".

[<https://borneobulletin.com.bn/ministry-of-health-proposed-budget-goes-up-by-12pc-to-bnd386m/>]. Accessed 28 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 28 January 2021.

[3] Ministry of Finance and Economy, Brunei Darussalam. [<https://www.mofe.gov.bn/SitePages/Home.aspx>]. Accessed 28 January 2021.

[4] Agriculture and Agrifood Department, Brunei Darussalam. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 28 January 2021.

[5] Prime Minister's Office, Brunei Darussalam. [<http://www.pmo.gov.bn/Theme/Home.aspx#popup1>]. Accessed 28 January 2021.

## 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

There is a publicly identified special emergency public financing mechanism and funds which Brunei can access in the face of a public health emergency. The Joint External Evaluation for Brunei, conducted in October 2019 states that the "The Government of Brunei Darussalam finances all necessary systems and programmes without any external funding. Ministries have access to annual line budgets for routine activities (e.g. provision of health services and other public health functions) and to emergency supplemental funding by request." [1] It also states that the "Ministry of Finance and Economy (MOFE) also allocates a special ring-fenced budget for timely response to public health emergencies. This is known as the Natural Disaster and Outbreak Budget. All government agencies can apply to access this via their respective Permanent Secretary. Requests must show they intend to use it to prepare for a high-risk threat, or to respond to a public health emergency." [1] There is no evidence found that Brunei Darussalam is eligible for World Bank pandemic financing [2,3]. There is no other information found in websites of the Ministry of Health, National Public Health Emergency Response Plan, the Disaster

Management Plan, and the National Disaster Management Centre. [4, 5,6,7]

[1] World Health Organisation (WHO). 28 October - 1 November 2019. "Joint External Evaluation of IHR Core Capabilities of Brunei Darussalam". [<https://apps.who.int/iris/bitstream/handle/10665/332937/9789240006973-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 January 2021.

[2] International Development Association (IDA). "Borrowing Countries" [<http://ida.worldbank.org/about/borrowing-countries>]. Accessed 21 November 2020.

[3] Pandemic Financing Facility. "Operational Brief for Eligible Countries". 2017. [<http://pubdocs.worldbank.org/en/119961516647620597/PEF-Operational-Brief-Dec-2017.pdf>]. Accessed 21 November 2020.

[4] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 9 January 2021.

[5] Ministry of Health. April 2008. ""Public Health Emergency Operation Plan"". [<http://www.moh.gov.bn/SiteCollectionDocuments/Downloads/downloads/emergencyoperation2007.pdf>] Accessed 9 January 2021.

[6] Center for Excellence in Disaster Management and Humanitarian Assistance. November 2018. ""Brunei: Disaster Management Reference Handbook 2018"". [<https://reliefweb.int/sites/reliefweb.int/files/resources/disaster-mgmt-ref-hdbk-brunei.pdf>] Accessed 8 February 2019.

[7] National Disaster Management Centre. [<http://ndmc.gov.bn/Theme/Home.aspx>]. Accessed 9 January 2021.

## 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: 1**

There is publicly available evidence found of senior leaders in the government of Brunei making either public commitments to support other countries and to improve its own capacity through financing. Brunei has made public commitments through ASEAN to support other ASEAN countries mainly through research and sharing of best practices. [1, 2] Additionally, the Joint Statement from Health Ministers of ASEAN and the United States on COVID-19 Cooperation (30 April 2020) addresses funding and capacity development for future disease outbreaks by stating that that the Ministers "[welcome] the announcement of the ASEAN Member States' plan to establish the COVID-19 Response Fund to address COVID-19 and future public health emergencies, and a Regional Reserve of Medical Supplies to enable rapid response to emergency medical supply needs, with the partnership of external partners." [3] There is no evidence of public commitments made found in websites of World Health Organization, Ministry of Health, Department of Environment, Parks and Recreation, Ministry of Foreign Affairs, World Health Organization and other public news sources. [4, 5, 6,7,8]

"[1] Association of Southeast Asian Nations. "JOINT STATEMENT 13th ASEAN HEALTH MINISTERS MEETING".

[[https://asean.org/wp-content/uploads/2017/09/13th-AHMM-Joint-Statement\\_FINAL.pdf](https://asean.org/wp-content/uploads/2017/09/13th-AHMM-Joint-Statement_FINAL.pdf)] Accessed 9 January 2021.

[2] Ministry of Health. "Press Release: Asean Health Ministers' Special Video Conference On The Threat Of Zika Virus In The Region". [<http://www.moh.gov.bn/Lists/Latest%20news/NewDispForm.aspx?ID=48>]. Accessed 9 January 2021.

- [3] Association of Southeast Asian Nations (ASEAN). 30 April 2020. "Joint Statement Special Video Conference of Health Ministers of ASEAN and the United States in Enhancing Cooperation on Coronavirus Disease 2019 (COVID-19) Response". [[https://asean.org/storage/2020/05/Adopted\\_ASEAN-US-Joint-Statement-on-COVID-19.pdf](https://asean.org/storage/2020/05/Adopted_ASEAN-US-Joint-Statement-on-COVID-19.pdf)]. Accessed September 2020.
- [4] World Health Organization. [<http://who.int>]. 9 January 2021.
- [5] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 9 January 2021.
- [6] Department of Environment, Parks and Recreation. [<http://www.env.gov.bn/Theme/Home.aspx>]. 9 January 2021.
- [7] Ministry of Foreign Affairs. [<http://www.mfa.gov.bn/site/home.aspx>]. Accessed 9 January 2021.
- [8] World Health Organization. [<https://www.who.int/>]. Accessed 9 January 2021.

#### 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: 0**

There is insufficient evidence that the government of Brunei has, in the past three years, requested financing or technical support from donors to improve the country's domestic capacity to address epidemic threats or that the country has provided other countries with financing or technical support to improve other countries' capacity to address epidemic threats. The Georgetown Global Health Security Tracking indicates that USD 25,470 was disbursed by the World Health Organisation to Brunei Darussalam between 2014 and 2019, of which USD 19,740 was disbursed to support its health prevention capacities but no further information is provided. [1] There is no other evidence found through public statements by government leaders, policy documents or press releases. [2,3,4] The funder profile for Brunei Darussalam on the Georgetown Global Health Security Tracking website indicates that the country has neither committed nor disbursed any funds for the same in the past three years. The latest funding by Brunei Darussalam was in 2016 for USD 33,330 as part of a total funding of USD 100,000 to the World Bank between 2014 and 2016. [5]

[1] Georgetown Global Health Security Tracking. "Recipient profile: Brunei Darussalam".

[<https://tracking.ghscosting.org/details/901/recipient>]. Accessed 14 May 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 9 January 2021.

[3] Ministry of Foreign Affairs, Brunei Darussalam. [<http://www.mfa.gov.bn/site/home.aspx>]. Accessed 9 January 2021.

[4] World Health Organization. [<https://www.who.int/>]. Accessed 9 January 2021.

[5] Georgetown Global Health Security Tracking. "Funder profile: Brunei Darussalam".

[<https://tracking.ghscosting.org/details/901/funder>]. Accessed 14 May 2021.

#### 5.5.4c

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

Yes = 1, No = 0

**Current Year Score: 1**

2021

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

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

### 5.6.1 Commitment to sharing genetic data, clinical specimens, and/or isolated specimens (biological materials) in both emergency and nonemergency research

#### 5.6.1a

Is there a publicly available plan or policy for sharing genetic data, clinical specimens, and/or isolated specimens (biological materials) along with the associated epidemiological data with international organizations and/or other countries that goes beyond influenza?

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available evidence that the government of Brunei has a plan for sharing genetic, epidemiological data or clinical specimens with international organizations. There is no further evidence found in websites of ASEAN, the Ministry of Health, the Agriculture and Agrifood Department, the Brunei Research Council, and other external documentation. [1, 2, 3, 4]

[1] Association of Southeast Asian Nations. "ASEAN Plus Three Field Epidemiology Training Programs".

[[http://www.aseanplus3fetn.net/read\\_more\\_pdf/FETNP21-30.pdf](http://www.aseanplus3fetn.net/read_more_pdf/FETNP21-30.pdf)] Accessed 9 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 9 January 2021.

[3] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 9 January 2021.

[4] Ministry of Finance and Economy. "Brunei Research Council".

[[http://depd.gov.bn/SitePages/Brunei%20Research%20Council%20\(BRC\).aspx](http://depd.gov.bn/SitePages/Brunei%20Research%20Council%20(BRC).aspx)]. Accessed 9 January 2021.

#### 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 Brunei has not shared samples in accordance with the PIP framework in the past two years. According to the WHO Collaborating Centre for Reference and Research on Influenza, Brunei has sent 54 samples in 2020, and 83 samples in 2019. [1] There is no evidence found in websites such as the WHO Disease Outbreak News page, the Ministry of Health, the Agrifood and Agriculture Department, and local media outlets. [2, 3, 4]

[1] WHO Collaborating Centre for Reference and Research on Influenza. "Samples received".

[[http://www.influenzacentre.org/Surveillance\\_Samples\\_Received.htm](http://www.influenzacentre.org/Surveillance_Samples_Received.htm)] Accessed 9 January 2021.

[2] World Health Organization. "Emergency preparedness response: Brunei Darussalam".

[<https://www.who.int/csr/don/archive/country/brn/en/>]. Accessed 9 January 2021.

[3] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 9 January 2021.

[4] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 9 January 2021.

### 5.6.1c

Is there public evidence that the country has not shared pandemic pathogen samples during an outbreak in the past two years?

Yes = 0, No = 1

**Current Year Score: 1**

There is no publicly available evidence that the country has not shared pandemic pathogen samples during an outbreak in the past two years, including COVID-19 samples. There is no evidence found in websites such as WHO Disease Outbreak News page, the Ministry of Health, the Agrifood and Agriculture Department, and local media outlets. [1, 2, 3]

[1] World Health Organization. Emergency preparedness response: Brunei Darussalam

[<https://www.who.int/csr/don/archive/country/brn/en/>]. Accessed 9 January 2021.

[2] Ministry of Health, Brunei Darussalam. [<http://www.moh.gov.bn/Pages/Home.aspx>]. Accessed 9 January 2021.

[3] Agriculture and Agrifood Department. [<http://www.agriculture.gov.bn/Theme/Home.aspx>]. Accessed 9 January 2021.

## 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: 3**

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: 3

2020

Economist Intelligence

**6.1.1d**

Vested interests/cronyism (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 2

2020

Economist Intelligence

**6.1.1e**

Country score on Corruption Perception Index (0-100, where 100=best)

Input number

Current Year Score: 60

2020

Transparency International

**6.1.1f**

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

Input number

Current Year Score: 2

2020

Economist Intelligence

**6.1.1g**

Human rights risk (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 1



2020

Economist Intelligence

## 6.1.2 Orderly transfers of power

### 6.1.2a

**How clear, established, and accepted are constitutional mechanisms for the orderly transfer of power from one government to another?**

Very clear, established and accepted = 4, Clear, established and accepted = 3, One of the three criteria (clear, established, accepted) is missing = 2, Two of the three criteria (clear, established, accepted) are missing = 1, Not clear, not established, not accepted = 0

**Current Year Score: 0**

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: 4**

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: 4**

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: 4

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: 4

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: 4

2021

Economist Intelligence

## 6.1.6 Government territorial control

### 6.1.6a

Does the government's authority extend over the full territory of the country?

Yes = 1, No = 0

Current Year Score: 1

2021

Economist Intelligence

## 6.1.7 International tensions

### 6.1.7a

Is there a threat that international disputes/tensions could have a negative effect?

No threat = 4, Low threat = 3, Moderate threat = 2, High threat = 1, Very high threat = 0

Current Year Score: 3

2021

Economist Intelligence

## 6.2 SOCIO-ECONOMIC RESILIENCE

### 6.2.1 Literacy

#### 6.2.1a

Adult literacy rate, population 15+ years, both sexes (%)

Input number

Current Year Score: 97.21

2018

United Nations Development Programme (UNDP); United Nations Educational, Scientific and Cultural Organization (UNESCO);  
The Economist Intelligence Unit

### 6.2.2 Gender equality

#### 6.2.2a

United Nations Development Programme (UNDP) Gender Inequality Index score

Input number

Current Year Score: 0.77

2018

United Nations Development Programme (UNDP); The Economist Intelligence Unit

### 6.2.3 Social inclusion

#### 6.2.3a

Poverty headcount ratio at \$1.90 a day (2011 PPP) (% of population)

Input number

Current Year Score: 0.23

2008-2018

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: 0**

There is less than 25% of employment in the informal sector. The Report of the Labour Force Survey in 2019 by Ministry of Finance and Economy, Brunei Darussalam states that 8.1% of the total employment is in the informal sector. [1]

[1] Ministry of Finance and Economy Brunei Darussalam. 2019. "Report of the Labour Force Survey 2019". [http://www.deps.gov.bn/DEPD%20Documents%20Library/DOS/Labour%20force%20survey\_KTK/2019/KTK\_2019.pdf]. Accessed 9 January 2021.

### 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: 0**

2021

Economist Intelligence Democracy Index

## 6.2.6 Inequality

### 6.2.6a

**Gini coefficient**

Scored 0-1, where 0=best

**Current Year Score: -**

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: 3**

2021

Economist Intelligence

### 6.3.2 Adequacy of airports

#### 6.3.2a

**What is the risk that air transport will prove inadequate to meet needs?**

Very low = 4, Low = 3, Moderate = 2, High = 1, Very high = 0

**Current Year Score: 3**

2021

Economist Intelligence

### 6.3.3 Adequacy of power network

#### 6.3.3a

**What is the risk that power shortages could be disruptive?**

Very low = 4, Low = 3, Moderate = 2, High = 1, Very high = 0

**Current Year Score: 3**

2021

Economist Intelligence

## 6.4 ENVIRONMENTAL RISKS

### 6.4.1 Urbanization

#### 6.4.1a

Urban population (% of total population)

Input number

Current Year Score: 77.94

2019

World Bank

### 6.4.2 Land use

#### 6.4.2a

Percentage point change in forest area between 2006–2016

Input number

Current Year Score: -0.65

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: 4

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: 75.72

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: 629.5

2019

WHO

### **6.5.1c**

**Population ages 65 and above (% of total population)**

Input number

Current Year Score: 5.21

2019

World Bank

### **6.5.1d**

**Prevalence of current tobacco use (% of adults)**

Input number

Current Year Score: 15.5

2018

World Bank

### **6.5.1e**

**Prevalence of obesity among adults**

Input number

Current Year Score: 14.1

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: 99

2017

UNICEF; Economist Impact

### 6.5.2b

Percentage of homes with access to at least basic sanitation facilities

Input number

Current Year Score: 97.63

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: 1857.65

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