

Barbados

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

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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: 2

There is a national AMR plan for the surveillance, detection and reporting of priority AMR pathogens. The National Action Plan (NAP) was published in May 2017, covering 2017-2022 and is available through the World Health Organization (WHO) Library of national action plans. [1] The NAP includes plans around surveillance, detection, and reporting including, "establish a national entity with the ability to systematically collect, analyse and report data on AMR from all sources so as to inform decision-making at national and international levels". [2] The 2017 Antimicrobial Resistance Country Self Assessment for Barbados indicates that the country's AMR action plan was approved by the government and reflects Global Action Plan objectives, with an operational plan and monitoring arrangements. [3] In December 2014, the Caribbean Public Health Agency (CARPHA) hosted a workshop on Combatting Antimicrobial Resistance in the Caribbean, and a report of this workshop outlines next steps that are needed to develop a regional response and action plan for combatting AMR. [4]

[1] World Health Organization. "Antimicrobial resistance - Library of national action plans".

[<http://www.who.int/antimicrobial-resistance/national-action-plans/library/en>]. Accessed 17 January 2021.

[2] Ministry of Health and Wellness of Barbados. 17 May 2017. "Barbados National Action Plan on Combatting Antimicrobial Resistance 2017-2022". [<http://extwprlegs1.fao.org/docs/pdf/bar169611.pdf>]. Accessed 17 January 2021.

[3] World Health Organization. "Global Database for Antimicrobial Resistance Country Self Assessment 2017-2018 - Barbados". [<http://amrcountryprogress.org/>]. Accessed 17 January 2021.

[4] Caribbean Public Health Agency (CARPHA). "Combatting Antimicrobial Resistance in the Caribbean: A Report on the Workshop Delivered as Part of the Commonwealth Laboratory Twinning Initiative to Combat Antimicrobial Resistance". [<https://carpha.org/More/Media/Articles/ArticleID/86/CARPHA-and-Public-Health-England-Tackle-the-Threat-of-Antimicrobial-Drug-Resistance-in-the-Region>]. Accessed 17 January 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

There is no evidence of national laboratory/laboratory system, which tests for priority AMR pathogens in Barbados. However, Barbados can test for some AMR pathogens through the Caribbean Public Health Agency (CARPHA). The CARPHA Laboratory User Manual includes testing capabilities for the following six pathogens in its list of testing services: E. coli; S. pneumoniae; Salmonellosis; Shigellosis; N. gonorrhoeae; Tuberculosis. [1, 2] The testing services list specifically indicates testing capabilities

for drug-resistant forms of four of the priority pathogens: *S. pneumoniae* (AMR testing); *N. gonorrhoeae* (AMR testing), Salmonellosis (serotyping and phage typing of *S. enteritidis*), Tuberculosis (drug sensitivity testing (PCR)). [2] CARPHA member states, including Barbados, can submit specimens to the CARPHA laboratory by way of the relevant National Reference/Public Health Laboratory or the Ministry of Health and Wellness, but there is no evidence that Barbados samples are routinely sent to the CARPHA laboratory. [2] There is no evidence of laboratory sites within Barbados that test for priority AMR pathogens through the Ministry of Health and Wellness or Ministry of Agriculture and Food Security. [3, 4] The country's national action plan on AMR indicates that there is rudimentary laboratory capacity for AMR testing and monitoring in Barbados and the Caribbean and that the country has linked the regional public health laboratory network to expand available reference testing. [5] Improving laboratory capacity is part of one of the action plan objectives, and in January 2018, the country opened the Best-dos Santos Public Health Laboratory, which tests include "haematology, serology, molecular biology, tuberculosis bacteriology, chemistry and pathology". [6] However, there is no evidence of testing capacity for AMR pathogens.

[1] Caribbean Public Health Agency (CARPHA). "Laboratory User Manual - Location and Contact Information".

[<https://carpha.org/What-We-Do/Laboratory/General-Information>]. Accessed 17 January 2021.

[2] Caribbean Public Health Agency (CARPHA). "Laboratory User Manual - Laboratory Testing Services".

[[https://carpha.org/Portals/0/GUL-Q05-001-05_User%20Manual\[1452\].pdf?ver=2020-04-16-180718-920](https://carpha.org/Portals/0/GUL-Q05-001-05_User%20Manual[1452].pdf?ver=2020-04-16-180718-920)]. Accessed 17 January 2021.

[3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 17 January 2021.

[4] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[5] Ministry of Health and Wellness of Barbados. 17 May 2017. "Barbados National Action Plan on Combatting Antimicrobial Resistance 2017-2022". [<http://extwprlegs1.fao.org/docs/pdf/bar169611.pdf>]. Accessed 17 January 2021.

[6] Springer. J. of the Government Information Service of Barbados. 8 January 2018. "New Public Health Lab Officially Opened". [<https://gisbarbados.gov.bb/blog/new-public-health-lab-officially-opened/>]. Accessed 17 January 2021.

1.1.1c

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

Yes = 1, No = 0

Current Year Score: 0

There is insufficient evidence that the government of Barbados conducts detection or surveillance activities for antimicrobial residues or AMR organisms. The "National Action Plan on Combatting Antimicrobial Resistance 2017-2022" indicates that activities under Objective 2—"Strengthen the knowledge and evidence base through surveillance and research"—include conducting studies on environmental samples and setting up a separate surveillance system, with a 2017 timeframe. [1] The 2017 Antimicrobial Resistance Country Self Assessment for Barbados indicates that regarding a national surveillance system for AMR in the environment, there is a national plan but capacity for surveillance and reporting data on AMR is lacking. [2] There is no evidence of AMR detection or surveillance activities through the Ministry of Health and Wellness, Ministry of Agriculture and Food Security, or the Ministry of Environment and Natural Beautification. [3, 4, 5]

[1] Ministry of Health and Wellness of Barbados. 17 May 2017. "Barbados National Action Plan on Combatting Antimicrobial Resistance 2017-2022". [<http://extwprlegs1.fao.org/docs/pdf/bar169611.pdf>]. Accessed 17 January 2021.

[2] World Health Organization. "Global Database for Antimicrobial Resistance Country Self Assessment 2017-2018 - Barbados". [<http://amrcountryprogress.org/>]. Accessed 17 January 2021.

[3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 17 January 2021.

[4] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[5] Ministry of Environment and Natural Beautification of Barbados. [<https://www.gov.bb/Ministries/environment>]. Accessed 17 January 2021.

1.1.2 Antimicrobial control

1.1.2a

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

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

Current Year Score: 1

There is evidence that Barbados has national regulations in place requiring prescriptions for antibiotic use for humans, but there is evidence of gaps in enforcement. The Health Services Regulations of 1970 states that antibiotics shall only be sold "by a druggist under a prescription issued by a medical practitioner, dentist or veterinary surgeon". [1] The National Action Plan on Combatting Antimicrobial Resistance 2017-2022" of 2017 Objective 2 aims to "Optimize the use of antimicrobial medicines in human and animal health". [2] However, the "Barbados Pharmaceutical Country Profile" of 2011 report from the Ministry of Health, published in collaboration with the Pan American Health Organization, on the pharmaceutical situation in Barbados indicates that antibiotics are sometimes sold without a prescription. [3] Furthermore, the "Pharmaceutical Setuation in Barbados" of February 2011 notes that in some pharmacies 25%-50% of prescription medicines were sold without prescription. [4] There are no further updated reports on this issue.

[1] Laws of Barbados. Statutory Instrument (S.I.) No. 212 of 1970. "Health Services (Control of Drugs) Regulations, 1970". [http://104.238.85.55/en/ShowPdf/1970_212.pdf]. Accessed 17 January 2021.

[2] Ministry of Health and Wellness of Barbados. 17 May 2017. "Barbados National Action Plan on Combatting Antimicrobial Resistance 2017-2022". [<http://extwprlegs1.fao.org/docs/pdf/bar169611.pdf>]. Accessed 17 January 2021.

[3] Ministry of Health and Wellness of Barbados, in collaboration with the Pan American Health Organization/World Health Organization (PAHO/WHO). September 2011. "Barbados Pharmaceutical Country Profile". [https://www.who.int/medicines/areas/coordination/pscp.barbados_en.pdf?ua=1]. Accessed 17 January 2021.

[4] Pan American Health Organization. February 2011. "Pharmaceutical Setuation in Barbados". [<http://digicollection.org/hss/documents/s18824en/s18824en.pdf>]. Accessed 17 January 2021.

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: 1

There is evidence that Barbados has national regulations in place requiring prescriptions for antibiotic use for animals, but there is evidence of gaps in enforcement. The Health Services Regulations of 1970 states that antibiotics shall only be sold "by a druggist under a prescription issued by a medical practitioner, dentist or veterinary surgeon". [1] Furthermore, objective 2 of the National Action Plan on Combatting Antimicrobial Resistance 2017-2022 aims to "Optimize the use of antimicrobial medicines in human and animal health". The National Action Plan mentions the elimination of antibiotic use in food animals for growth purposes, and well as enforcement of legislation and regulation for prescribing and dispensing antimicrobials. [2] The World Health Organization "WHO multi-country survey" of 16 November 2015 shows that 91% of those that responded of having taken antibiotics in Barbados had done so by prescription. Furthermore only 43% of respondents had heard the term antibiotic resistance and only 46% of respondents believed that infections are increasingly becoming more resistant to antibiotics. The survey however does not address antibiotic use in animals. [3] There is no further

evidence provided on the websites of the Ministry of Health and Wellness, and the Ministry of Agriculture and Food Safety. [4, 5]

[1] Laws of Barbados. Statutory Instrument (S.I.) No. 212 of 1970. "Health Services (Control of Drugs) Regulations, 1970". [http://104.238.85.55/en/ShowPdf/1970_212.pdf]. Accessed 17 January 2021.

[2] Ministry of Health and Wellness of Barbados. 17 May 2017. "Barbados National Action Plan on Combatting Antimicrobial Resistance 2017-2022". [<http://extwprlegs1.fao.org/docs/pdf/bar169611.pdf>]. Accessed 17 January 2021.

[3] World Health Organization (WHO). 16 November 2015. "WHO multi-country survey reveals widespread public misunderstanding about antibiotic resistance". [<https://www.who.int/news/item/16-11-2015-who-multi-country-survey-reveals-widespread-public-misunderstanding-about-antibiotic-resistance>]. Accessed 17 January 2021.

[4] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 17 January 2021.

[5] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

1.2 ZOOONOTIC DISEASE

1.2.1 National planning for zoonotic diseases/pathogens

1.2.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Barbados has a national law, plan, or equivalent strategy document, on zoonotic disease. There is no indication of such a plan through the Ministry of Health and Wellness or Ministry of Agriculture and Food Security. [1, 2] However, there is evidence that the country is party to planning and strategy regarding zoonotic disease. In 2012, the Caribbean Community (CARICOM), of which Barbados is a Member State, signed an agreement with the World Organisation for Animal Health (OIE) "to prevent the spread of animal diseases, to improve the animal health", and to "harmonize legislation and regulations on animal diseases and zoonoses". [3] Barbados participates in the Caribbean Animal Health Network (CaribVET), which aims to improve animal and veterinary public health in all the countries and/or the territories of the Caribbean, including strengthening national capacities related to preparedness, surveillance, monitoring and management of animal and zoonotic disease. [4] The CARICOM One Health Policy—which urges collaboration between the public health, agriculture and wildlife/environment sectors—includes zoonotic disease considerations. [5] In addition, the Pan American Health Organization division of the World Health Organization refers to strategic planning around zoonotic disease in the Caribbean sub-region, and includes mention of some of the achievements Barbados has been involved with, such as participation workshops to strengthen risk communication. [6]

[1] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 17 January 2021.

[2] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[3] The World Organisation for Animal Health (OIE). 2012. "Agreement Between the Caribbean Community (CARICOM) and the World Organisation for Animal Health (OIE)".

[http://www.oie.int/fileadmin/Home/eng/About_us/docs/pdf/accords/CARICOM_ANG.pdf]. Accessed 17 January 2021.

[4] Caribbean Animal Health Network (CaribVET). "Network Objectives". [<https://www.caribvet.net/about-the-network/objectives>]. Accessed 17 January 2021.

[5] One Health One Caribbean One Love. 2014. "Technical Note - CARICOM One Health Policy".

[https://www.paho.org/trt/images/stories/PWR_TRT/one%20health%20workshop%20report.pdf?ua=1]. Accessed 17 January 2021.

[6] Pan American Health Organization/World Health Organization (PAHO/WHO). "Veterinary Public Health". [https://www.paho.org/spc-crb/index.php?option=com_content&view=article&id=391:veterinary-public-health&Itemid=0&showall=1]. Accessed 17 January 2021.

1.2.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of 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 in Barbados. In fact, Barbados does not have a national law, plan, or equivalent strategy document, on zoonotic disease. However, there is evidence that the country is party to planning and strategy regarding zoonotic disease. In 2012, the Caribbean Community (CARICOM), of which Barbados is a Member State, signed an agreement with the World Organisation for Animal Health (OIE) "to prevent the spread of animal diseases, to improve the animal health", and to "harmonize legislation and regulations on animal diseases and zoonoses". [1] Barbados participates in the Caribbean Animal Health Network (CaribVET), which aims to improve animal and veterinary public health in all the countries and/or the territories of the Caribbean, including strengthening national capacities related to preparedness, surveillance, monitoring and management of animal and zoonotic disease. [2] There is no further evidence provided on this matter in the websites of the Ministry of Health and Wellness, and the Ministry of Agriculture and Food Safety. [3, 4]

[1] The World Organisation for Animal Health (OIE). 2012. "Agreement Between the Caribbean Community (CARICOM) and the World Organisation for Animal Health (OIE)".

[http://www.oie.int/fileadmin/Home/eng/About_us/docs/pdf/accords/CARICOM_ANG.pdf]. Accessed 17 January 2021.

[2] Caribbean Animal Health Network (CaribVET). "Network Objectives". [<https://www.caribvet.net/about-the-network/objectives>]. Accessed 17 January 2021.

[3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 17 January 2021.

[4] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

1.2.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence of a national plan, guidelines, or law that accounts for the surveillance and control of multiple zoonotic pathogens of public health concern in Barbados. There is no evidence of such a document provided by the Ministry of Health and Wellness or Ministry of Agriculture and Food Security. [1, 2] However, the Caribbean Community (CARICOM) One Health policy urges collaboration between the public health, agriculture and wildlife/environment sectors, including for joint surveillance and information sharing, joint outbreak investigation, and joint emergency planning and response to emerging issues such as outbreaks of zoonotic or food borne diseases. [3] One of the coordinated actions of the Caribbean Animal Health Network (CaribVET) is epidemiological surveillance, but CaribVET does not have publicly available plans or guidelines on surveillance and control of zoonotic pathogens. [4]

- [1] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 17 January 2021.
- [2] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.
- [3] Pan American Health Organization. "One Health: From Ideas to Action". [https://www.paho.org/trt/images/stories/PWR_TRT/one%20health%20workshop%20report.pdf?ua=1&ua=1]. Accessed 17 January 2021.
- [4] Caribbean Animal Health Network (CaribVET). "About the Network". [<https://www.caribvet.net/about-the-network>]. Accessed 17 January 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: 0

There is no evidence of a department, agency or similar unit dedicated to zoonotic disease that functions across ministries in Barbados. There is no evidence of a cross-ministry group through the Ministry of Health and Wellness or Ministry of Agriculture and Food Security. [1, 2] The 2017 Antimicrobial Resistance Country Self Assessment for Barbados indicates that the country has a multi-sectoral working group or coordination committee on AMR established with Government leadership for One Health collaboration/coordination, but no additional information is available regarding this coordination. [3] A 2011 article from the Barbados Government Information Service indicates that the Veterinary Services Laboratory of the Ministry of Agriculture is collaborating with the Animal Health and Epidemiology Departments on zoonotic diseases, but no further information is available. [4]

- [1] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 17 January 2021.
- [2] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.
- [3] World Health Organization. "Global Database for Antimicrobial Resistance Country Self Assessment 2017-2018 - Barbados". [<http://amrcountryprogress.org/>]. Accessed 17 January 2021.
- [4] Barbados Government Information Service. 6 April 2011. "Vet Lab Making Its Mark In Scientific Field". [<https://gisbarbados.gov.bb/blog/vet-lab-making-its-mark-in-scientific-field/>]. Accessed 17 January 2021.

1.2.2 Surveillance systems for zoonotic diseases/pathogens

1.2.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Barbados has a national mechanism for owners of livestock to conduct and report on disease surveillance to a central government agency. There is no evidence of such a mechanism through the Ministry of Health and Wellness or Ministry of Agriculture and Food Security. [1, 2] A 2011 article from the Barbados Government Information Service (GIS)—titled "Vet Lab Making Its Mark In Scientific Field"—mentions that the Veterinary Department of the Ministry of Agriculture has a surveillance programme for livestock, and a 2012 GIS article—titled "Barbadians Urged To Be Vigilant To Protect Local Livestock"—describes government veterinary officers who visit farms to test for and sample various diseases, but no further information is available. [3, 4]

- [1] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 17 January 2021.
- [2] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.
- [3] Barbados Government Information Service. 6 April 2011. "Vet Lab Making Its Mark In Scientific Field". [<https://gisbarbados.gov.bb/blog/vet-lab-making-its-mark-in-scientific-field/>]. Accessed 17 January 2021.
- [4] Barbados Government Information Service. 30 March 2012. "Barbadians Urged To Be Vigilant To Protect Local Livestock". [<https://gisbarbados.gov.bb/blog/barbadians-urged-to-be-vigilant-to-protect-local-livestock/>]. Accessed 17 January 2021.

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 there are laws or guidelines that safeguard the confidentiality of information generated through surveillance activities for animals (for owners) in Barbados. However, Barbados has a "Data Protection Bill" of 5 July 2019. The bill protects the privacy of individuals' personal data, but there is no specific mention of information generated through surveillance activities and does not mention protections pertaining to animals as property of owners. [1] Lastly, the Ministry of Health and Wellness and Ministry of Agriculture and Food Safety make no mention of such laws or guidelines. [2, 3]

- [1] Government of Barbados. "Data Protection Bill" of 5 July 2019. [https://www.barbadosparliament.com/uploads/bill_resolution/7b81b59260896178b5aa976fdb87bfee.pdf]. Accessed 18 July 2021.
- [2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 18 January 2021.
- [3] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

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 insufficient evidence that Barbados conducts surveillance of zoonotic disease in wildlife. A 2011 article from the Barbados Government Information Service (GIS), titled "Mosquito and Rodent Surveillance Exercise Under Way", reported that a mosquito and rodent surveillance exercise was under way, although there is no specific mention of zoonotic disease. [1] In 2014, a GIS article, titled "Success In Mosquito Control Programme", reported that the Ministry of Health's Vector Control Unit was conducting surveillance and control of mosquito breeding sites, but there is no specific mention of zoonotic disease. [2] Barbados is a member of the Caribbean Public Health Agency (CARPHA), and CARPHA conducts surveillance on vector-borne diseases, including dengue, chikungunya, and malaria. [3, 4] In 2017, CARPHA launched the regional Caribbean Vector-Borne Diseases Network (CariVecNet), which acts as an exchange center for surveillance information on vector-borne diseases. [5, 6] A representative from Barbados serves on the CariVecNet Surveillance/Epidemiology Working Group. [7] There is no further evidence of surveillance of zoonotic disease in wildlife available through the Ministry of Health and Wellness or the Ministry of Agriculture and Food Security. [8, 9]

- [1] Barbados Government Information Service. 14 October 2011. "Mosquito and Rodent Surveillance Exercise Under Way". [<https://gisbarbados.gov.bb/blog/success-in-mosquito-control-programme/>]. Accessed 18 January 2021.
- [2] Barbados Government Information Service. 11 June 2014. "Success In Mosquito Control Programme".

[<https://gisbarbados.gov.bb/blog/success-in-mosquito-control-programme/>]. Accessed 18 January 2021.

[3] Caribbean Public Health Agency (CARPHA). "Surveillance and Health Analysis". [<https://www.carpha.org/What-We-Do/Public-Health>]. Accessed 18 January 2021.

[4] Caribbean Public Health Agency (CARPHA). "Laboratory Services and Networks". [<https://www.carpha.org/What-We-Do/LABS/Overview>]. Accessed 18 January 2021.

[5] Caribbean Public Health Agency (CARPHA). 22 August 2017. "Regional Network Launched to Collaborate on Zika and Other Vector-Borne Diseases". [<https://carpha.org/More/Media/Articles/ArticleID/194/Regional-Network-Launched-to-Collaborate-on-Zika-and-Other-Vector-Borne-Diseases>]. Accessed 18 January 2021.

[6] Caribbean Vector-Borne Diseases Network (CariVecNet). [<http://carivecnet.carpha.org/>]. Accessed 18 January 2021.

[7] Caribbean Vector-Borne Diseases Network (CariVecNet). "CariVectNet Surveillance/Epidemiology Working Group Members". [<http://carivecnet.carpha.org/Surveillance-Epidemiology>]. Accessed 18 January 2021.

[8] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 18 January 2021.

[9] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

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: 17.42

2017

OIE WAHIS database

1.2.4b

Number of veterinary para-professionals per 100,000 people

Input number

Current Year Score: 3.14

2017

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 evidence that 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 in Barbados as there is no evidence of a national plan, legislation, or regulation on zoonotic disease in Barbados. However, the Caribbean Community (CARICOM) One Health policy framework from 2014 mentions the private sector and requests that the private sector be engaged in One Health initiatives as part of multidisciplinary and multi-sector collaboration. [1] In addition, the regional private sector groups are members of the Caribbean Animal Health Network (CaribVET), which includes Barbados. [2] There is no evidence of such a document provided on the websites of the Ministry of Health and Wellness and the Ministry of Agriculture and Food Security. [3, 4]

[1] One Health One Caribbean One Love. 2014. "Technical Note - CARICOM One Health Policy".

[http://www.jvma.org/images/One_Health_One_Caribbean_One_Love_Project.pdf]. Accessed 18 January 2021.

[2] Oura, C., Mahase-Gibson, A. Stephen, C. 2017. "Caribbean Resilience and Prosperity Through One Health".

[http://www.cwhc-rcsf.ca/docs/technical_reports/Caribbean_Resilience.pdf]. Accessed 18 January 2021.

[3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 17 January 2021.

[4] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

1.3 BIOSECURITY

1.3.1 Whole-of- government biosecurity systems

1.3.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Barbados has in place a record, updated within the past 5 years, of the facilities in which especially dangerous pathogens and toxins are stored or processed, including details on inventories and inventory management systems. However, in August 2018, the Government Information Service for Barbados reported that the University of the West Indies (UWI) in Barbados will house the Caribbean's Centre for Biosecurity Studies. [1] However, there is no information available on the Centre's storage and processing of dangerous pathogens and toxins. Although Barbados is party to the Biological Weapons Convention (BWC), it has not shared Confidence Building Measures. [2] There is also no evidence provided on the VERTIC database. [3] There is no further information provided on the websites of the Ministry of Health and Wellness, Ministry of Agriculture and Food Security, the Official Website of the Barbados Government, and Barbados Defence

Force. [4, 5, 6, 7]

- [1] Rawlins-Bentham, J. of the Barbados Government Information Service. 3 August 2018. "Barbados Home To Biosecurity Studies Centre". [<http://gisbarbados.gov.bb/blog/barbados-home-to-biosecurity-studies-centre/>]. Accessed 18 January 2021.
- [2] United Nations Office at Geneva (UNOG) - Biological Weapons Convention (BWC) Electronic Confidence Building Measures Portal. "Barbados". [<https://bwc-ecbm.unog.ch/state/barbados>]. Accessed 18 January 2021.
- [3] Verification Research, Training and Information Centre (VERTIC) Database. "Barbados". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 18 January 2021.
- [4] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 18 January 2021.
- [5] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.
- [6] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 18 January 2021.
- [7] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 18 January 2021.

1.3.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Barbados has in place legislation related to biosecurity which address requirements such as physical containment, operation practices, and cybersecurity of facilities in which especially dangerous pathogens and toxins are stored or processed. The Animal (Diseases and Importation) Act of 1978, the Quarantine Act of 1950, the Anti-Terrorism Act of 2002, and the Miscellaneous Controls (General Open Import License) Regulations of 2014 are some of the legislations listed for Barbados in the VERTIC Biological Weapons Convention (BWC) Legislation Database. [1] However, none of these legislations or regulations address biosecurity requirements of facilities in which especially dangerous pathogens and toxins are stored and processed. [2, 3, 4, 5] Furthermore, according to a 2017 article from the Barbados Government Information Service, the Ministry of Health is working on a Chemical, Biological, Radioactive and Nuclear (CBRN) hazards contingency plan, but no additional information on development of this plan is available. [6] Although Barbados is party to the Biological Weapons Convention (BWC), it has not shared Confidence Building Measures. [7] Lastly there is no evidence of such legislation or regulations on the websites of the Ministry of Health and Wellness, Ministry of Agriculture and Food Security, the Official Website for the Barbados Government, and the Barbados Defence Force. [8, 9, 10, 11]

- [1] Verification Research, Training and Information Centre (VERTIC). "Biological Weapons Convention (BWC) Legislation Database". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 18 January 2021.
- [2] Laws of Barbados. Chapter 253, 1978. "Animals (Diseases and Importation) Act". [http://www.vertic.org/media/National%20Legislation/Barbados/BB_Animals_Diseases_and_Importation_Act.pdf]. Accessed 18 January 2021.
- [3] Laws of Barbados. Chapter 53, 1950. "Quarantine Act". [http://www.vertic.org/media/National%20Legislation/Barbados/BB_Quarantine_Act.pdf]. Accessed 18 January 2021.
- [4] Laws of Barbados. Chapter 158, 2002. "Anti-Terrorism Act". [http://www.vertic.org/media/National%20Legislation/Barbados/BB_Anti-Terrorism_Act.pdf]. Accessed 18 January 2021.
- [5] Laws of Barbados. Statutory Instrument (S.I.) No. 8 of 2014. "Miscellaneous Controls (General Open Import Licence) Regulations, 2014". [<http://extwprlegs1.fao.org/docs/pdf/bar135486.pdf>]. Accessed 18 January 2021.

- [6] Barbados Government Information Service. 15 December 2017. "Government Establishing National CBRN Plan". [<https://gisbarbados.gov.bb/blog/government-establishing-national-cbrn-plan/>]. Accessed 18 January 2021.
- [7] United Nations Office at Geneva (UNOG) - Biological Weapons Convention (BWC) Electronic Confidence Building Measures Portal. "Barbados". [<https://bwc-ecbm.unog.ch/state/barbados>]. Accessed 18 January 2021.
- [8] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 18 January 2021.
- [9] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.
- [10] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 18 January 2021.
- [11] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 18 January 2021.

1.3.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that there is an established agency responsible for the enforcement of biosecurity legislation and regulations in Barbados, as there is no evidence that such legislation or regulations exist. The Animal (Diseases and Importation) Act of 1978, the Quarantine Act of 1950, the Anti-Terrorism Act of 2002, and the Miscellaneous Controls (General Open Import License) Regulations of 2014 are the potentially relevant legislation listed for Barbados in the VERTIC Biological Weapons Convention (BWC) Legislation Database. [1] However, none of these legislation or regulations address biosecurity requirements of facilities in which especially dangerous pathogens and toxins are stored and processed. [2, 3, 4, 5] However, in December 2017, the Barbados Government Information Service reported that a National Chemical, Biological, Radioactive and Nuclear (CBRN) hazards Contingency Plan was under development, which will include a set of emergency procedures to "govern an inter-agency coordinated response to a CBRN threat". [6] Although Barbados is party to the Biological Weapons Convention (BWC), it has not shared Confidence Building Measures. [7] There is also no evidence of such legislation or regulations provided on the websites of the Ministry of Health and Wellness, Ministry of Agriculture and Food Security, the Official Website for the Barbados Government, and the Barbados Defence Force. [8, 9, 10]

- [1] Verification Research, Training and Information Centre (VERTIC). "Biological Weapons Convention (BWC) Legislation Database". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 18 January 2021.
- [2] Laws of Barbados. Chapter 253, 1978. "Animals (Diseases and Importation) Act". [http://www.vertic.org/media/National%20Legislation/Barbados/BB_Animals_Diseases_and_Importation_Act.pdf]. Accessed 18 January 2021.
- [3] Laws of Barbados. Chapter 53, 1950. "Quarantine Act". [http://www.vertic.org/media/National%20Legislation/Barbados/BB_Quarantine_Act.pdf]. Accessed 18 January 2021.
- [4] Laws of Barbados. Chapter 158, 2002. "Anti-Terrorism Act". [http://www.vertic.org/media/National%20Legislation/Barbados/BB_Anti-Terrorism_Act.pdf]. Accessed 18 January 2021.
- [5] Laws of Barbados. Statutory Instrument (S.I.) No. 8 of 2014. "Miscellaneous Controls (General Open Import Licence) Regulations, 2014". [<http://extwprlegs1.fao.org/docs/pdf/bar135486.pdf>]. Accessed 18 January 2021.
- [6] Barbados Government Information Service. 15 December 2017. "Government Establishing National CBRN Plan". [<https://gisbarbados.gov.bb/blog/government-establishing-national-cbrn-plan/>]. Accessed 18 January 2021.
- [7] United Nations Office at Geneva (UNOG) - Biological Weapons Convention (BWC) Electronic Confidence Building Measures Portal. "Barbados". [<https://bwc-ecbm.unog.ch/state/barbados>]. Accessed 18 January 2021.
- [8] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 18 January 2021.
- [9] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[10] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 18 January 2021.

1.3.1d

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

Yes = 1 , No = 0

Current Year Score: 0

There is no public evidence that shows that Barbados has taken action to consolidate its inventories of dangerous pathogens and toxins into a minimum number of facilities. In December 2017, the Barbados Government Information Service reported that a National Chemical, Biological, Radioactive and Nuclear (CBRN) hazards Contingency Plan was under development, but there is no mention of consolidation of inventories. [1] Although Barbados is party to the Biological Weapons Convention (BWC), it has not shared Confidence Building Measures. [2] There is also no evidence provided on the Verification Research, Training and Information Centre (VERTIC) Database. [3] Lastly, there is no evidence of such a consolidation provided on the websites of the Ministry of Health and Wellness, Ministry of Agriculture and Food Security, Defence Force, Official Website of the Barbados Government, and the Caribbean Public Health Agency (CARPHA) Laboratory. [4, 5, 6, 7, 8]

[1] Barbados Government Information Service. 15 December 2017. "Government Establishing National CBRN Plan".

[<https://gisbarbados.gov.bb/blog/government-establishing-national-cbrn-plan/>]. Accessed 18 January 2021.

[2] United Nations Office at Geneva (UNOG) - Biological Weapons Convention (BWC) Electronic Confidence Building Measures Portal. "Barbados". [<https://bwc-ecbm.unog.ch/state/barbados>]. Accessed 18 January 2021.

[3] Verification Research, Training and Information Centre (VERTIC) Database. "Barbados".

[<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 18 January 2021.

[4] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 18 January 2021.

[5] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[6] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 18 January 2021.

[7] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 18 January 2021.

[8] Caribbean Public Health Agency (CARPHA). "Laboratory Services and Networks". [<http://carpha.org/what-we-do/laboratory-services-and-networks>]. Accessed 18 January 2021.

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 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, in Barbados. The Caribbean Public Health Agency (CARPHA), in conjunction with the Pan American Health Organization of the World Health Organization (PAHO/WHO), has facilitated access to laboratory facilities at the WHO-Collaborating Centres at the United States Centers for Disease Control and Prevention and Public Health Agency Canada for diagnosis of Ebola cases. [1] As of 2014, the Biosafety Level 3 (BSL3) laboratory at CARPHA was being prepared to receive and test clinical samples from suspected Ebola patients, using molecular diagnostic methods. [1] Anthrax is not listed among the CARPHA laboratory testing services. However, CARPHA notes that in suspected cases of cutaneous anthrax, specimens may be taken from the skin lesions and blood cultures. [2] There is no

information about diagnostic testing for anthrax and/or Ebola provided on the websites of the Ministry of Health and Wellness, Barbados Defence Force, Official Website of the Barbados Government, and the Ministry of Agriculture and Food Security. [3, 4, 5, 6]

[1] Caribbean Public Health Agency (CARPHA). 15 December 2014. "CARPHA Response to the Ebola Epidemic in West Africa". [https://new.carpha.org/Portals/0/Documents/Ebola-What_is_CARPHA_Doing_FINAL_15122014.pdf]. Accessed 18 January 2021.

[2] Caribbean Public Health Agency (CARPHA). "Laboratory User Manual - Laboratory Testing Services". [[https://carpha.org/Portals/0/GUL-Q05-001-05_User%20Manual\[1452\].pdf?ver=2020-04-16-180718-920](https://carpha.org/Portals/0/GUL-Q05-001-05_User%20Manual[1452].pdf?ver=2020-04-16-180718-920)]. Accessed 18 January 2021.

[3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 18 January 2021.

[4] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 18 January 2021.

[5] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[6] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 18 January 2021.

1.3.2 Biosecurity training and practices

1.3.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence that Barbados requires 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. In August 2018, the Government Information Service for Barbados reported that the University of the West Indies (UWI) in Barbados will house the Caribbean's Centre for Biosecurity Studies. [1] There is mention that the Centre will provide training and research in bio-risk management, but there is no information available on training approaches. [1] In 2014, the Caribbean Public Health Agency (CARPHA) hosted two workshops, on shipping of infectious substances and biosafety practices in a clinical laboratory. [2] In 2016, the Caribbean Animal Health Network (CaribVET) hosted three workshops on poultry biosecurity. [3] These one-off workshops were held in Trinidad, and there is no evidence that representatives from Barbados were present. [2, 3] Although Barbados is party to the Biological Weapons Convention (BWC), it has not shared Confidence Building Measures. [4] There is also no evidence found on the Verification Research, Training and Information Centre (VERTIC) Database. [5] Lastly, there is no further evidence found on the websites of the Ministry of Health and Wellness, the Defence Force, the Ministry of Agriculture and Food Security, and the Official Website of the Barbados Government. [6, 7, 8, 9]

[1] Rawlins-Bentham, J. of the Barbados Government Information Service. 3 August 2018. "Barbados Home To Biosecurity Studies Centre". [<http://gisbarbados.gov.bb/blog/barbados-home-to-biosecurity-studies-centre/>]. Accessed 18 January 2021.

[2] Caribbean Public Health Agency (CARPHA). "CARPHA Trains Laboratory Personnel to Better Manage Outbreak Situations in the Region". [<https://carpha.org/More/Media/Articles/ArticleID/85/CARPHA-Trains-Laboratory-Personnel-to-Better-Manage-Outbreak-Situations-in-the-Region>]. Accessed 18 January 2021.

[3] Caribbean Animal Health Network (CaribVET). "April: the month of Biosecurity, April 2016, Guyana, Trinidad, Tobago". [<https://www.caribvet.net/training/training-workshops/april-the-month-of-biosecurity>]. Accessed 18 January 2021.

[4] United Nations Office at Geneva (UNOG) - Biological Weapons Convention (BWC) Electronic Confidence Building

Measures Portal. "Barbados". [<https://bwc-ecbm.unog.ch/state/barbados>]. Accessed 18 January 2021.

[5] Verification Research, Training and Information Centre (VERTIC) Database. "Barbados".

[<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 18 January 2021.

[6] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 18 January 2021.

[7] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 18 January 2021.

[8] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[9] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 18 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 evidence that Barbados has regulations or licensing conditions specifying that security and other personnel with access to especially dangerous pathogens, toxins, or biological materials with pandemic potential are subject to drug testing, background checks, and psychological or mental fitness checks. There is no mention of personnel checks through the Caribbean Public Health Agency (CARPHA) laboratory, and no website is available for the Best-dos Santos Public Health Laboratory, opened in Barbados in January 2018. [1, 2] In December 2017, the Barbados Government Information Service reported that a National Chemical, Biological, Radioactive and Nuclear (CBRN) hazards Contingency Plan was under development, but there is no mention of considerations regarding personnel security. [3] Although Barbados is party to the Biological Weapons Convention (BWC), it has not shared Confidence Building Measures. [4] There is no relevant legislation or regulations listed for Barbados in the VERTIC Biological Weapons Convention (BWC) Legislation Database. [5] There is no further evidence provided on the websites of the Ministry of Health and Wellness, the Defence Force, the Ministry of Agriculture and Food Security, and the Official Website of the Barbados Government. [6, 7, 8, 9]

[1] Caribbean Public Health Agency (CARPHA). "Laboratory Services and Networks". [<https://www.carpha.org/What-We-Do/LABS/Overview>]. Accessed 18 January 2021.

[2] Springer. J. of the Government Information Service of Barbados. 8 January 2018. "New Public Health Lab Officially Opened". [<https://gisbarbados.gov.bb/blog/new-public-health-lab-officially-opened/>]. Accessed 18 January 2021.

[3] Barbados Government Information Service. 15 December 2017. "Government Establishing National CBRN Plan". [<https://gisbarbados.gov.bb/blog/government-establishing-national-cbrn-plan/>]. Accessed 18 January 2021.

[4] United Nations Office at Geneva (UNOG) - Biological Weapons Convention (BWC) Electronic Confidence Building Measures Portal. "Barbados". [<https://bwc-ecbm.unog.ch/state/barbados>]. Accessed 18 January 2021.

[5] Verification Research, Training and Information Centre (VERTIC). "Biological Weapons Convention (BWC) Legislation Database". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 18 January 2021.

[6] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 18 January 2021.

[7] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 18 January 2021.

[8] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[9] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 18 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 Barbados has regulations on the safe and secure transport of infectious substances (Categories A and B). However, the Caribbean Public Health Agency (CARPHA) Laboratory User Manual provides guidelines and requirements for the preparation, packaging, and shipping of specimens, including Category A and B infectious substances. [1] The guidelines define Category A and B infectious substances and include them under one of four classes of dangerous goods, Toxic and Infectious Substances. [1] The guidelines are according to Annex 2 of the World Health Organization (WHO) Guidance on regulations for the Transport of Infectious Substances 2011-2012. [1] Although Barbados is party to the Biological Weapons Convention (BWC), it has not shared Confidence Building Measures. [2] There is no relevant legislation or regulations listed for Barbados in the VERTIC Biological Weapons Convention (BWC) Legislation Database. [3] There is also no evidence of regulations on the safe and secure transport of infectious substances through the websites of the Ministry of Transit, Works, and Maintenance, the Ministry of Health and Wellness, Ministry of Agriculture and Food Security, and the Defence Force. [4, 5, 6, 7]

[1] Caribbean Public Health Agency (CARPHA). "Laboratory User Manual - Guidelines for Preparation, Packing and Shipping Specimens". [<https://carpha.org/What-We-Do/Laboratory/Annex-2-GUIDELINES-FOR-PREPARATION-PACKING-AND-SHIPPING-SPECIMENS>]. Accessed 19 January 2020.

[2] United Nations Office at Geneva (UNOG) - Biological Weapons Convention (BWC) Electronic Confidence Building Measures Portal. "Barbados". [<https://bwc-ecbm.unog.ch/state/barbados>]. Accessed 19 January 2020.

[3] Verification Research, Training and Information Centre (VERTIC). "Biological Weapons Convention (BWC) Legislation Database". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 19 January 2020.

[4] Ministry of Transit, Works, and Maintenance of Barbados. [<https://www.gov.bb/Ministries/transport-works>]. Accessed 19 January 2020.

[5] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 19 January 2021.

[6] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[7] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 19 January 2020.

1.3.5 Cross-border transfer and end-user screening

1.3.5a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Barbados has national legislation, regulation, or other guidance in place to oversee the cross-border transfer and end-user screening of especially dangerous pathogens, toxins and pathogens with pandemic potential. The Animals (Diseases and Importation) Act of 1978 and Miscellaneous Controls (General Open Import Licence) Regulations of 2014 do not address cross-border transfer and end-user screening of these substances. [1, 2] An undated UNOG report on BTWC compliance mentions that a conference was held in Barbados in October 2016, under a project to strengthen export controls and border security in Latin America and the Caribbean but no further information about whether these are to address cross-border transfer and end-user screening of especially dangerous pathogens, toxins and pathogens with pandemic potential was provided in the document. [3] Although Barbados is party to the Biological Weapons Convention (BWC), it has not shared Confidence Building Measures. [4] There is also no evidence provided by the Verification Research, Training and Information Centre (VERTIC) Database. [5] Lastly, there is no evidence of such legislation, regulation, or guidance specific to cross-border transfer available through the websites of the Ministry of Health and Wellness, Defence Force, Ministry of Agriculture and Food Security, Ministry of Foreign Affairs and Foreign Trade, Official Website for Barbados Government, and the Caribbean Agricultural Research and Development Institute. [6, 7, 8, 9, 10, 11]

- [1] Laws of Barbados. Chapter 253, 1978. "Animals (Diseases and Importation) Act". [http://www.vertic.org/media/National%20Legislation/Barbados/BB_Animals_Diseases_and_Importation_Act.pdf]. Accessed 19 January 2021.
- [2] Laws of Barbados. Statutory Instrument (S.I.) No. 8 of 2014. "Miscellaneous Controls (General Open Import Licence) Regulations, 2014". [<http://extwprlegs1.fao.org/docs/pdf/bar135486.pdf>]. Accessed 19 January 2021.
- [4] The United Nations Office at Geneva. ND. "Canada's Report on Compliance - Biological and Toxins Weapons Committee, Eighth Review Committee". [[https://www.unog.ch/80256EDD006B8954/\(httpAssets\)/0C38CDC78C367FFAC1258044002F4F01/\\$file/PAPER+-+Canada's+Compliance+Report+to+the+BTWC+-+2016.pdf](https://www.unog.ch/80256EDD006B8954/(httpAssets)/0C38CDC78C367FFAC1258044002F4F01/$file/PAPER+-+Canada's+Compliance+Report+to+the+BTWC+-+2016.pdf)]. Accessed 19 January 2021.
- [5] United Nations Office at Geneva (UNOG) - Biological Weapons Convention (BWC) Electronic Confidence Building Measures Portal. "Barbados". [<https://bwc-ecbm.unog.ch/state/barbados>]. Accessed 19 January 2021.
- [6] Verification Research, Training and Information Centre (VERTIC) Database. "Barbados". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 19 January 2021.
- [7] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 19 January 2021.
- [6] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 19 January 2021.
- [7] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.
- [8] Ministry of Foreign Affairs and Foreign Trade of Barbados. [<https://www.foreign.gov.bb/>]. Accessed 19 January 2021.
- [9] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 19 January 2021.
- [10] Caribbean Agricultural Research and Development Institute (CARDI). [<http://www.cardi.org/>]. Accessed 19 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: 1

There is evidence that Barbados has in place national biosafety legislation and/or regulations. The "Safety and Health at Work Act" of 2005 states that: "Where a hazardous substance is stored, handled or used in a workplace a warning shall be given to

every person granted access to the workplace of the presence of the hazardous substance and of the precautions to be taken to prevent or reduce any hazard or injury to health." [1] Furthermore, the "Accidents and Occupational Diseases (Notification)" of 1952 covers the notification of accidents and occupational diseases, which includes "Infectious or parasitic diseases contracted in an occupation where there is a particular risk of contamination". [2, 3] Furthermore, a Caribbean regional forum in 2017 included mention of the Caribbean Public Health Agency (CARPHA)'s role in assisting Member States in areas of biosafety and biosecurity. [4] In 2014, CARPHA received a Biosafety Level 3 (BSL-3) laboratory, and there is evidence that CARPHA has conducted biosafety trainings. [5, 6]

[1] Laws of Barbados. Chapter 356, 2005. "Safety and Health at Work Act, 2005".

[http://www.bstu.org/Safety_and_Health_at_Work_Act_2005.pdf]. Accessed 18 January 2021.

[2] Laws of Barbados. Chapter 338, 1952. "Accidents and Occupational Diseases (Notification), 1952".

[<https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/52085/74844/F646842428/BRB52085.pdf>]. Accessed 18 January 2021.

[3] International Labour Organization. "NATLEX: Database of national labour, social security and related human rights legislation - Barbados > Social Security (general standards)".

[http://oit.org/dyn/natlex/natlex4.detail?p_lang=en&p_isn=52085&p_count=96993&p_classification=15&p_classcount=20796]. Accessed 18 January 2021.

[4] Caribbean Public Health Agency (CARPHA). "Regional Laboratories Prepare to Detect and Respond to New and Emerging Diseases". [<https://carpha.org/More/Media/Articles/ArticleID/192/Regional-Laboratories-Prepare-to-Detect-and-Respond-to-New-and-Emerging-Diseases>]. Accessed 18 January 2021.

[5] Ministry of Health of Trinidad and Tobago. "CARPHA's New Laboratory Promises Faster Detection and Response to Control Disease Outbreaks in the Caribbean". [<https://caricom.org/carphas-new-laboratory-promises-faster-detection-and-response-to-control-disease-outbreaks-in-the-caribbean/>]. Accessed 18 January 2021.

[6] Caribbean Public Health Agency (CARPHA). "CARPHA Trains Laboratory Personnel to Better Manage Outbreak Situations in the Region". [<https://carpha.org/More/Media/Articles/ArticleID/85/CARPHA-Trains-Laboratory-Personnel-to-Better-Manage-Outbreak-Situations-in-the-Region>]. Accessed 18 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 insufficient evidence that there is an established agency responsible for the enforcement of biosafety legislation in Barbados. The Ministry of Labour is responsible for the provisions under the Safety and Health at Work Act of 2005 and the Accidents and Occupational Diseases (Notification) of 1952, however, there is no evidence that this constitutes enforcement.

[1, 2] The Safety and Health at Work Act of 2005 states, "Where a hazardous substance is stored, handled or used in a workplace a warning shall be given to every person granted access to the workplace of the presence of the hazardous substance and of the precautions to be taken to prevent or reduce any hazard or injury to health." [1] The Act requires any storage, use, or dealing of hazardous substance to be reported to the Chief Labour Office, with copies sent to other government chief officers, including the Chief Medical Officer. [1] The Accidents and Occupational Diseases (Notification) of 1952 covers the notification of accidents and occupational diseases, and "Infectious or parasitic diseases contracted in an occupation where there is a particular risk of contamination" is included in the Third Schedule list of occupational diseases.

[2, 3] The Minister of Labour may alter the Third Schedule, but there is no evidence that there have been any alterations to this list, including through the Ministry of Labour. [2, 4] A Caribbean regional forum in 2017 included mention of the Caribbean Public Health Agency (CARPHA)'s role in assisting Member States in areas of biosafety and biosecurity. [5]

Although Barbados is party to the Biological Weapons Convention (BWC), it has not shared Confidence Building Measures. [6] There is no evidence provided on the Verification Research, Training and Information Centre (VERTIC) Database. [7] There is

no further information available on the websites of the Ministry of Health and Wellness, Ministry of Agriculture and Food Security, and Official Website for the Government of the Barbados Government. [8, 9, 10]

- [1] Laws of Barbados. Chapter 356, 2005. "Safety and Health at Work Act, 2005". [http://www.bstu.org/Safety_and_Health_at_Work_Act_2005.pdf]. Accessed 19 January 2021.
- [2] Laws of Barbados. Chapter 338, 1952. "Accidents and Occupational Diseases (Notification), 1952". [<https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/52085/74844/F646842428/BRB52085.pdf>]. Accessed 19 January 2021.
- [3] International Labour Organization. "NATLEX: Database of national labour, social security and related human rights legislation - Barbados > Social Security (general standards)". [http://oit.org/dyn/natlex/natlex4.detail?p_lang=en&p_isn=52085&p_count=96993&p_classification=15&p_classcount=20796]. Accessed 19 January 2021.
- [4] Ministry of Labour of Barbados. [<https://labour.gov.bb/library/labour-legislation/>]. Accessed 19 January 2021.
- [5] Caribbean Public Health Agency (CARPHA). "Regional Laboratories Prepare to Detect and Respond to New and Emerging Diseases". [<https://carpha.org/More/Media/Articles/ArticleID/192/Regional-Laboratories-Prepare-to-Detect-and-Respond-to-New-and-Emerging-Diseases>]. Accessed 19 January 2021.
- [6] United Nations Office at Geneva (UNOG) - Biological Weapons Convention (BWC) Electronic Confidence Building Measures Portal. "Barbados". [<https://bwc-ecbm.unog.ch/state/barbados>]. Accessed 19 January 2021.
- [7] Verification Research, Training and Information Centre (VERTIC) Database. "Barbados". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 19 January 2021.
- [8] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 19 January 2021.
- [9] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.
- [10] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 19 January 2021.

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 insufficient evidence that Barbados requires biosafety training, using a standardized, required approach, such as through a common curriculum or a train-the-trainer program, for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential. In August 2018, the Government Information Service for Barbados reported that the University of the West Indies (UWI) in Barbados will house the Caribbean's Centre for Biosecurity Studies. [1] There is mention that the Centre will provide training and research in bio-risk management, but there is no information available on training approaches. [1] The Caribbean Public Health Agency (CARPHA) has a Training Unit with a strategic framework for the agency's training function, including Laboratory Quality Assurance and Management as part of the Public Health priority area, though there is no indication that this involves standardised, mandatory training. [2] A 2014 news post by the CARPHA mentions training workshops for participants from 12 Caribbean countries on the shipping of infectious substances and biosafety practices in clinical laboratory. [3] There is no mention of training in the Accidents and Occupational Diseases (Notification) Act of 1952, and the Safety and Health at Work Act of 2005 only refers to training in general as part of ensuring safety and health at work. [4, 5] Although Barbados is party to the Biological Weapons Convention (BWC), it has not shared Confidence Building Measures. [6] There is no evidence provided by

the Verification Research, Training and Information Centre (VERTIC) Database. [7] There is also no further evidence provided on the websites of the Ministry of Health and Wellness, Ministry of Agriculture and Food Security, and Official Website for the Government of the Barbados. [8, 9, 10]

[1] Rawlins-Bentham, J. of the Barbados Government Information Service. 3 August 2018. "Barbados Home To Biosecurity Studies Centre". [<http://gisbarbados.gov.bb/blog/barbados-home-to-biosecurity-studies-centre/>]. Accessed 19 January 2021.

[2] Caribbean Public Health Agency (CARPHA). "Monitoring and Evaluation - Training Strategy".

[<http://carpha.org:8086/What-We-Do/Research-Training-and-Policy-Development/Monitoring-and-Evaluation/>]. Accessed 19 January 2021.

[3] Caribbean Public Health Agency (CARPHA). "CARPHA Trains Laboratory Personnel to Better Manage Outbreak Situations in the Region". [<https://carpha.org/More/Media/Articles/ArticleID/85/CARPHA-Trains-Laboratory-Personnel-to-Better-Manage-Outbreak-Situations-in-the-Region>]. Accessed 19 January 2021.

[4] Laws of Barbados. Chapter 338, 1952. "Accidents and Occupational Diseases (Notification), 1952".

[<https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/52085/74844/F646842428/BRB52085.pdf>]. Accessed 19 January 2021.

[5] Laws of Barbados. Chapter 356, 2005. "Safety and Health at Work Act, 2005".

[http://www.bstu.org/Safety_and_Health_at_Work_Act_2005.pdf]. Accessed 19 January 2021.

[6] United Nations Office at Geneva (UNOG) - Biological Weapons Convention (BWC) Electronic Confidence Building Measures Portal. "Barbados". [<https://bwc-ecbm.unog.ch/state/barbados>]. Accessed 19 January 2021.

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

[<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 19 January 2021.

[8] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 19 January 2021.

[9] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[10] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 19 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 Barbados 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. However, a summary of 2013 activities of the Caribbean Public Health Agency (CARPHA) indicates that need assessments and capacity building for biorisk management was conducted in 5 CARPHA member states, however, no additional details are available. [1] Furthermore, a presentation in April 2018 from a regional workshop on developments relevant to the Biological Weapons Convention (BWC) for Latin America and the Caribbean indicates that CARICOM Member States have not prioritized the development of regulatory frameworks to prevent the misuse of science and technology. [2] Although Barbados is party to the Biological Weapons Convention (BWC), it has not shared Confidence Building Measures. [3] There is also no evidence provided by the Verification Research, Training and Information Centre (VERTIC) Database. [4] Lastly, there is no evidence provided on the websites of the Ministry of Health and Wellness, Defence Force, Ministry of Agriculture and

Food Security, and the Official Website of the Barbados Government . [5, 6, 7, 8]

- [1] Caribbean Public Health Agency (CARPHA). "Laboratory Services and Networks - 2013 Activities at a Glance". [<http://carpha.org:8086/What-We-Do/Laboratory-Services-and-Networks>]. Accessed 21 January 2021.
- [2] The United Nations Office at Geneva. "Regulatory Frameworks to Prevent the Misuse of Science and Technology - Regional Workshop on Science and Technology: Developments Relevant to the Biological Weapons Convention (BWC) for Latin America and the Caribbean". [[https://www.unog.ch/80256EDD006B8954/\(httpAssets\)/8D3E81383571A952C125827C00441E47/\\$file/CARICOM_SnT+Worshop+LAC.pdf](https://www.unog.ch/80256EDD006B8954/(httpAssets)/8D3E81383571A952C125827C00441E47/$file/CARICOM_SnT+Worshop+LAC.pdf)]. Accessed 21 January 2021.
- [3] United Nations Office at Geneva (UNOG) - Biological Weapons Convention (BWC) Electronic Confidence Building Measures Portal. "Barbados". [<https://bwc-ecbm.unog.ch/state/barbados>]. Accessed 21 January 2021.
- [4] Verification Research, Training and Information Centre (VERTIC) Database. "Barbados". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 21 January 2021.
- [5] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 21 January 2021.
- [6] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 21 January 2021.
- [7] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.
- [8] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 21 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 evidence of a national policy requiring oversight of dual use research, such as research with especially dangerous pathogens, toxins, and/or dual-use research with pandemic potential in Barbados. A presentation in April 2018 from a regional workshop on developments relevant to the Biological Weapons Convention (BWC) for Latin America and the Caribbean indicates that CARICOM Member States have not prioritized the development of regulatory frameworks to prevent the misuse of science and technology. [1] Although Barbados is party to the Biological Weapons Convention (BWC), it has not shared Confidence Building Measures. [2] There is also no evidence provided by the Verification Research, Training and Information Centre (VERTIC) Database. [3] Lastly, there is no further evidence provided on this issue on the websites of the Ministry of Health and Wellness, Ministry of Agriculture and Food Security, Defence Force, and the Official Website of the Barbados Government. [4, 5, 6, 7]

- [1] The United Nations Office at Geneva. "Regulatory Frameworks to Prevent the Misuse of Science and Technology - Regional Workshop on Science and Technology: Developments Relevant to the Biological Weapons Convention (BWC) for Latin America and the Caribbean". [[https://www.unog.ch/80256EDD006B8954/\(httpAssets\)/8D3E81383571A952C125827C00441E47/\\$file/CARICOM_SnT+Worshop+LAC.pdf](https://www.unog.ch/80256EDD006B8954/(httpAssets)/8D3E81383571A952C125827C00441E47/$file/CARICOM_SnT+Worshop+LAC.pdf)]. Accessed 21 January 2021.
- [2] United Nations Office at Geneva (UNOG) - Biological Weapons Convention (BWC) Electronic Confidence Building Measures Portal. "Barbados". [<https://bwc-ecbm.unog.ch/state/barbados>]. Accessed 21 January 2021.
- [3] Verification Research, Training and Information Centre (VERTIC) Database. "Barbados". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 21 January 2021.
- [4] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 21 January 2021.

[5] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[6] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 21 January 2021.

[7] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 21 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 evidence of an agency responsible for oversight of research with especially dangerous pathogens, pathogens with pandemic potential, and/or other dual use research in Barbados. The Agreement Establishing the Caribbean Public Health Agency (CARPHA) states that CARPHA is responsible for "conduct of relevant research on public-health priorities in the Caribbean". [1] There is no evidence that CARPHA is responsible for oversight of research with especially dangerous pathogens, though CARPHA is equipped to investigate communicable diseases through security laboratories, as well as specialized units, such as an experimental mosquito colony. [2] A presentation in April 2018 from a regional workshop on developments relevant to the Biological Weapons Convention (BWC) for Latin America and the Caribbean indicates that CARICOM Member States have not prioritized the development of regulatory frameworks to prevent the misuse of science and technology. [3] Although Barbados is party to the Biological Weapons Convention (BWC), it has not shared Confidence Building Measures. [4] There is no evidence provided by the Verification Research, Training and Information Centre (VERTIC) Database. [5] There is also no evidence provided on the websites of the Ministry of Health and Wellness, the Ministry of Agriculture and Food Security, the Defence Force, and the Official Website of the Barbados Government. [6, 7, 8, 9]

[1] Caribbean Public Health Agency (CARPHA). "Agreement Establishing the Caribbean Public Health Agency (CARPHA)". [https://carpha.org/Portals/0/Documents/CARPHA_IGA.pdf]. Accessed 21 January 2021.

[2] Caribbean Public Health Agency (CARPHA). "Public Health Activities - Communicable Diseases". [<https://www.carpha.org/What-We-Do/Communicable-Diseases>]. Accessed 21 January 2021.

[3] The United Nations Office at Geneva. "Regulatory Frameworks to Prevent the Misuse of Science and Technology - Regional Workshop on Science and Technology: Developments Relevant to the Biological Weapons Convention (BWC) for Latin America and the Caribbean". [[https://www.unog.ch/80256EDD006B8954/\(httpAssets\)/8D3E81383571A952C125827C00441E47/\\$file/CARICOM_SnT+Worshop+LAC.pdf](https://www.unog.ch/80256EDD006B8954/(httpAssets)/8D3E81383571A952C125827C00441E47/$file/CARICOM_SnT+Worshop+LAC.pdf)]. Accessed 21 January 2021.

[4] United Nations Office at Geneva (UNOG) - Biological Weapons Convention (BWC) Electronic Confidence Building Measures Portal. "Barbados". [<https://bwc-ecbm.unog.ch/state/barbados>]. Accessed 21 January 2021.

[5] Verification Research, Training and Information Centre (VERTIC) Database. "Barbados". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 21 January 2021.

[6] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 21 January 2021.

[7] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[8] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 21 January 2021.

[9] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 21 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 evidence of national legislation, regulation, policy, or other guidance, requiring the screening of synthesized DNA before it is sold in Barbados. There is no evidence that the Caribbean Community (CARICOM) and Caribbean Public Health Agency (CARPHA) has relevant legislation, regulation, policy or other guidance. [1, 2] Although Barbados is party to the Biological Weapons Convention (BWC), it has not shared Confidence Building Measures. [3] There is no evidence provided by the Verification Research, Training and Information Centre (VERTIC) Database. [4] There is no further evidence provided on the websites of the Transport, Works, and Maintenance, Ministry of Health and Wellness, Ministry of Agriculture and Food Security, Barbados Defence Force, and the Official Website of the Barbados Government. [5, 6, 7, 8, 9]

[1] Caribbean Community (CARICOM). [<https://www.caricom.org/>]. Accessed 21 January 2021.

[2] Caribbean Public Health Agency (CARPHA). [<http://carpha.org/>]. Accessed 21 January 2021.

[3] United Nations Office at Geneva (UNOG) - Biological Weapons Convention (BWC) Electronic Confidence Building Measures Portal. "Barbados". [<https://bwc-ecbm.unog.ch/state/barbados>]. Accessed 21 January 2021.

[4] Verification Research, Training and Information Centre (VERTIC) Database. "Barbados".

[<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/b/>]. Accessed 21 January 2021.

[5] Ministry of Transport, Works, and Maintenance of Barbados. [<https://www.gov.bb/Ministries/transport-works>]. Accessed 21 January 2021.

[6] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 21 January 2021.

[7] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[8] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 21 January 2021.

[9] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 21 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: 0

2019

World Health Organization

1.6.1b

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

Yes = 1 , No = 0

Current Year Score: 1

2020

OIE WAHIS database

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

2.1 LABORATORY SYSTEMS STRENGTH AND QUALITY

2.1.1 Laboratory testing for detection of priority diseases

2.1.1a

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

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

Current Year Score: 0

There is insufficient evidence that the national laboratory system of Barbados has the capacity to conduct diagnostic tests for at least 5 of the 10 WHO-defined core tests. There is evidence that Barbados can conduct one of the tests. A 2010 article from the Government Information Service (GIS) indicates that the Influenza Laboratory at the Ladymeade Reference Unit (LRU) had the capacity to conduct polymerase chain reaction (PCR) testing for influenza. [1] In January 2018, the GIS reported that LRU was one of three public health laboratories in the country that were combined into a newly opened Best-dos Santos Public Health Laboratory. [2] The article mentions that tests at the Best-dos Santos laboratory include "haematology, serology, molecular biology, tuberculosis bacteriology, chemistry and pathology", however no further information is available, and there is no website available for the laboratory. [2] There is no further evidence on testing available on the website of the Ministry of Health and Wellness. [3]

[1] Springer, J. of the Government Information Service of Barbados. 8 January 2018. "New Public Health Lab Officially Opened". [<https://gisbarbados.gov.bb/blog/new-public-health-lab-officially-opened/>]. Accessed 21 January 2021.

[2] Government Information Service of Barbados. 2 March 2010. "New Influenza Lab A Watershed In Diagnostic Testing". [<https://gisbarbados.gov.bb/blog/new-influenza-lab-a-watershed-in-diagnostic-testing/>]. Accessed 21 January 2021.

[3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 21 January 2021.

2.1.1b

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

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

Current Year Score: 0

There is no evidence of a national plan, strategy or similar document for conducting testing during a public health emergency, which includes considerations for testing for novel pathogens, scaling capacity, and defining goals for testing. However, Barbados has received support by the Pan American Health Organization (PAHO) becoming one of the first Caribbean countries to receive test kits and reagents for COVID-19 as well as training of laboratory personnel in the new testing procedures and protocols. [1] There is no further evidence of such a plan with considerations for testing for novel pathogens, scaling capacity, and defining goals for testing on the webpages of the Ministry of Health and Wellness, and the Ministry of Agriculture and Food Security. [2, 3]

[1] Pan American Health Organization (PAHO/WHO). "PAHO Prepares Barbados for COVID-19 Testing".

[<https://www.paho.org/en/stories/paho-prepares-barbados-covid-19-testing>]. Accessed 31 January 2021.

[2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 23 January 2021.

[3] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 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: 0

There is insufficient evidence that the national laboratory that serves as a reference facility for Barbados is accredited. According to Strengthening Laboratory Management Toward Accreditation (SLMTA), the Queen Elizabeth Hospital Laboratory was awarded accreditation through the Jamaica National Agency for Accreditation (JANAAC) to ISO 15189 in 2016. [1] ISO 15189 is a standard of the International Organization for Standardization (ISO) that recognizes quality and competence in medical laboratories. [2] However, there is no indication that Queen Elizabeth Hospital Laboratory serves as a reference facility. [3] According to a 2017 peer-reviewed publication in the African Journal of Laboratory Medicine, it has been a challenge to implement quality management systems and accredit laboratories in the Caribbean. [4] The Barbados Advocate website also notes the importance of having accredited laboratories in the country, however it does not provide any evidence on the current stage of the accreditation of laboratories.[5] There is no further evidence provided on the websites of the Ministry of Health and Wellness, and the Ministry of Agriculture and Food Security. [6, 7]

[1] Strengthening Laboratory Management Toward Accreditation (SLMTA). "SLMTA Laboratories that have achieved accreditation". [<https://slmta.org/accredited-labs/>]. Accessed 21 January 2021.

[2] International Organization for Standardization (ISO). "ISO 15189:2012 Medical laboratories -- Requirements for quality and competence". [<https://www.iso.org/standard/56115.html>]. Accessed 21 January 2021.

[3] Strengthening Laboratory Management Toward Accreditation (SLMTA). "Lessons Learned from SLMTA Accredited Labs: Queen Elizabeth Hospital Laboratory Barbados". [<https://slmta.org/lessons-learned/queenelizabethbarbados>]. Accessed 21 January 2021.

[4] Alemnji G, Edghill L, Guevara G, et al. 2017. "Development and implementation of the Caribbean Laboratory Quality Management Systems Stepwise Improvement Process (LQMS-SIP) Towards Accreditation". African Journal of Laboratory

Medicine. 6[1] , a496. [<https://doi.org/10.4102/ajlm.v6i1.496>]. Accessed 21 January 2021.

[5] The Barbados Advocate. June 20016. "Accreditation of Laboratories Important".

[<https://www.barbadosadvocate.com/news/accreditation-laboratories-important>]. Accessed 21 January 2021.

[6] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 21 January 2021.

[7] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 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: 0

There is insufficient evidence of a national laboratory that serves as a reference facility for Barbados which is subject to external quality assurance review. In January 2018, the Government Information Service reported that the newly opened Best-dos Santos Public Health Laboratory merged the country's three public health laboratories, and the Minister of Health and Wellness noted that the "quality assurance and control would be the hallmark of its functions". [1] However, it is not specified if the lab serves as a reference facility. The country's "National Action Plan on Combatting Antimicrobial Resistance 2017-2022" indicates that ensuring national laboratories are involved in external quality assurance is one of the plan's goals. [2] However there is no further evidence if this goal has been carried through. A 2017 peer-reviewed publication in the African Journal of Laboratory Medicine states that implementing quality management systems in the Caribbean laboratory has been a challenge. [3] There is no further evidence provided on the websites of the Ministry of Health and Wellness, the Ministry of Agriculture and Food Security, and the Official Website of the Barbados Government. [4, 5, 6]

[1] Springer. J. of the Government Information Service of Barbados. 8 January 2018. "New Public Health Lab Officially Opened". [<https://gisbarbados.gov.bb/blog/new-public-health-lab-officially-opened/>]. Accessed 21 January 2021.

[2] Ministry of Health and Wellness of Barbados. 17 May 2017. "Barbados National Action Plan on Combatting Antimicrobial Resistance 2017-2022". [<http://extwprlegs1.fao.org/docs/pdf/bar169611.pdf>]. Accessed 21 January 2021.

[3] Alemnji G, Edghill L, Guevara G, et al. 2017. "Development and implementation of the Caribbean Laboratory Quality Management Systems Stepwise Improvement Process (LQMS-SIP) Towards Accreditation". African Journal of Laboratory Medicine. 6[1] , a496. [<https://doi.org/10.4102/ajlm.v6i1.496>]. Accessed 21 January 2021.

[4] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 21 January 2021.

[5] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[6] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 21 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: 0

There is no evidence of a nationwide specimen transport systems in Barbados. A Pan American Health Organization report from 2008 of regional meeting of Caribbean epidemiology managers indicated that specimen transport within countries is one of the challenges of surveillance, as there is often no formal reliable transport. [1] The Caribbean Public Health Agency

(CARPHA) laboratory provides detailed instructions on preparation, packaging and shipping, and indicates that all specimens must be routed through the relevant National Reference/Public Health Laboratory or the Ministry of Health. However, there is no evidence provided on the nationwide specimen transport system in Barbados. [2, 3] There is also no information on specimen transport systems provided on the websites of the Ministry of Health and Wellness, and the Ministry of Agriculture and Food Security. [4, 5] Private courier systems, such as DHL, operate in Barbados, but there is no indication that this includes specimen transport. [6]

[1] Pan American Health Organization/World Health Organization. November 2008. "Twenty-fifth Meeting of the Caribbean Epi Managers - Final Report". [<https://www.paho.org/hq/dmdocuments/2017/Immunization-Caribbean-EPI-25-Mgrs-Mtg-2008-e.pdf>]. Accessed 21 January 2021.

[2] Caribbean Public Health Agency (CARPHA). "Laboratory User Manual - Guidelines for Preparation, Packing and Shipping Specimens". [<https://carpha.org/What-We-Do/Laboratory/Annex-2-GUIDELINES-FOR-PREPARATION-PACKING-AND-SHIPPING-SPECIMENS>]. Accessed 21 January 2021.

[3] Caribbean Public Health Agency (CARPHA). "Laboratory Services - Specimen Submission". [<https://carpha.org/What-We-Do/LABS/CMML/Testing-Services-Capacity-Building>]. Accessed 21 January 2021.

[4] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 21 January 2021.

[5] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[6] DHL Barbados. "Life Sciences & Healthcare". [<https://www.logistics.dhl/bb-en/home/industry-sectors/life-sciences-and-healthcare.html>]. Accessed 10 February 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 evidence of 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. However, there is evidence that the Pan American Health Organization (PAHO) has provided test kits and reagents for COVID-19 to Barbados and has provided training for the personnel of the Best-dos Santos Public Health Laboratory. [1] There is no further evidence of 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 or public health emergency on the webpages of the Ministry of Health and Wellness, and the Ministry of Agriculture and Food Security. [2, 3]

[1] Pan American Health Organization (PAHO/WHO). "PAHO Prepares Barbados for COVID-19 Testing".

[<https://www.paho.org/en/stories/paho-prepares-barbados-covid-19-testing>]. Accessed 31 January 2021.

[2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 31 January 2021.

[3] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

2.3 REAL-TIME SURVEILLANCE AND REPORTING

2.3.1 Indicator and event-based surveillance and reporting systems

2.3.1a

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

Yes, there is evidence of ongoing event-based surveillance and evidence that the data is being analyzed on a daily basis = 2,
Yes, there is evidence of ongoing event-based surveillance, but no evidence that the data are being analyzed on a daily basis
= 1, No = 0

Current Year Score: 1

There is evidence that Barbados is conducting ongoing event-based surveillance and analysis for infectious disease; however, there is insufficient evidence this is analyzed daily. The Caribbean Public Health Agency (CARPHA) where Barbados is a member, conducts ongoing event-based surveillance and analysis for infectious disease. The Caribbean Public Health Agency (CARPHA) hosts a Tourism and Health Information System (THIS), a real-time system for hotel management and public health officials to identify events such as outbreaks early. Barbados is one of the eight countries participating in THIS. [1, 2] CARPHA also has the Caribbean Vessel Surveillance System (CVSS) for rapid information flow and coordinated multisectoral response for public health events occurring among visitors from passenger ships. [3] However, there is no evidence that CVSS includes event-based surveillance. The Ministry of Health and Wellness and the Ministry of Agriculture and Food Security make no mention of event-based surveillance on their websites. [4, 5]

[1] Caribbean Public Health Agency (CARPHA). "Tourism and Health Programme". [<https://carpha.org/THP/About-The-Program>]. Accessed 21 January 2021.

[2] Caribbean Public Health Agency (CARPHA). "THP: THIS Hotel Based Surveillance". [<https://carpha.org/THP/THIS-Hotel-Based-Surveillance>]. Accessed 14 August 2020.

[3] CARPHA. "Surveillance and Response System". [<http://carpha.org:8086/What-We-Do/Tourism-and-Health-Programme/Surveillance-and-Response-System>]. Accessed 6 March, 2021.

[4] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 21 January 2021.

[5] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

2.3.1b

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

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available evidence that Barbados has reported a potential public health emergency of international concern (PHEIC) to the WHO within the last two years. [1, 2] However, the 2017 PAHO/WHO "Zika-Epidemiological Report for Barbados" reports cases of zika and dengue in Barbados in 2016 and 2017. [3] The Ministry of Health and Wellness and the Caribbean Public Health Agency (CARPHA) does not have any report of a potential PHEIC within the last two years. [4, 5] However, the World Health Organization (WHO) report COVID-19 data for Barbados, and the Government Information Service of Barbados report COVID-19 data. [6, 7]

[1] World Health Organization (WHO). "Emergencies preparedness, response - Disease Outbreak News (DONs)". [<http://www.who.int/csr/don/en/>]. Accessed 21 January 2021.

- [2] World Health Organization (WHO). "Emergency Preparedness, Response - Barbados". [<https://www.who.int/csr/don/archive/country/brb/en/>]. Accessed 21 January 2021.
- [3] Pan American Health Organization - World Health Organization (PAHO/WHO). 2017. "Zika-Epidemiological Report, Barbados". [<https://www.paho.org/hq/dmdocuments/2017/2017-phe-zika-situation-report-bar.pdf>]. Accessed 21 January 2021.
- [4] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 21 January 2021.
- [5] Caribbean Public Health Agency (CARPHA). [<http://carpha.org/>]. Accessed 21 January 2021.
- [6] World Health Organization (WHO). "Barbados". [<https://covid19.who.int/region/amro/country/bb>]. Accessed 21 January 2021.
- [7] Government Information Service of Barbados. [<https://gisbarbados.gov.bb/covid-19/>]. Accessed 21 January 2021.

2.3.2 Interoperable, interconnected, electronic real-time reporting systems

2.3.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Barbados operates an electronic reporting surveillance system at both the national and sub-national level. A 2017 report from the Pan American Health Organization of the World Health Organization (PAHO/WHO), Influenza and Other Respiratory Virus Surveillance Systems in the Americas, indicates that Barbados does not have an online report for its surveillance systems. [1] The Caribbean Public Health Agency (CARPHA) hosts a Tourism and Health Information System (THIS), a real-time system for hotel management and public health officials to identify events such as outbreaks early. [2] CARPHA also has the Caribbean Vessel Surveillance System (CVSS) for rapid information flow and coordinated multisectoral response for public health events occurring among visitors from passenger ships. [2] However, there is no other indication of an electronic reporting surveillance system through CARPHA. [3] There is no evidence of an electronic reporting surveillance system provided on the websites of the Ministry of Health and Wellness and the Official Website of the Barbados Government. [4, 5]

- [1] Pan American Health Organization - World Health Organization Regional Office for the Americas. 2017. "Influenza and Other Respiratory Virus Surveillance Systems in the Americas: 2017". [https://www.paho.org/hq/index.php?option=com_docman&view=download&category_slug=scientific-technical-publications-5740&alias=42245-influenza-other-respiratory-virus-surveillance-systems-americas-245&Itemid=270&lang=en]. Accessed 21 January 2021.
- [2] Caribbean Public Health Agency (CARPHA). "Tourism and Health Programme". [<https://carpha.org/THP/About-The-Program>]. Accessed 21 January 2021.
- [3] Caribbean Public Health Agency (CARPHA). [<http://carpha.org/>]. Accessed 21 January 2021.
- [4] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 21 January 2021.
- [5] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 21 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: 0

There is no evidence that the electronic reporting surveillance system collect ongoing or real-time laboratory data as there is no evidence that Barbados operates an electronic reporting surveillance system. A 2017 report from the Pan American Health Organization of the World Health Organization (PAHO/WHO), Influenza and Other Respiratory Virus Surveillance Systems in the Americas, indicates that Barbados does not have an online report for its surveillance systems. [1] The Caribbean Public Health Agency (CARPHA) hosts a Tourism and Health Information System (THIS), a real-time system for hotel management and public health officials to identify events such as outbreaks early. [2] CARPHA also has the Caribbean Vessel Surveillance System (CVSS) for rapid information flow and coordinated multisectoral response for public health events occurring among visitors from passenger ships. [2] However, there is no other indication of an electronic reporting surveillance system through CARPHA. [3] There is no evidence of an electronic reporting surveillance system provided on the websites of the Ministry of Health and Wellness and the Official Website of the Barbados Government. [4, 5]

[1] Pan American Health Organization - World Health Organization Regional Office for the Americas. 2017. "Influenza and Other Respiratory Virus Surveillance Systems in the Americas: 2017".

[https://www.paho.org/hq/index.php?option=com_docman&view=download&category_slug=scientific-technical-publications-5740&alias=42245-influenza-other-respiratory-virus-surveillance-systems-americas-245&Itemid=270&lang=en]. Accessed 21 January 2021.

[2] Caribbean Public Health Agency (CARPHA). "Tourism and Health Programme". [<https://carpha.org/THP/About-The-Program>]. Accessed 21 January 2021.

[3] Caribbean Public Health Agency (CARPHA). [<http://carpha.org>]. Accessed 21 January 2021.

[4] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 21 January 2021.

[5] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 21 January 2021.

2.4 SURVEILLANCE DATA ACCESSIBILITY AND TRANSPARENCY

2.4.1 Coverage and use of electronic health records

2.4.1a

Are electronic health records commonly in use?

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

Current Year Score: 1

There is evidence that electronic health records are not commonly in use in Barbados, but there is evidence they are used. The Government Information Service (GIS) reports that the Ministry of Health and Wellness launched a national electronic health information system, MedData, in November 2014. [1] The article states that MedData will give medical personnel in the public health system "easy access to the medical data of patients", and a 2017 article in a local news outlet makes a similar statement. [1, 2] According to the GIS, as of June 2016, MedData had been implemented at four polyclinics and was in the process of being implemented at Queen Elizabeth Hospital. [3] Barbados has also participated in a regional workshop organized by the Pan American Health Organization (PAHO) in 2015 focusing on electronic health records (EHR), EHR and eHealth Governance at the National and Sub regional level, and knowledge management. [4] Furthermore, in a November 2018 the GIS reported that Med Data will be rolled out to all departments and wards at the Queen Elizabeth Hospital, and expand to the Geriatric and Psychiatric institutions, in 2018-19. There is no further evidence if the Med Data has been rolled out. [5]

[1] Government Information Service of Barbados. 20 November 2014. "Health Information System Launched".

[<https://gisbarbados.gov.bb/blog/health-information-system-launched/>]. Accessed 22 January 2021.

- [2] The Barbados Advocate. 24 January 2017. "National Health Information System for Barbados". [<https://www.barbadosadvocate.com/news/national-health-information-system-barbados>]. Accessed 22 January 2021.
- [3] Springer, J. of the Government Information Service of Barbados. 21 June 2016. "MedData Now Operational In Four Polyclinics". [<https://gisbarbados.gov.bb/blog/meddata-now-operational-in-four-polyclinics/>]. Accessed 22 January 2021.
- [4] Pan American Health Organization (PAHO). September 2015. "Workshop on Electronic Medical Records in the context of a National and Sub regional eHealth Strategy". [https://www.paho.org/ecc/index.php?option=com_content&view=article&id=435:workshop-on-electronic-medical-records-in-the-context-of-a-national-and-sub-regional-ehealth-strategy&Itemid=332]. Accessed 22 January 2021.
- [5] Austin, S. of the Government Information Service of Barbados. 27 November 2018. "Government Committed To Health Sector Reform". [<https://gisbarbados.gov.bb/blog/government-committed-to-health-sector-reform/>]. Accessed 22 January 2021.

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

There is evidence that the national public health system has access to electronic health records of individuals in Barbados. The Government Information Service (GIS) reports that the Ministry of Health launched a national electronic health information system, MedData, in November 2014. [1] The article states that MedData will give medical personnel in the public health system "easy access to the medical data of patients", and a 2017 article in a local news outlet makes a similar statement. [1, 2] According to the GIS, as of June 2016, MedData had been implemented at four polyclinics and was in the process of being implemented at Queen Elizabeth Hospital. [3] Furthermore, in a November 2018 the GIS reported that Med Data will be rolled out to all departments and wards at the Queen Elizabeth Hospital, and expand to the Geriatric and Psychiatric institutions, in 2018-19. There is no updated information on whether the Med Data has been rolled out further. [4]

- [1] Government Information Service of Barbados. 20 November 2014. "Health Information System Launched". [<https://gisbarbados.gov.bb/blog/health-information-system-launched/>]. Accessed 22 January 2021.
- [2] The Barbados Advocate. 24 January 2017. "National Health Information System for Barbados". [<https://www.barbadosadvocate.com/news/national-health-information-system-barbados>]. Accessed 22 January 2021.
- [3] Springer, J. of the Government Information Service of Barbados. 21 June 2016. "MedData Now Operational In Four Polyclinics". [<https://gisbarbados.gov.bb/blog/meddata-now-operational-in-four-polyclinics/>]. Accessed 22 January 2021.
- [4] Austin, S. of the Government Information Service of Barbados. 27 November 2018. "Government Committed To Health Sector Reform". [<https://gisbarbados.gov.bb/blog/government-committed-to-health-sector-reform/>]. Accessed 22 January 2021.

2.4.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of data standards to ensure that data is comparable, as there is insufficient evidence that electronic health records are commonly in use in Barbados. The Government Information Service reports that the Ministry of Health and Wellness launched a national electronic health information system, MedData, in November 2014. [1] The article states

that "all polyclinics, the Geriatric Hospital, all district hospitals and the Psychiatric Hospital will be online and functional by the end of March 2016", however, there is no updated information available, including by the Ministry of Health and Wellness and the Official Website of the Barbados Government. [2, 3] A 2017 Pan American Health Organization profile on Barbados states that the system "has been set up in five of the country's nine polyclinics and in Queen Elizabeth Hospital". [4] There is no indication of when this information was posted.

[1] Government Information Service of Barbados. 20 November 2014. "Health Information System Launched".

[<https://gisbarbados.gov.bb/blog/health-information-system-launched/>]. Accessed 22 January 2021.

[2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health/>]. Accessed 22 January 2021.

[3] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 22 January 2021.

[4] Pan American Health Organization / World Health Organization (WHO) - Health in the Americas. "Country Report: Barbados". [https://www.paho.org/salud-en-las-americas-2017/?page_id=89]. Accessed 22 January 2021.

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

2.4.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of established mechanisms at the relevant ministries in Barbados responsible for animal, human and wildlife surveillance to share data. One of the project objectives of the One Health One Caribbean One Love project is to "entrench a One Health approach to zoonotic and food borne disease surveillance, diagnosis and response", however, no further details are available on activities regarding this objective. [1] There is no evidence on this matter provided on the websites of the Ministry of Health and Wellness, Ministry of Agriculture and Food Security, Ministry of Environment and Natural Beautification, and Official Website of the Barbados Government . [2, 3, 4, 5]

[1] One Health One Caribbean One Love. 2014. "Technical Note - CARICOM One Health Policy".

[https://www.paho.org/trt/images/stories/PWR_TRT/one%20health%20workshop%20report.pdf?ua=1]. Accessed 22 January 2021.

[2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health/>]. Accessed 22 January 2021.

[3] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[4] Ministry of Environment and Natural Beautification of Barbados. [<https://www.gov.bb/Ministries/environment/>]. Accessed 22 January 2021.

[5] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 22 January 2021.

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 insufficient evidence that Barbados makes de-identified health surveillance data on disease outbreaks publicly available via reports (or other format) on government websites. However, Barbados has published health surveillance data on disease outbreaks through the Pan American Health Organization/World Health Organization (PAHO/WHO), such as an epidemiological report of zika cases in the country. The data pertains to the period 2015-2017. [1] The Caribbean Public Health Agency (CARPHA) includes surveillance data from Barbados in reports, such as cases of chikungunya and Zika in the State of Public Health in the Caribbean 2014-2016, published in 2017. There are no updated reports with surveillance data. [2] There is no further information provided on the websites for the Ministry of Health and Wellness, Ministry of Agriculture and Food Security, and the Official Website of the Barbados Government. [3, 4, 5]

[1] Pan American Health Organization - World Health Organization (PAHO/WHO). "Zika-Epidemiological Report, Barbados". [https://www.paho.org/hq/index.php?option=com_docman&view=download&category_slug=march-2017-9645&alias=43786-zika-epidemiological-report-barbados-786&Itemid=270&lang=en]. Accessed 22 January 2021.

[2] Caribbean Public Health Agency (CARPHA). 2017. "State of Public Health in the Caribbean 2014-2016". [https://carpha.org/Portals/0/Documents/State-of-Public-Health-in-the-Caribbean-2014-2016.pdf]. Accessed 22 January 2021.

[3] Ministry of Health and Wellness of Barbados. [https://www.gov.bb/ministries/health]. Accessed 22 January 2021.

[4] Ministry of Agriculture and Food Security of Barbados. [https://agriculture.gov.bb/]. Accessed 17 January 2021.

[5] Official Website of the Barbados Government. [https://www.gov.bb/]. Accessed 22 January 2021.

2.4.3b

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

Yes = 1 , No = 0

Current Year Score: 1

There is evidence that Barbados makes de-identified COVID-19 surveillance data (including details such as daily case count, mortality rate, etc) available via daily reports (or other formats) on government websites. The website of the Government Information Services published daily data on COVID-19 including number of cases, number of cases by gender, new cases, cases in isolation, number of cases that are recovered, number of deaths, testing rate, contact tracing efforts, etc. [1] The website of the Ministry of Health and Wellness does not publish COVID-19 data. [2]

[1] Government Information Services of Barbados. 16 January 2021. "COVID-19 Update For January 14 -16, 2021". [https://gisbarbados.gov.bb/covid-19/]. Accessed 15 February 2021.

[2] Ministry of Health and Wellness of Barbados. [https://www.gov.bb/ministries/health]. Accessed 22 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: 1

There is evidence of legislation and/or regulations that safeguard the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities in Barbados. The 2019 "Data Protection" Bill

classifies health records as sensitive personal data, and its processing is allowed only for necessary medical purposes such as preventative medicine, medical diagnosis, medical research, provision of care and treatment, and management of health care services. Data processing is undertaken by a healthcare professional, or someone under the duty of confidentiality, which is considered equivalent to the cases of processing by a health care professional. [1]

[1] Government of Barbados. 2019. "Data Protection" Bill.

[https://www.barbadosparliament.com/uploads/bill_resolution/7b81b59260896178b5aa976fdb87bfee.pdf]. Accessed 22 January 2021.

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 evidence that the 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). The "Data Protection" Bill of 2019 does not include any mention of protections from cyber attacks. [1] There is no further evidence found on the website of the Ministry of Health and Wellness. [2]

[1] Government of Barbados. 2019. "Data Protection" Bill.

[https://www.barbadosparliament.com/uploads/bill_resolution/7b81b59260896178b5aa976fdb87bfee.pdf]. Accessed 22 January 2021.

[2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 22 January 2021.

2.4.5 International data sharing

2.4.5a

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

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

Current Year Score: 0

There is no publicly available evidence that the government of Barbados has made a commitment to share surveillance data during a public health emergency with other countries in the region. Barbados is a Member State of the Caribbean Public Health Agency (CARPHA), which—according to Article 5 of the Agreement Establishing CARPHA—states that CARPHA's functions include provision of accurate, reliable, timely and relevant public health information to "various Caribbean and international audiences". [1] A presentation at the 2014 Meeting of Caribbean National Epidemiologists and Laboratory Directors points out that, while the existing data sharing systems are functional, they are undocumented and there are no recorded agreements that govern CARPHA sharing of country-reported data to stakeholders; a CARPHA public health information sharing agreement between CARPHA and CARPHA Member States is proposed. [2] However, there is no evidence that such an information sharing agreement was created, and there is no evidence of such a commitment through

the Ministry of Health and Wellness and the Official Website of the Barbados Government. [3, 4]

[1] Caribbean Public Health Agency (CARPHA). "Agreement Establishing the Caribbean Public Health Agency (CARPHA)". [https://carpha.org/Portals/0/Documents/CARPHA_IGA.pdf]. Accessed 22 January 2021.

[2] Caribbean Public Health Agency (CARPHA). 12th Meeting of Caribbean National Epidemiologists and Laboratory Directors, 2014. "CARPHA Data and Information Sharing Agreement: A Proposal"

[http://carpha.org:8086/Portals/0/docs/MEETINGS/Epid_LabDir/Crooks_CARPHA_Data_and_Information_Sharing_Agreement.pdf]. Accessed 22 January 2021.

[3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 22 January 2021.

[4] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 22 January 2021.

2.5 CASE-BASED INVESTIGATION

2.5.1 Case investigation and contact tracing

2.5.1a

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

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

Current Year Score: 0

There is no evidence of a national system in place to provide support at the sub-national level (e.g. training, metrics standardization and/or financial resources) to conduct contact tracing in the event of a public health emergency. During the COVID-19 pandemic, health officials have outlined contact tracing procedures for the virus. Health officials have explained how the contact tracing teams will be formed, how the type of virus and the incubation period will be taken into account, how people will be notified, what is considered a primary and secondary contact, etc. [1] However, there is no evidence of a national system in place to provide support at the sub-national level (e.g. training, metrics standardization and/or financial resources) to expand contact tracing in the event of a public health emergency provided on the webpage of the Ministry of Health and Wellness. [2]

[1] Government Information Service of Barbados. 23 January 2021. "Health Official Outlines Contact Tracing Procedures". [<https://gisbarbados.gov.bb/blog/health-official-outlines-contact-tracing-procedures/>]. Accessed 31 January 2021.

[2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 23 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 evidence that Barbados provides wraparound services to enable infected people and their contacts to self-isolate or quarantine as recommended, particularly economic support (paycheck, job security) and medical attention. However,

during the COVID-19 pandemic the government has vouched to provide financial help to qualifying small businesses that had to close during the two-week national pause. Shops are expected to receive US\$743 for the period, while vendors are expected to receive US\$248 for the same period. [1] Furthermore, the government is expected to provide 60,000 care packages for vulnerable people. [2]. There is no further evidence on wraparound services to enable cases and suspected cases to self-isolate as recommended found on the websites of the Ministry of Health and Wellness, and the Department of Emergency Management. [3, 4]

- [1] Government Information Service. 28 January 2021. "Verification Necessary Before Assistance is Given". [<https://gisbarbados.gov.bb/blog/verification-necessary-before-financial-assistance-is-given/>]. Accessed 31 January 2021.
- [2] Government Information Service. 28 January 2021. "Care Packages To Be Distributed During Lockdown". [<https://gisbarbados.gov.bb/blog/care-packages-to-be-distributed-during-lockdown/>]. Accessed 31 January 2021.
- [3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 23 January 2021.
- [4] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 23 January 2021.

2.5.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Barbados makes de-identified data on contact tracing efforts for COVID-19 (including the percentage of new cases from identified contacts) available via daily reports (or other format) on government websites. The website of the Government Information Services publishes data on COVID-19 including number of cases, number of cases by gender, cases in isolation, number of cases that are recovered, number of deaths, etc. However the report does not include any data on contact tracing. Furthermore, the only available report is for January 14-16, 2021. Earlier reports could not be found on the website. [1] The website of the Ministry of Health and Wellness does not publish COVID-19 data or data on contact tracing efforts for COVID-19. [2]

- [1] Government Information Services of Barbados. 16 January 2021. "COVID-19 Update For January 14 -16, 2021". [<https://gisbarbados.gov.bb/blog/covid-19-update-for-january-14-16-2021/>]. Accessed 22 January 2021.
- [2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 22 January 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: 1

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

public health emergency in Barbados, but only in response to an ongoing emergency.

The Pan American Health Organization (PAHO) reports that Barbados has included in its Covid-19 plan the screening for COVID-19 symptoms of all passengers at points of entry, as well as leaving their contact information. The Visit Barbados website has the form online and it's required. Travelers entering the country were required to quarantine for 14 days. [1,2] However, there is no further information of any such cooperation on the website of the Ministry of Health and Wellness, the Government Information Service, and the Immigration Department. [3, 4, 5]

[1] Pan American Health Organization (PAHO/WHO). "Barbados: An example of government leadership and regional cooperation in containing the COVID-19 virus". [<https://www.paho.org/en/file/71110/download?token=kWtNmLmy>]. Accessed 31 January 2021.

[2] Visit Barbados. "Covid-19 Travel Guidelines". [<https://www.visitbarbados.org/covid-19-travel-guidelines-2020>]

[3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 31 January 2021.

[4] Government Information Service of Barbados. [<https://gisbarbados.gov.bb/>]. Accessed 31 January 2021.

[5] Immigration Department of Barbados. [<https://immigration.gov.bb/>]. Accessed 31 January 2021.

2.6 EPIDEMIOLOGY WORKFORCE

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

2.6.1a

Does the country meet one of the following criteria?

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

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

Current Year Score: 1

There is evidence that epidemiology training program (such as FETP) is available in country, but there is no evidence that resources are provided by the government to send citizens to another country to participate in applied epidemiology training programs (such as FETP). Barbados has an applied epidemiology program, as part of the Caribbean Public Health Agency (CARPHA). The Caribbean Regional Field Epidemiology and Laboratory Training Programme (CR-FELTP) offers "a core curriculum of competency-based classroom learning and on-the-job training, to develop field epidemiology skills and tools to respond to public health issues in the Caribbean through surveillance, outbreak investigation, and operational research and analysis". [1, 2] In 2015, the Government Information Service reported that Barbados was the first of 11 Caribbean countries that launched the CR-FELTP training May 2014, and 15 public health workers from Barbados completed the training. [3] There is no indication by CARPHA or the Ministry of Health and Wellness that resources are provided by the government to send citizens to another country to participate in the program. [4, 5]

[1] Caribbean Public Health Agency (CARPHA). "What is a Field Epidemiology and Laboratory Training Programme (FELTP)". [<https://www.carpha.org/What-We-Do/FELTP/Introduction>]. Accessed 22 January 2021.

[2] Training Programs in Epidemiology and Public Health Interventions Network. (TEPHINET). "Caribbean Regional Field Epidemiology and Laboratory Training Program". [<https://www.tephinet.org/training-programs/caribbean-regional-field->

epidemiology-and-laboratory-training-program]. Accessed 22 January 2021.

[3] Government Information Service of Barbados. 20 February 2015. "Public Health Workers Complete Training".

[<http://gisbarbados.gov.bb/blog/public-health-workers-complete-training/>]. Accessed 22 January 2021.

[4] Caribbean Public Health Agency (CARPHA). [<http://carpha.org/>]. Accessed 22 January 2021.

[5] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 22 January 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 evidence that the available field epidemiology training programs available to Barbados are explicitly inclusive of animal health professionals, and there is no specific animal health field epidemiology training program offered. The Field Epidemiology and Laboratory Training Programme (FELTP) of the Caribbean Public Health Agency does not mention animal health, nor animal health professionals. [1] The Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET) also do not mention animal health or animal health professionals. [2] There is no indication of a field epidemiology training inclusive of animal health professionals by the Ministry of Health and Wellness, and the Ministry of Agriculture and Food Security. [3, 4]

[1] Caribbean Public Health Agency (CARPHA). "Field Epidemiology and Laboratory Training Programme (FELTP)".

[<https://www.carpha.org/What-We-Do/FELTP/Introduction>]. Accessed 22 January 2021.

[2] Training Programs in Epidemiology and Public Health Interventions Network. (TEPHINET). "Caribbean Regional Field Epidemiology and Laboratory Training Program". [<https://www.tephinet.org/training-programs/caribbean-regional-field-epidemiology-and-laboratory-training-program>]. Accessed 22 January 2021.

[2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 22 January 2021.

[3] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

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: 0

There is insufficient evidence that Barbados has an overarching national public health emergency response plan in place which addresses planning for multiple communicable diseases with epidemic or pandemic potential. The Barbados Government has a Department of Emergency Management (DEM), which is responsible for the National Emergency Management System (NEMS), the overarching mechanism for emergency management. [1] DEM's 2015 Policy Framework and Standard Operation Procedures for the Systematic National Shutdown and Reactivation of Barbados refers to a National Emergency Management Plan. [2] However, this plan is not publicly available, there is no evidence of a plan in place that addresses planning for multiple communicable diseases, and communicable diseases are not among DEM's list of hazards. [2, 3] The 2014 Country Document for Disaster Risk Reduction lists the National Influenza Pandemic Preparedness Plan and Dangerous Infectious Diseases Plan among the country's disaster management plans. [4] However, these plans are not publicly available, including through the World Health Organization (WHO)'s Strategic Partnership for International Health Regulations (2005) and Health Security (SPH) database of National Plans for Pandemic Preparedness and Risk Management. [5] There is no evidence of such a plan available through the Ministry of Health and Wellness. [6]

[1] Department of Emergency Management - Government of Barbados. "Structure of National Emergency Management System (NEMs)". [<http://dem.gov.bb/index.php/about/nems>]. Accessed 23 January 2021.

[2] Department of Emergency Management - Government of Barbados. 2015. "Policy Framework & Standard Operating Procedures for the Systematic National Shutdown & Reactivation of Barbados". [<http://dem.gov.bb/public/downloads/PolicyFrameworkStandardOperatingProcedures2015.pdf>]. Accessed 23 January 2021.

[3] Department of Emergency Management - Government of Barbados. [<http://dem.gov.bb/>]. Accessed 23 January 2021.

[4] Department of Emergency Management - Government of Barbados. 2014. "Country Document for Disaster Risk Reduction: Barbados, 2014". [<http://dipecholac.net/docs/xfiles/784-documento-pais-barbados-web.pdf>]. Accessed 23 January 2021.

[5] World Health Organization (WHO) - Strategic Partnership for International Health Regulations (2005) and Health Security (SPH). "National Plans for Pandemic Preparedness and Risk Management". [<https://extranet.who.int/sph/influenza-plan-barbados>]. Accessed 23 January 2021.

[6] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 23 January 2021.

3.1.1b

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

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

Current Year Score: 0

There is no evidence of an updated overarching national public health emergency response plan in place in Barbados which addresses planning for multiple communicable diseases with epidemic or pandemic potential as there is insufficient evidence that an overarching plan is in place. The Barbados Government has a Department of Emergency Management (DEM), which is responsible for the National Emergency Management System (NEMS), the overarching mechanism for emergency management. [1] DEM's 2015 Policy Framework and Standard Operation Procedures for the Systematic National Shutdown and Reactivation of Barbados refers to a National Emergency Management Plan. [2] However, this plan is not publicly available, there is no evidence of a plan in place that addresses planning for multiple communicable diseases, and communicable diseases are not among DEM's list of hazards. [2, 3] The 2014 Country Document for Disaster Risk Reduction lists the National Influenza Pandemic Preparedness Plan and Dangerous Infectious Diseases Plan among the country's disaster management plans. [4] However, these plans are not publicly available, including through the World Health Organization (WHO)'s Strategic Partnership for International Health Regulations (2005) and Health Security (SPH) database of National Plans for Pandemic Preparedness and Risk Management. [5] There is no evidence of such a plan available through the Ministry of Health and Wellness. [6]

[1] Department of Emergency Management - Government of Barbados. "Structure of National Emergency Management System (NEMs)". [<http://dem.gov.bb/index.php/about/nems>]. Accessed 23 January 2021.

[2] Department of Emergency Management - Government of Barbados. 2015. "Policy Framework & Standard Operating Procedures for the Systematic National Shutdown & Reactivation of Barbados". [<http://dem.gov.bb/public/downloads/PolicyFrameworkStandardOperatingProcedures2015.pdf>]. Accessed 23 January 2021.

[3] Department of Emergency Management - Government of Barbados. [<http://dem.gov.bb/>]. Accessed 23 January 2021.

[4] Department of Emergency Management - Government of Barbados. 2014. "Country Document for Disaster Risk Reduction: Barbados, 2014". [<http://dipecholac.net/docs/xfiles/784-documento-pais-barbados-web.pdf>]. Accessed 23 January 2021.

[5] World Health Organization (WHO) - Strategic Partnership for International Health Regulations (2005) and Health Security (SPH). "National Plans for Pandemic Preparedness and Risk Management". [<https://extranet.who.int/sph/influenza-plan-barbados>]. Accessed 23 January 2021.

[6] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 23 January 2021.

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 evidence that the overarching national public health emergency response plan in place which addresses planning for multiple communicable diseases with epidemic or pandemic potential includes considerations for pediatric and vulnerable populations as there is insufficient evidence that an overarching plan is in place. The Barbados Government has a Department of Emergency Management (DEM), which is responsible for the National Emergency Management System (NEMS), the overarching mechanism for emergency management. [1] DEM's 2015 Policy Framework and Standard Operation Procedures for the Systematic National Shutdown and Reactivation of Barbados refers to a National Emergency Management Plan. [2] However, this plan is not publicly available, there is no evidence of a plan in place that addresses planning for multiple communicable diseases, and communicable diseases are not among DEM's list of hazards. [2, 3] The 2014 Country Document for Disaster Risk Reduction lists the National Influenza Pandemic Preparedness Plan and Dangerous Infectious Diseases Plan among the country's disaster management plans. [4] However, these plans are not publicly available, including through the World Health Organization (WHO)'s Strategic Partnership for International Health Regulations (2005) and Health

Security (SPH) database of National Plans for Pandemic Preparedness and Risk Management. [5] There is no evidence of such a plan available through the Ministry of Health and Wellness. [6]

[1] Department of Emergency Management - Government of Barbados. "Structure of National Emergency Management System (NEMs)". [<http://dem.gov.bb/index.php/about/nems>]. Accessed 23 January 2021.

[2] Department of Emergency Management - Government of Barbados. 2015. "Policy Framework & Standard Operating Procedures for the Systematic National Shutdown & Reactivation of Barbados". [<http://dem.gov.bb/public/downloads/PolicyFrameworkStandardOperatingProcedures2015.pdf>]. Accessed 23 January 2021.

[3] Department of Emergency Management - Government of Barbados. [<http://dem.gov.bb/>]. Accessed 23 January 2021.

[4] Department of Emergency Management - Government of Barbados. 2014. "Country Document for Disaster Risk Reduction: Barbados, 2014". [<http://dipecholac.net/docs/xfiles/784-documento-pais-barbados-web.pdf>]. Accessed 23 January 2021.

[5] World Health Organization (WHO) - Strategic Partnership for International Health Regulations (2005) and Health Security (SPH). "National Plans for Pandemic Preparedness and Risk Management". [<https://extranet.who.int/sph/influenza-plan-barbados>]. Accessed 23 January 2021.

[6] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 23 January 2021.

3.1.1d

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

Yes = 1 , No = 0

Current Year Score: 0

2020

WHO Strategic Partnership for IHR and Health Security (SPH)

3.1.2 Private sector involvement in response planning

3.1.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence that Barbados has a specific mechanism for engaging with the private sector to assist with outbreak emergency preparedness and response. The Barbados Government has a Department of Emergency Management (DEM), which is responsible for the National Emergency Management System (NEMS), the overarching mechanism for emergency management. [1] DEM's 2015 Policy Framework and Standard Operation Procedures for the Systematic National Shutdown and Reactivation of Barbados describes shutdown procedures for the private sector, but there is no specific reference to outbreak emergencies. [2] The 2014 Country Document for Disaster Risk Reduction, which mentions influenza pandemic preparedness illustrates the private sector as part of the NEMS framework. [3] However, there is no indication of a specific mechanism, and there is no evidence of mechanisms for private sector engagement through the Ministry of Health and Wellness. [4]

[1] Department of Emergency Management - Government of Barbados. "Structure of National Emergency Management System (NEMs)". [<http://dem.gov.bb/index.php/about/nems>]. Accessed 23 January 2021.

[2] Department of Emergency Management - Government of Barbados. 2015. "Policy Framework & Standard Operating Procedures for the Systematic National Shutdown & Reactivation of Barbados".

[<http://dem.gov.bb/public/downloads/PolicyFrameworkStandardOperatingProcedures2015.pdf>]. Accessed 23 January 2021.

[3] Department of Emergency Management - Government of Barbados. 2014. "Country Document for Disaster Risk Reduction: Barbados, 2014". [<http://dipecholac.net/docs/xfiles/784-documento-pais-barbados-web.pdf>]. Accessed 23 January 2021.

[4] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 23 January 2021.

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

There is evidence that Barbados has a policy, plan and/or 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. During the COVID-19 pandemic the government has dedicated a webpage related to COVID-19 through the Government Information Service, which provides information regarding NPIs for COVID-19. It includes measures of social distancing, hygiene measures, mandatory usage of masks, curfews, stay at home for elderly above 70 years, online schooling, among others. [1] There is no further information on the websites of the Ministry of Health and Wellness, and the Department of Emergency Management. [2, 3]

[1] Government Information Service. "COVID-19". [<https://gisbarbados.gov.bb/covid-19/>]. Accessed 31 January 2021.

[2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 23 January 2021.

[3] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 23 January 2021.

3.2 EXERCISING RESPONSE PLANS

3.2.1 Activating response plans

3.2.1a

Does the country meet one of the following criteria?

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

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

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

Current Year Score: 1

There is evidence that Barbados has activated their national emergency response plan for an infectious disease outbreak in the past year, but there is also no evidence Barbados has completed a national-level biological threat-focused exercise (either with WHO or separately) in the past year. Barbados has activated the Covid-19 plan, which was prepared by the Ministry of Health and Wellness with the support of the Pan American Health Organization through the gap identification of existing plans on other infectious diseases such as pandemic influenza, Ebola, etc. [1] The plan details steps to be taken by various stakeholders and it includes four stages of the outbreak. There is no evidence of a national-level biological threat-focused exercise found on the WHO's page of simulation exercises, or the webpages of the Ministry of Health and Wellness, and the Department of Emergency Management. [2, 3, 4]

[1] Pan American Health Organization (PAHO/WHO). "Barbados: An example of government leadership and regional cooperation in containing the COVID-19 virus". [<https://www.paho.org/en/file/71110/download?token=kWtNmLmy>]. Accessed 31 January 2021.

[2] World Health Organization (WHO). "Simulation Exercises". [<https://extranet.who.int/sph/simulation-exercise?region=All&country=245>]. Accessed 31 January 2021.

[3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 31 January 2021.

[4] Department of Emergency Management of Barbados. [<https://dem.gov.bb/>]. Accessed 31 January 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 evidence that Barbados has undergone an exercise to identify a list of gaps and best practices through either an after action review or a biological threat-focused IHR exercise with the WHO and developed a plan to improve response capabilities in the past year. Barbados does not appear on the World Health Organization's (WHO) list of after action reviews, and there is no indication of an after action review on the WHO country and regional page. [1, 2, 3] There is also no indication of an after action review or a biological threat-focused IHR found through the websites of the Ministry of Health and Wellness, the Ministry of Agriculture and Food Security, and the Department of Emergency Management. [4, 5, 6]

[1] World Health Organization (WHO). "Strategic Partnership for International Health Regulations (2005) and Health Security (SPH) - After Action Review". [<https://extranet.who.int/sph/after-action-review>]. Accessed 23 January 2021.

[2] Pan American Health Organization / World Health Organization (WHO) - Regional Office for the Americas. [<https://www.paho.org/en/barbados-and-eastern-caribbean-countries/about-pahowho-barbados>]. Accessed 23 January 2021.

[3] World Health Organization (WHO). "Barbados". [<https://www.who.int/countries/brb/en/>]. Accessed 23 January 2021.

[4] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 23 January 2021.

[5] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[6] Department of Emergency Management - Government of Barbados. [<http://dem.gov.bb/>]. Accessed 23 January 2021.

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 evidence that Barbados in the past year has undergone a national-level biological threat-focused exercise that has included private sector representatives. There is no evidence that Barbados in the past year has undergone a national-level biological threat-focused exercise. Barbados does not appear on the World Health Organization's (WHO) list of after action reviews, and there is no indication of an after action review, or a national-level biological threat-focused exercise on the WHO country and regional page. [1, 2, 3] There is no evidence found on the Simulation Exercise Page by the WHO. [4] There is also no indication of an after action review or a biological threat-focused IHR found through the websites of the Ministry of Health and Wellness, the Ministry of Agriculture and Food Security, and the Department of Emergency Management. [5, 6, 7]

[1] World Health Organization (WHO). "Strategic Partnership for International Health Regulations (2005) and Health Security (SPH) - After Action Review". [<https://extranet.who.int/sph/after-action-review>]. Accessed 23 January 2021.

[2] Pan American Health Organization / World Health Organization (WHO) - Regional Office for the Americas. [<https://www.paho.org/en/barbados-and-eastern-caribbean-countries/about-pahowho-barbados>]. Accessed 23 January 2021.

[3] World Health Organization (WHO). "Barbados". [<https://www.who.int/countries/brb/en/>]. Accessed 23 January 2021.

[4] World Health Organization (WHO). "Simulation Exercise". [<https://extranet.who.int/sph/simulation-exercise>]. Accessed 15 February 2021.

[5] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 23 January 2021.

[6] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

[7] Department of Emergency Management - Government of Barbados. [<http://dem.gov.bb/>]. Accessed 23 January 2021.

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

Barbados has in place an Emergency Operations Center (EOC). The Barbados Government has a Department of Emergency Management (DEM), which is responsible for the National Emergency Management System (NEMS), the overarching mechanism for emergency management. [1] Health emergencies are not listed among the NEMS list of hazards, however, a 2018 Government Information Service article names health/ecological incidents among the hazards that NEMS prepares for. [2] As part of NEMS, the National Emergency Operations Centre (NEOC) is the centralised location for mobilisation and coordination of emergency response, including notifying individuals and appropriate agencies and coordinating emergency relief. [1] The 2014 Country Document for Disaster Risk Reduction indicates that the Ministry of Health is part of the NEMS Emergency Management Advisory Council, but it is not listed as a stakeholder representative agency under the NEOC

Operations Group. [3]

[1] Department of Emergency Management - Government of Barbados. "Structure of National Emergency Management System (NEMs)". [<http://dem.gov.bb/index.php/about/nems>]. Accessed 23 January 2021.

[2] Rawlins-Bentham, J. of the Government Information Service of Barbados. "Responding To Emergencies: The Barbados Plan". [<https://gisbarbados.gov.bb/blog/responding-to-emergencies-the-barbados-plan/>]. Accessed 23 January 2021.

[3] Department of Emergency Management - Government of Barbados. 2014. "Country Document for Disaster Risk Reduction: Barbados, 2014". [<http://dipecholac.net/docs/xfiles/784-documento-pais-barbados-web.pdf>]. Accessed 23 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 insufficient evidence that the Emergency Operations Center (EOC) is required to conduct a drill at least once per year. The Barbados Government has a Department of Emergency Management (DEM), which is responsible for the National Emergency Management System (NEMS), the overarching mechanism for emergency management. [1] As part of NEMS, the National Emergency Operations Centre (NEOC) is the centralised location for mobilisation and coordination of emergency response, including notifying individuals and appropriate agencies and coordinating emergency relief. [1] The 2014 Country Document for Disaster Risk Reduction indicates that "at least one national full scale exercise is conducted annually" for disaster preparedness, but there is no specific mention of the NEOC conducting a drill as part of this. [2] There is no further information available through the websites of the Ministry of Health and Wellness, and the Department of Emergency Management. [3, 4]

[1] Department of Emergency Management - Government of Barbados. "Structure of National Emergency Management System (NEMs)". [<http://dem.gov.bb/index.php/about/nems>]. Accessed 23 January 2021.

[2] Department of Emergency Management - Government of Barbados. 2014. "Country Document for Disaster Risk Reduction: Barbados, 2014". [<http://dipecholac.net/docs/xfiles/784-documento-pais-barbados-web.pdf>]. Accessed 23 January 2021.

[3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 23 January 2021.

[4] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 23 January 2021.

3.3.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence that the Emergency Operations Center (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 Barbados Government has a Department of Emergency Management (DEM), which is responsible for the National Emergency Management System (NEMS), the overarching mechanism for emergency

management. [1] As part of NEMS, the National Emergency Operations Centre (NEOC) is the centralised location for mobilisation and coordination of emergency response, including notifying individuals and appropriate agencies and coordinating emergency relief. [1] The 2014 Country Document for Disaster Risk Reduction indicates that "at least one national full scale exercise is conducted annually" for disaster preparedness, but there is no specific mention of the NEOC conducting a drill as part of this. [2] A 2014 article from the Government Information Service reports that—following an assessment in 2014 by Pan American Health Organisation/World Health Organisation (PAHO/WHO) of the country's preparedness to respond to Ebola Virus Disease—the Ministry of Health planned to coordinate a national simulation exercise. [3] The article also notes that the NEOC was in operation and training and a simulation had been carried out, but it is unclear when this occurred and the timing of activation. [3] There is no evidence of an EOC emergency response exercise from the websites of the Department of Emergency Management, and the Ministry of Health and Wellness. [4, 5]

[1] Department of Emergency Management - Government of Barbados. "Structure of National Emergency Management System (NEMs)". [<http://dem.gov.bb/index.php/about/nems>]. Accessed 23 January 2021.

[2] Department of Emergency Management - Government of Barbados. 2014. "Country Document for Disaster Risk Reduction: Barbados, 2014". [<http://dipecholac.net/docs/xfiles/784-documento-pais-barbados-web.pdf>]. Accessed 23 January 2021.

[3] Government Information Service of Barbados. 14 November 2014. "B'dos Ebola Preparedness Impresses PAHO/WHO". [<https://gisbarbados.gov.bb/blog/bdos-ebola-preparedness-impresses-pahowho/>]. Accessed 23 January 2021.

[4] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 23 January 2021.

[5] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 23 January 2021.

3.4 LINKING PUBLIC HEALTH AND SECURITY AUTHORITIES

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

3.4.1a

Does the country meet one of the following criteria?

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

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

Current Year Score: 0

There is no evidence that public health and national security authorities in Barbados have carried out an exercise to respond to a potential deliberate biological event or that there are agreements between public health and security authorities to respond to a bioterrorism attack. In 2017, the Caribbean Public Health Agency (CARPHA), of which Barbados is a Member State, participated in a training exercise aimed at improving regional responses during an emergency situation and coordination between relevant agencies, however, no information could be found on participation from Barbados and whether this included exercise related to a potential deliberate biological event. [1] There is no evidence available through the websites of the Ministry of Health and Wellness, Department of Emergency Management, Barbados Defence Force, and the Official Website of the Barbados Government [2, 3, 4, 5]

- [1] Caribbean Public Health Agency (CARPHA). "Caribbean Regional Security, Health and Disaster Agencies Face Comprehensive Readiness Test". [<https://carpha.org/More/Media/Articles/ArticleID/169/Caribbean-regional-security-health-and-disaster-agencies-face-comprehensive-readiness-test>]. Accessed 23 January 2021.
- [2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 23 January 2021.
- [3] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 23 January 2021.
- [4] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 23 January 2021.
- [5] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 23 January 2021.

3.5 RISK COMMUNICATIONS

3.5.1 Public communication

3.5.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence that there is a communications plan for how messages will reach populations and sectors with different communications needs, as there is insufficient evidence that Barbados has a communication plan that is specifically intended for use during a public health emergency. A 2009 presentation available through the Pan American Health Organization, titled Experiences & Lessons Learned in Crisis Communication for Influenza A H1N1 Pandemic, indicates that Barbados had a risk communication plan in place for pandemic influenza (H1N1) incorporated into its national emergency plan. [1] According to a 2015 article from the Government Information Service, a risk communication training workshop regarding response to a public health threat or emergency was held in the country, and it was anticipated that a revised risk communication plan for the Ministry of Health and Wellness would be revised. [2] However, there is no risk communication plan or national emergency plan available through the websites of the Ministry of Health and Wellness, and the Department of Emergency Management. [3, 4] The 2014 Country Document for Disaster Risk Reduction does not cover Risk Communication. [5]

- [1] Peroune, R.F. of the Regional Response Team to Disasters in the Caribbean. 5 October 2009. "Experiences & lessons learned in crisis communication for Influenza A H1N1 pandemic". [https://www.paho.org/disasters/index.php?option=com_docman&view=download&category_slug=courses-1&alias=996-experiences-lessons-learned-in-crisis-communication-for-influenza-a-h1n1-pandemic&Itemid=1179&lang=en]. Accessed 23 January 2021.
- [2] Government Information Service of Barbados. 11 August 2015. "Communication Key During A Public Health Threat". [<https://gisbarbados.gov.bb/blog/communication-key-during-a-public-health-threat/>]. Accessed 23 January 2021.
- [3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 23 January 2021.
- [4] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 23 January 2021.
- [5] Department of Emergency Management - Government of Barbados. 2014. "Country Document for Disaster Risk Reduction: Barbados, 2014". [<http://dipecholac.net/docs/xfiles/784-documento-pais-barbados-web.pdf>]. Accessed 23 January 2021.

3.5.1 Risk communication planning

3.5.1a

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

Yes = 1, No = 0

Current Year Score: 0

There is insufficient evidence that Barbados has in place either in the national public health emergency response plan or in other legislation, regulation, or strategy documents, a section detailing a risk communication plan that is specifically intended for use during a public health emergency. A 2009 presentation available through the Pan American Health Organization, titled "Experiences & Lessons Learned in Crisis Communication for Influenza A H1N1 Pandemic", indicates that Barbados had a risk communication plan in place for pandemic influenza (H1N1) incorporated into its national emergency plan. [1] According to a 2015 article from the Government Information Service, a risk communication training workshop regarding response to a public health threat or emergency was held in the country, and it was anticipated that a revised risk communication plan for the Ministry of Health would be revised. [2] However, there is no risk communication plan or national emergency plan available, including through websites of the Ministry of Health and Wellness, and Department of Emergency Management. [3, 4] The 2014 Country Document for Disaster Risk Reduction does not cover Risk Communication. [5]

[1] Peroune, R.F. of the Regional Response Team to Disasters in the Caribbean. 5 October 2009. "Experiences & lessons learned in crisis communication for Influenza A H1N1 pandemic".

[https://www.paho.org/disasters/index.php?option=com_docman&view=download&category_slug=courses-1&alias=996-experiences-lessons-learned-in-crisis-communication-for-influenza-a-h1n1-pandemic&Itemid=1179&lang=en]. Accessed 23 January 2021.

[2] Government Information Service of Barbados. 11 August 2015. "Communication Key During A Public Health Threat". [<https://gisbarbados.gov.bb/blog/communication-key-during-a-public-health-threat/>]. Accessed 23 January 2021.

[3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 23 January 2021.

[4] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 23 January 2021.

[5] Department of Emergency Management - Government of Barbados. 2014. "Country Document for Disaster Risk Reduction: Barbados, 2014". [<http://dipecholac.net/docs/xfiles/784-documento-pais-barbados-web.pdf>]. Accessed 23 January 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 evidence that Barbados has in place a risk communication plan, and hence there is no evidence that 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. A 2009 presentation available through the Pan American Health Organization, titled "Experiences & Lessons Learned in Crisis Communication for Influenza A H1N1 Pandemic", indicates that Barbados had a risk communication plan in

place for pandemic influenza (H1N1) incorporated into its national emergency plan. [1] According to a 2015 article from the Government Information Service, a risk communication training workshop regarding response to a public health threat or emergency was held in the country, and it was anticipated that a revised risk communication plan for the Ministry of Health would be revised. [2] However, there is no risk communication plan or national emergency plan available, including through websites of the Ministry of Health and Wellness, and Department of Emergency Management. [3, 4] The 2014 Country Document for Disaster Risk Reduction does not cover Risk Communication. [5]

[1] Peroune, R.F. of the Regional Response Team to Disasters in the Caribbean. 5 October 2009. "Experiences & lessons learned in crisis communication for Influenza A H1N1 pandemic".

[https://www.paho.org/disasters/index.php?option=com_docman&view=download&category_slug=courses-1&alias=996-experiences-lessons-learned-in-crisis-communication-for-influenza-a-h1n1-pandemic&Itemid=1179&lang=en]. Accessed 23 January 2021.

[2] Government Information Service of Barbados. 11 August 2015. "Communication Key During A Public Health Threat".

[<https://gisbarbados.gov.bb/blog/communication-key-during-a-public-health-threat/>]. Accessed 23 January 2021.

[3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health/>]. Accessed 23 January 2021.

[4] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 23 January 2021.

[5] Department of Emergency Management - Government of Barbados. 2014. "Country Document for Disaster Risk Reduction: Barbados, 2014". [<http://dipecholac.net/docs/xfiles/784-documento-pais-barbados-web.pdf>]. Accessed 23 January 2021.

3.5.2 Public communication

3.5.2a

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

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

Current Year Score: 2

There is evidence that the public health system 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 in the past year. The Facebook Page of the Ministry of Health and Wellness posts information on COVID-19 regarding the situational reports, as well as tips on containing the virus, wearing of masks, hygiene measures, social distancing, COVID protocols, border information, etc. It also regularly posts awareness raising information such as cervical cancer, HIV, treating the symptoms of dengue, warning signs of severe dengue, medication to avoid in case of dengue, fighting efforts for dengue, sugar awareness week, HIV food bank, vaccination, national pause tips, love safely campaign, etc. [1] The Facebook Page has also been used to share public awareness messages, such as a Caribbean Public Health Agency (CARPHA) fact sheet on influenza posted in January 2019. The Government Information Service also post information on COVID-19 similar to that posted on the Facebook Page of the Ministry of Health and Wellness, as well as general information regarding dengue, such as medications to avoid. [2] The Department of Emergency Management only include information on COVID-19. [3] While its facebook page contains information on earthquakes, potential floods, and other similar natural disaster emergency situations. [4] The website for the Ministry of Health and Wellness does not contain any further evidence. [5]

[1] Ministry of Health and Wellness of Barbados Facebook Page. [<https://www.facebook.com/moh.barbados>]. Accessed 27 January 2021.

[2] Government Information Service of Barbados. [<https://gisbarbados.gov.bb/>]. Accessed 27 January 2021.

[3] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 27 January 2021.

[4] Facebook. "Department of Emergency Management - Barbados". [<https://www.facebook.com/dem246/>]. Accessed 27 January 2021.

[5] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 27 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 evidence that senior leaders (president or ministers) have shared misinformation or disinformation on infectious diseases in the past two years. In fact the government warns against COVID-19 misinformation on the website of the Government Information Service with a message by the Prime Minister to ignore fake news and rumors. [1] There is no evidence found on the websites of the Ministry of Health and Wellness, the Government Website, the Government Information Service, the Office of the Prime Minister. [2, 3, 4, 5] There is also no evidence found on international and local news outlets. [6, 7, 8, 9, 10]

[1] Government Information Service. 20 January 2021. "Ignore Fake News and Rumors Says Prime Minister".

[<https://gisbarbados.gov.bb/blog/ignore-fake-news-rumours-says-prime-minister/>]. Accessed 27 January 2021.

[2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 27 January 2021.

[3] Government of Barbados. [<https://www.gov.bb/>]. Accessed 27 January 2021.

[4] Government Information Service of Barbados. [<https://gisbarbados.gov.bb/>]. Accessed 27 January 2021.

[5] Prime Minister's Office of Barbados. [<https://pmo.gov.bb/>]. Accessed 27 January 2021.

[6] Voice of America News. [<https://www.voanews.com/>]. Accessed 27 January 2021.

[7] BBC News. "Barbados". [<https://www.bbc.com/news/topics/cp7r8vgl2jxt/barbados>]. Accessed 27 January 2021.

[8] Associated Press News. "Barbados". [<https://apnews.com/hub/barbados>]. Accessed 27 January 2021.

[9] Nation News Barbados. [<https://www.nationnews.com/>]. Accessed 27 January 2021.

[10] Barbados Today. [<https://barbadostoday.bb/>]. Accessed 27 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: 81.76

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: 108.61

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: 3.14

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: 4.24

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 evidence that Barbadoes has issued a restriction, without international/bilateral support, on the export/import of medical goods (e.g. medicines, oxygen, medical supplies, PPE) due to an infectious disease outbreak in the past year. There is no evidence of this issue found on the websites of the Ministry of Health and Wellness, Ministry of Agriculture and Food Security, Ministry of Foreign Affairs and Foreign Trade, and the Customs and Exceise Department. [1, 2, 3, 4] There is also no further information provided by the World Health Organization (WHO) or media outlets. [5]

[1] Ministry of Health and Wellness. [https://www.gov.bb/ministries/health]. Accessed 25 January 2021.

[2] Ministry of Agriculture and Food Security of Barbados. [https://agriculture.gov.bb/]. Accessed 17 January 2021.

[3] Ministry of Foreign Affairs and Foreign Trade. [https://www.foreign.gov.bb/]. Accessed 25 January 2021.

[4] Customs and Exceise Department. [https://www.gov.bb/Departments/customs]. Accessed 25 January 2021.

[5] World Health Organization (WHO). "Barbados". [https://www.who.int/data/gho/data/countries/country-details/GHO/barbados?countryProfileId=471a4946-78c2-44ac-a40d-d7a7f1d224cb]. Accessed 25 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 evidence that Barbados has 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 in the past year. There is no evidence of this issue found on the websites of the Ministry of Health and Wellness, Ministry of Agriculture and Food Security, Ministry of Foreign Affairs and Foreign Trade, and the Customs and Exceise Department. [1, 2, 3, 4] There is also no further information provided by the World Health Organization (WHO) or media outlets. [5]

[1] Ministry of Health and Wellness. [https://www.gov.bb/ministries/health]. Accessed 25 January 2021.

[2] Ministry of Agriculture and Food Security of Barbados. [https://agriculture.gov.bb/]. Accessed 17 January 2021.

[3] Ministry of Foreign Affairs and Foreign Trade. [https://www.foreign.gov.bb/]. Accessed 25 January 2021.

[4] Customs and Exceise Department. [https://www.gov.bb/Departments/customs]. Accessed 25 January 2021.

[5] World Health Organization (WHO). "Barbados". [https://www.who.int/data/gho/data/countries/country-details/GHO/barbados?countryProfileId=471a4946-78c2-44ac-a40d-d7a7f1d224cb]. Accessed 25 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

There is evidence that Barbados has implemented a ban, without international/bilateral support, on travelers arriving from a specific country or countries due to an infectious disease outbreak in the past year during the Covid-19 pandemic in 2020.

The Government of Barbados states that it has officially reopened its borders to international travel on 12 July 2020. [1]

[1] Visit Barbados. [<https://www.visitbarbados.org/covid-19-travel-guidelines-2020#health-protocol>]. Accessed 25 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: 248.43

2017

WHO; national sources

4.1.1b

Nurses and midwives per 100,000 people

Input number

Current Year Score: 306

2018

WHO; national sources

4.1.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Barbados has a public workforce strategy in place, updated within the last five years, to identify fields where there is an insufficient workforce and strategies to address these shortcomings. However Barbados has the

"Barbados Human Resource Development Strategy 2011-2016" of 2010, which focuses on educational attainment, workforce skills, population health, and employment policies to better connect the required skills with the businesses. [1] There is no evidence provided by this strategy on fields with insufficient workforce and strategies to address the shortcomings. There is also no evidence of the strategy being updated in the last five years. A publication by PAHO in 2011 indicated that the vacancy rate for medical specialists was 7.7 percent in 2010. [2] There is no additional information provided by the Ministry of Health and Wellness, Ministry of Labour and Social Partnership Relations, or Ministry of Education, Technological and Vocational Training. [3, 4, 5]

- [1] Government of Barbados. 2010. "Barbados Human Resource Development Strategy 2011-2016". [<https://mes.gov.bb/Download.ashx?file=Attachments%2FBabados+Human+Resource+Development+Strategy+2011-2016.pdf&name=Babados+Human+Resource+Development+Strategy+2011-2016>]. Accessed 25 January 2021.
- [2] Pan American Health Organization of the World Health Organization (PAHO/WHO). "Human Resources for Health in the Caribbean: A Review of the Workforce Situation and the National Baselines of the 20 Goals for Human Resources for Health". [https://www.observatoriorh.org/sites/default/files/webfiles/fulltext/CAR_HRH_Situation2011.pdf]. Accessed 25 January 2021.
- [3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 25 January 2021.
- [4] Ministry of Labour and Social Partnership Relations of Barbados. [<https://labour.gov.bb/>]. Accessed 25 January 2021.
- [5] Ministry of Education, Technological and Vocational Training of Barbados. [<https://mes.gov.bb/>]. Accessed 25 January 2021.

4.1.2 Facilities capacity

4.1.2a

Hospital beds per 100,000 people

Input number

Current Year Score: 597

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: 0

There is insufficient evidence that Barbados has the capacity to isolate patients with highly communicable diseases. There is evidence of general isolation capacity. However, there is no evidence of isolation capacity in a biocontainment patient care unit and/or an advanced patient isolation room/unit located within the country. As a response to COVID-19, the government has set up a first-class hospital of 220 beds to serve as a COVID-19 hospital and isolation facility. [1] The hospital has 38 ventilators and 182 isolation beds. Furthermore, Barbados has increased the number of intensive care units beds with ventilation from 6 to 54, and it has also added 100 isolation beds. In addition, it has also established various quarantine and isolation facilities for contact cases, or travelers that cannot self-quarantine or isolate, with a capacity of 70 beds. In 2014, the Government Information Service reported on an isolation centre being set up at Enmore, dedicated to handling

infectious diseases. The centre was part of preparedness response to Ebola and was due to be completed by the end of September 2014. The article also refers to quarantine units at the Grantley Adams International Airport and the Bridgetown Port. [2] According to a November 2014 Government Information Service article, the Isolation Centre is specifically located on the Queen Elizabeth Hospital compound at Enmore and would only be used for Ebola patients. [3] This center has now increased its capacity from 48 beds to 128 beds in order to accommodate patients with COVID-19. [1]

[1] Pan American Health Organization (PAHO). "Barbados: An Example of Government Leadership and Regional Cooperation in Containing the COVID-19 Virus". [<https://www.paho.org/en/file/71110/download?token=kWtNmLmy>]. Accessed 28 January 2021.

[2] Government Information Service of Barbados. 15 September 2014. "Isolation Unit To Be Set Up At Enmore". [<https://gisbarbados.gov.bb/blog/isolation-unit-to-be-set-up-at-enmore/>]. Accessed 28 January 2021.

[3] Government Information Service of Barbados. 4 November 2014. "Isolation Centre For Ebola Patients Only". [<https://gisbarbados.gov.bb/blog/isolation-centre-for-ebola-patients-only/>]. Accessed 28 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 Barbados has demonstrated capacity to expand isolation capacity in response to an infectious disease outbreak in the past two years, but there is no evidence that it has developed, updated or tested a plan to expand isolation capacity in response to an infectious disease outbreak in the past two years. As a response to COVID-19, the government has set up a first-class hospital of 220 beds to serve as a COVID-19 hospital and isolation facility. [1] The hospital has 38 ventilators and 182 isolation beds. Furthermore, Barbados has increased the number of intensive care units beds with ventilation from 6 to 54, and it has also added 100 isolation beds. In addition, it has also established various quarantine and isolation facilities for contact cases, or travelers that cannot self-quarantine or isolate, with a capacity of 70 beds. Furthermore, the Isolation Centre located on the Queen Elizabeth Hospital compound at Enmore has also increased its capacity from 48 beds to 128 beds in order to accommodate patients with COVID-19. [1] There is no evidence of an updated or tested a plan to expand isolation capacity in response to an infectious disease outbreak in the past two years in the websites of the Ministry of Health and Wellness, and the Department of Emergency Management. [2, 3]

[1] Pan American Health Organization (PAHO). "Barbados: An Example of Government Leadership and Regional Cooperation in Containing the COVID-19 Virus". [<https://www.paho.org/en/file/71110/download?token=kWtNmLmy>]. Accessed 28 January 2021.

[2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 5 May 2021.

[3] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 5 May 2021.

4.2 SUPPLY CHAIN FOR HEALTH SYSTEM AND HEALTHCARE WORKERS

4.2.1 Routine health care and laboratory system supply

4.2.1a

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

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

Current Year Score: 0

There is insufficient evidence that there is 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. However, the Central Purchasing Department makes goods available to government ministries and departments. [1] According to an article by the Government Information Service, in 2018, the Central Purchasing Department was renamed the Government Procurement Department and was set to focus on negotiation of supplier contracts. [2] According to the article, Ministries and departments can purchase from Approved Suppliers that has contracted with the Government Procurement Department, and tenders would be processed electronically. [2] There is also evidence of international tenders that Barbados has requested for medical supplies and equipment. [3] Furthermore, Barbados is a member of the Caribbean Health Agency (CARPHA), which is a partner of the Caribbean Med Labs Foundation (CMLF), a non-governmental organisation dedicated to assisting governments around best practice in medical laboratory services in the Caribbean region. [4] CMLF has published the Regional Guidelines for Procurement and Inventory Management, which is intended to set out guidelines for laboratory acquisition and management of goods and services, but there is no indication of a procurement protocol for Barbados. [5] There is no additional information available on the website of the Ministry of Health and Wellness of Barbados and the Ministry of Agriculture and Food Security of Barbados. [6, 7]

[1] Official Website of the Barbados Government. "Central Purchasing Department".

[<https://www.gov.bb/Departments/central-purchasing>]. Accessed 27 January 2021.

[2] Austin, S. of the Government Information Service of Barbados. 2 March 2018. "Name Change For Central Purchasing Department". [<http://gisbarbados.gov.bb/blog/name-change-for-central-purchasing-department/>]. Accessed 27 January 2021.

[3] Medical Pharma Healthcare Tenders. "Medical Tenders Barbados".

[https://www.medicaltenders.com/medical_tenders_barbados.htm]. Accessed 27 January 2021.

[4] Caribbean Med Labs Foundation. "About Us". [<http://cmedlabsfoundation.net/index.php/about-us/cmlf-objectives>]. Accessed 27 January 2021.

[5] Caribbean Med Labs Foundation. ND. "Regional Guidelines for Procurement and Inventory Management".

[<http://cmedlabsfoundation.net/images/pguide/introduction.html>]. Accessed 27 January 2021.

[6] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 27 January 2021.

[7] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 January 2021.

4.2.2 Stockpiling for emergencies

4.2.2a

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

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

Current Year Score: 0

There is no evidence that Barbados has a stockpile of medical supplies (e.g. MCMs, medicines, vaccines, medical equipment, PPE) for national use during a public health emergency. The Government Information Service announced that a new Barbados Drug Formulary was introduced in April 2018, but there is no mention of medical supplies for a public health emergency. [1] There is no evidence found on the website of the Caribbean Public Health Agency (CARPHA). [2] There is also no evidence found on the websites of the Ministry of Health and Wellness, Barbados Defence Force, Department of Emergency Management, and the Official Website of the Barbados Government. [3, 4, 5, 6]

[1] Government Information Service of Barbados. 30 June 2018. "Statement On The Barbados Drug Formulary".

[<https://gisbarbados.gov.bb/blog/statement-on-the-barbados-drug-formulary/>]. Accessed 25 January 2021.

[2] Caribbean Public Health Agency (CARPHA). [<http://carpha.org/>]. Accessed 25 January 2021.

[3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 25 January 2021.

[4] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 25 January 2021.

[5] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 25 January 2021.

[6] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 25 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 evidence that Barbados has a stockpile of laboratory supplies (e.g. reagents, media) for national use during a public health emergency. The Government Information Service announced that a new Barbados Drug Formulary was introduced in April 2018, but there is no mention of laboratory supplies for a public health emergency. [1] There is no evidence found on the website of the Caribbean Public Health Agency (CARPHA). [2] There is also no evidence found on the websites of the Ministry of Health and Wellness, Barbados Defence Force, Department of Emergency Management, and the Official Website of the Barbados Government. [3, 4, 5, 6]

[1] Government Information Service of Barbados. 30 June 2018. "Statement On The Barbados Drug Formulary".

[<https://gisbarbados.gov.bb/blog/statement-on-the-barbados-drug-formulary/>]. Accessed 25 January 2021.

[2] Caribbean Public Health Agency (CARPHA). [<http://carpha.org/>]. Accessed 25 January 2021.

[3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 25 January 2021.

[4] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 25 January 2021.

[5] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 25 January 2021.

[6] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 25 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 evidence that Barbados conducts or requires an annual review of the national stockpile to ensure the supply is sufficient for a public health emergency. The Government Information Service announced that a new Barbados Drug Formulary was introduced in April 2018, but there is no mention of an annual review of the national stockpile. [1] There is no evidence found on the websites of the Ministry of Health and Wellness, Barbados Defence Force, Department of Emergency Management, and the Official Website of the Barbados Government. [2, 3, 4, 5]

[1] Government Information Service of Barbados. 30 June 2018. "Statement On The Barbados Drug Formulary".

[<https://gisbarbados.gov.bb/blog/statement-on-the-barbados-drug-formulary/>]. Accessed 5 May 2021.

[2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 5 May 2021.

[3] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 5 May 2021.

[4] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 5 May 2021.

[5] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 5 May 2021.

4.2.3 Manufacturing and procurement for emergencies

4.2.3a

Does the country meet one of the following criteria?

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

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

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

Current Year Score: 0

There is no evidence of a plan/agreement to leverage domestic manufacturing capacity to produce medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency in Barbados, and there is no evidence of a plan/mechanism to procure medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency. However, Barbados has received PPE as a donation from the Pan American Health Organization (PAHO) in support of the emergency response for COVID-19. [1] There is no further evidence found on the websites of the Ministry of Health and Wellness, Barbados Defence Force, Department of Emergency Management, and the Barbados Government. [2, 3, 4, 5]

[1] Pan American Health Organization (PAHO). "PAHO donates Personal Protective Equipment (PPE) to the Barbados Defence Force in support of the National Emergency Response to COVID-19".

[https://www.paho.org/ecc/index.php?option=com_content&view=article&id=732:paho-donated-personal-protective-equipment-ppe-to-the-barbados-defense-force-in-support-of-the-national-emergency-response-to-covid-19&Itemid=332]. Accessed 27 January 2021.

[2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 27 January 2021.

[3] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 27 January 2021.

[4] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 27 January 2021.

[5] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 27 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 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 in Barbados, and there is no evidence of a plan/mechanism to procure laboratory supplies (e.g. reagents, media) for national use during a public health emergency.

There is no evidence found on these issues on the websites of the Ministry of Health and Wellness, Barbados Defence Force, Department of Emergency Management, and the Barbados Government. [1, 2, 3, 4]

[1] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 27 January 2021.

[2] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 27 January 2021.

[3] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 27 January 2021.

[4] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 27 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 evidence that Barbados has in place a plan, program, or guidelines for dispensing medical countermeasures for national use during a public health emergency. The Government Information Service announced that a new Barbados Drug Formulary was introduced in April 2018, but there is no mention of medical countermeasures for a public health emergency.

[1] There is no evidence found on the website of Caribbean Public Health Agency (CARPHA) regarding this issue. [2] There is no further evidence provided on the webpages of the the Ministry of Health and Wellness, Barbados Defence Force, Department of Emergency Management, and the Official Website of the Barbados Government. [3, 4, 5, 6]

[1] Government Information Service of Barbados. 30 June 2018. "Statement On The Barbados Drug Formulary".

[<https://gisbarbados.gov.bb/blog/statement-on-the-barbados-drug-formulary/>]. Accessed 25 January 2021.

[2] Caribbean Public Health Agency (CARPHA). [<http://carpha.org/>]. Accessed 25 January 2021.

[3] Ministry of Health and Wellness. [<https://www.gov.bb/ministries/health>]. Accessed 25 January 2021.

[4] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 25 January 2021.

[5] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 25 January 2021.

[6] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 25 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 that there is a public plan in place for Barbados to receive health personnel from other countries to respond to a public health emergency. The Caribbean Public Health Agency (CARPHA), in accordance with the Inter-Governmental Agreement (IGA), is mandated to respond to emergencies, including pandemics, in Member States. [1, 2] Also, health specialists are among the technical personnel that may be deployed by the Caribbean Disaster Emergency Management Agency's (CDEMA) Rapid Needs Assessment Team (RNAT)—according to CDEMA's Regional Response Mechanism—immediately after a disastrous event. [3] However, CARPHA and CDEMA do not provide any information about a plan for countries to receive health personnel from other countries. There is no additional evidence found on the websites of the Ministry of Health and Wellness, Official Website of the Barbados Government, Department of Emergency Management, and Barbados Defence Force. [4, 5, 6, 7]

[1] Caribbean Public Health Agency (CARPHA). "Agreement Establishing the Caribbean Public Health Agency (CARPHA)". [https://carpha.org/Portals/0/Documents/CARPHA_IGA.pdf]. Accessed 25 January 2021.

[2] Caribbean Community (CARICOM). 16 September 2017. "CARPHA Deploys Staff to Assist Hurricane-Devastated British Virgin Islands". [<https://caricom.org/carpha-deploys-staff-to-assist-hurricane-devastated-british-virgin-islands/>]. Accessed 25 January 2021.

[3] Caribbean Disaster Emergency Management Agency's (CDEMA). 2016. "Regional Response Mechanism". [https://www.cdema.org/RRM_Booklet_Final_PDF_version.pdf]. Accessed 25 January 2021.

[4] Ministry of Health and Wellness. [<https://www.gov.bb/ministries/health>]. Accessed 25 January 2021.

[5] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 25 January 2021.

[6] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 25 January 2021.

[7] Barbados Defence Force. [<https://www.bdfbarbados.com/>]. Accessed 25 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: 99

2015

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: 621.96

2017

WHO Global Health Expenditure database

4.4.2 Paid medical leave

4.4.2a

Are workers guaranteed paid sick leave?

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

Current Year Score: 2

2020

World Policy Analysis Center

4.4.3 Healthcare worker access to healthcare

4.4.3a

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

Yes = 1, No = 0

Current Year Score: 0

There is no evidence that Barbados has issued legislation, a policy or a public statement committing to provide prioritized health care services to healthcare workers who become sick as a result of responding to a public health emergency. Barbados is part of the Caribbean Disaster Emergency Management Agency (CDEMA) for disaster management in the Caribbean Community (CARICOM) and health emergency preparedness and response is one of the functions of the Caribbean Public

Health Agency (CARPHA). [1, 2] However, there is no evidence from CDEMA or CARPHA of a policy prioritizing healthcare workers who become sick as a result of responding to a public health emergency. [3, 4] There is no further evidence found on the websites of the Ministry of Health and Wellness, Department of Emergency Management, and Official Website of the Barbados Government. [5, 6, 7]

[1] Caribbean Disaster Emergency Management Agency (CDEMA). "About Us". [<https://www.cdema.org/about-us#what-is-cdema-s-mandate>]. Accessed 25 January 2021.

[2] Caribbean Public Health Agency (CARPHA). "The Role and Functions of the Caribbean Public Health Agency (CARPHA)". [<https://carpha.org/Who-We-Are/Role-and-Function>]. Accessed 25 January 2021.

[3] Caribbean Disaster Emergency Management Agency (CDEMA). [<https://www.cdema.org/>]. Accessed 25 January 2021.

[4] Caribbean Public Health Agency (CARPHA). [<http://carpha.org/>]. Accessed 25 January 2021.

[5] Ministry of Health and Wellness. [<https://www.gov.bb/ministries/health>]. Accessed 25 January 2021.

[6] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 25 January 2021.

[7] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 25 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: 0

There is no evidence that there is a system in place for public health officials and healthcare workers to communicate during a public health emergency. The Barbados Government has a Department of Emergency Management (DEM), which is responsible for the National Emergency Management System (NEMS), the overarching mechanism for emergency management. [1] There is no mention of systems for health sector communication during a public health emergency in the 2014 Country Document for Disaster Risk Reduction. [2] There is no evidence found on the issue on the websites of the DEM, Ministry of Health and Wellness, and Official Website of the Barbados. [3, 4, 5]

[1] Department of Emergency Management - Government of Barbados. "Structure of National Emergency Management System (NEMs)". [<http://dem.gov.bb/index.php/about/nems>]. Accessed 26 January 2021.

[2] Department of Emergency Management - Government of Barbados. 2014. "Country Document for Disaster Risk Reduction: Barbados, 2014". [<http://dipecholac.net/docs/xfiles/784-documento-pais-barbados-web.pdf>]. Accessed 26 January 2021.

[3] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 26 January 2021.

[4] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 26 January 2021.

[5] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 26 January 2021.

4.5.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Barbados has a system for public health officials and healthcare workers to communicate during an emergency encompass healthcare workers in both the public and private sector as there is no evidence that it has a system for public health officials and healthcare workers to communicate during an emergency in Barbados. The Barbados Government has a Department of Emergency Management (DEM), which is responsible for the National Emergency Management System (NEMS), the overarching mechanism for emergency management. [1] There is no mention of systems for health sector communication during a public health emergency in the 2014 Country Document for Disaster Risk Reduction. [2] There is no evidence found on the issue on the websites of the DEM, Ministry of Health and Wellness, and Official Website of the Barbados. [3, 4, 5]

[1] Department of Emergency Management - Government of Barbados. "Structure of National Emergency Management System (NEMs)". [<http://dem.gov.bb/index.php/about/nems>]. Accessed 26 January 2021.

[2] Department of Emergency Management - Government of Barbados. 2014. "Country Document for Disaster Risk Reduction: Barbados, 2014". [<http://dipecholac.net/docs/xfiles/784-documento-pais-barbados-web.pdf>]. Accessed 26 January 2021.

[3] Department of Emergency Management of Barbados. [<http://dem.gov.bb/>]. Accessed 26 January 2021.

[4] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 26 January 2021.

[5] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 26 January 2021.

4.6 INFECTION CONTROL PRACTICES AND AVAILABILITY OF EQUIPMENT

4.6.1 Healthcare associated infection (HCAI) prevention and control programs

4.6.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence that the national public health system in Barbados monitors and tracks the number of health care associated infections (HCAIs) that take place in healthcare facilities. A 2017 webinar presentation by the Head of Infectious Diseases and Infection Prevention and Control of Queen Elizabeth Hospital describes a bacterial outbreak at the facility in 2013, and the development of an Infection Prevention and Control program with a core component being HCAIs. [1] However, there is no indication that this is a system-wide program or the status of monitoring. The Pan American Health Organization reported that, in October 2018, Barbados was among the countries that participated in a regional meeting on infection prevention and control and HCAIs. [2] The Caribbean Public Health Agency (CARPHA) provides a FAQ one-pager from 2015 about HCAIs, which indicates that healthcare facilities should have training and surveillance to monitor HCAIs. [3] There is no further evidence found through the website of the Ministry of Health and Wellness. [4]

[1] Pan American Health Organization (PAHO). "Using an Outbreak to Drive Change: Building an IPC program". [https://www.paho.org/hq/index.php?option=com_docman&view=download&category_slug=webinar-materias-presentations-9016&alias=41927-using-an-outbreak-to-drive-change-building-an-ipc-program-september-2017-927&Itemid=270&lang=en]. Accessed 28 January 2021.

[2] Pan American Health Organization / World Health Organization (PAHO/WHO). "Sub-Regional Meeting on Infection Prevention and Control (IPC) and Health-Care Associated Infection Surveillance in Castries, St. Lucia on 15 to 17 October 2018". [https://www.paho.org/hq/index.php?option=com_content&view=article&id=14756:sub-regional-meeting-on-infection-prevention-and-control-ipc-and-health-care-associated-infection-surveillance-in-castries-st-lucia-on-15-to-17-october-2018&Itemid=0&lang=en]. Accessed 28 January 2021.

[4] Caribbean Public Health Agency (CARPHA). "Healthcare-Associated Infections".

[https://carpha.org/Portals/0/Documents/CARPHA_HCAIs_Factsheet_Oct2015.pdf]. Accessed 28 January 2021.

[5] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 28 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 there is a national requirement for ethical review before beginning a clinical trial. According to the University of the West Indies (UWI) Faculty of Medical Sciences, located in Barbados, there is an institutional ethics board that is jointly operated by the UWI and the Ministry of Health and Wellness. [1] The university's 2011 Policy and Procedures on Research Ethics does not specifically mention clinical trials, and the Ministry of Health and Wellness' 2011 Pharmaceutical Profile for the country indicates that there are no legal provisions requiring authorization for conducting clinical trials. [2, 3] CARPHA's Research Ethics Committee (REC) provides ethical oversight for research involving human participants conducted by staff or funded by CARPHA. [4] REC services are extended to CARPHA Member States upon request. [5] In addition, CARPHA's Caribbean Network of Research Ethics Committees (CANREC) is a network of Research Ethics Committees (RECs/IRBs) across the CARPHA member states. [5] However, there is no publicly available evidence of a national requirement for an ethics review for clinical trials in Barbados on the website of the Ministry of Health and Wellness. [6]

[1] The University of the West Indies at Cave Hill, Barbados - Faculty of Medical Sciences. "Overview".

[<https://www.cavehill.uwi.edu/fms/research.aspx>]. Accessed 26 January 2021.

[2] The University of the West Indies. February 2011. "Policy and Procedures on Research Ethics".

[https://www.cavehill.uwi.edu/researchethics/docs/uwi_policy_research_ethics_oct.aspx]. Accessed 26 January 2021.

[3] Ministry of Health of Barbados, in collaboration with the Pan American Health Organization/World Health Organization (PAHO/WHO). September 2011. "Barbados Pharmaceutical Country Profile".

[https://www.who.int/medicines/areas/coordination/pscp.barbados_en.pdf?ua=1]. Accessed 26 January 2021.

[4] Caribbean Public Health Agency (CARPHA). "Research Training and Policy Development - Research Ethics".

[<http://carpha.org:8086/What-We-Do/Research-Training-and-Policy-Development/Research-Ethics>]. Accessed 26 January 2021.

[5] Caribbean Public Health Agency (CARPHA). "Caribbean Network of Research Ethics Committees (CANREC) - About CANREC". [<https://carpha.org/What-We-Do/Networks/CANREC/Caribbean-Network-of-Research-Ethics-Committees>].

Accessed 26 January 2021.

[6] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 26 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 evidence that there is an expedited process for approving clinical trials for unregistered medical countermeasures to treat ongoing pandemics in Barbados, as there is insufficient evidence that there is a national requirement for ethical review before beginning a clinical trial. According to the University of the West Indies (UWI) Faculty of Medical Sciences, located in Barbados, there is an institutional ethics board that is jointly operated by the UWI and the Ministry of Health. [1] The university's 2011 Policy and Procedures on Research Ethics does not specifically mention clinical trials, and the Ministry of Health's 2011 Pharmaceutical Profile for the country indicates that there are no legal provisions requiring authorization for conducting clinical trials. [2, 3] CARPHA's Research Ethics Committee (REC) provides ethical oversight for research involving human participants conducted by staff or funded by CARPHA. [4] REC services are extended to CARPHA Member States upon request. [4] In addition, CARPHA's Caribbean Network of Research Ethics Committees (CANREC) is a network of Research Ethics Committees (RECs/IRBs) across the CARPHA member states. [5] There is no further evidence provided on the website of the Ministry of Health and Wellness. [6]

[1] The University of the West Indies at Cave Hill, Barbados - Faculty of Medical Sciences. "Overview".

[<https://www.cavehill.uwi.edu/fms/research.aspx>]. Accessed 26 January 2021.

[2] The University of the West Indies. February 2011. "Policy and Procedures on Research Ethics".

[https://www.cavehill.uwi.edu/researchethics/docs/uwi_policy_research_ethics_oct.aspx]. Accessed 26 January 2021.

[3] Ministry of Health of Barbados, in collaboration with the Pan American Health Organization/World Health Organization (PAHO/WHO). September 2011. "Barbados Pharmaceutical Country Profile".

[https://www.who.int/medicines/areas/coordination/pscp.barbados_en.pdf?ua=1]. Accessed 26 January 2021.

[4] Caribbean Public Health Agency (CARPHA). "Research Training and Policy Development - Research Ethics".

[<http://carpha.org:8086/What-We-Do/Research-Training-and-Policy-Development/Research-Ethics>]. Accessed 26 January 2021.

[5] Caribbean Public Health Agency (CARPHA). "Caribbean Network of Research Ethics Committees (CANREC) - About CANREC". [<https://carpha.org/What-We-Do/Networks/CANREC/Caribbean-Network-of-Research-Ethics-Committees>]. Accessed 26 January 2021.

[6] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 26 January 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: 0

There is insufficient evidence that there is a government agency responsible for approving new medical countermeasures in humans in Barbados. The Ministry of Health and Wellness oversees the Barbados Drug Service, but there is no evidence that the agency is responsible for approving new medical countermeasures in humans. [1, 2, 3] The Caribbean Regulatory System

of the Caribbean Public Health Agency (CARPHA) oversees safety, quality, and efficacy of medicines and vaccines in the Caribbean, though there is no indication that this includes medical countermeasures. [4] CARPHA's Medicines Quality Control and Surveillance Department monitors medicinal quality and is the sole ISO/IEC 17025 accredited pharmaceutical quality control laboratory in the Caribbean. [5] The 2013 Caribbean Pharmaceutical Policy does not mention medical countermeasures. [6] There is no further evidence of a government agency responsible for approving new medical countermeasures (MCM) for humans on the website of the Ministry of Health and Wellness. [7]

[1] Ministry of Health of Barbados, in collaboration with the Pan American Health Organization/World Health Organization (PAHO/WHO). September 2011. "Barbados Pharmaceutical Country Profile".

[https://www.who.int/medicines/areas/coordination/pscp.barbados_en.pdf?ua=1]. Accessed 26 January 2021.

[2] Government of Barbados. "Drug Service". [<https://www.gov.bb/Departments/drug-service>]. Accessed 26 January 2021.

[3] Government Information Service of Barbados. 25 May 2016. "Statement on Barbados Drug Service". [<https://gisbarbados.gov.bb/>]. Accessed 26 January 2021.

[4] Caribbean Public Health Agency (CARPHA) "Caribbean Regulatory System". [<https://www.carpha.org/What-We-Do/CRS/Caribbean-Regulatory-System>]. Accessed 26 January 2021.

[5] Caribbean Public Health Agency (CARPHA) "About Medicine Quality Control and Surveillance". [<https://carpha.org/What-We-Do/MQCSD/Medicines-Quality-Control-and-Surveillance-Department>]. Accessed 26 January 2021.

[6] Caribbean Public Health Agency (CARPHA) / Pan American Health Organization (PAHO) / World Health Organization (WHO). 2013. "Caribbean Pharmaceutical Policy". [<https://iris.paho.org/handle/10665.2/28437>]. Accessed 26 January 2021.

[7] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 26 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: 0

There is no evidence that there is an expedited process for approving medical countermeasures for human use during public health emergencies in Barbados. The Ministry of Health and Wellness oversees the Barbados Drug Service, but there is no evidence that the agency is responsible for approving new medical countermeasures in humans. [1, 2, 3] The Caribbean Regulatory System of the Caribbean Public Health Agency (CARPHA) oversees safety, quality, and efficacy of medicines and vaccines in the Caribbean, though there is no indication that this includes medical countermeasures. [4] CARPHA's Medicines Quality Control and Surveillance Department monitors medicinal quality and is the sole ISO/IEC 17025 accredited pharmaceutical quality control laboratory in the Caribbean. [5] The 2013 Caribbean Pharmaceutical Policy does not mention medical countermeasures. [6] There is no further evidence provided on the website of the Ministry of Health and Wellness. [7]

[1] Ministry of Health of Barbados, in collaboration with the Pan American Health Organization/World Health Organization (PAHO/WHO). September 2011. "Barbados Pharmaceutical Country Profile".

[https://www.who.int/medicines/areas/coordination/pscp.barbados_en.pdf?ua=1]. Accessed 26 January 2021.

[2] Government of Barbados. "Drug Service". [<https://www.gov.bb/Departments/drug-service>]. Accessed 26 January 2021.

[3] Government Information Service of Barbados. 25 May 2016. "Statement on Barbados Drug Service". [<https://gisbarbados.gov.bb/>]. Accessed 26 January 2021.

[4] Caribbean Public Health Agency (CARPHA) "Caribbean Regulatory System". [<https://www.carpha.org/What-We-Do/CRS/Caribbean-Regulatory-System>]. Accessed 26 January 2021.

[5] Caribbean Public Health Agency (CARPHA) "About Medicine Quality Control and Surveillance". [<https://carpha.org/What-We-Do/MQCSD/Medicines-Quality-Control-and-Surveillance-Department>]. Accessed 26 January 2021.

We-Do/MQCSD/Medicines-Quality-Control-and-Surveillance-Department]. Accessed 26 January 2021.

[6] Caribbean Public Health Agency (CARPHA) / Pan American Health Organization (PAHO) / World Health Organization (WHO). 2013. "Caribbean Pharmaceutical Policy". [<https://iris.paho.org/handle/10665.2/28437>]. Accessed 26 January 2021.

[7] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 26 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: 1

2020

World Health Organization

5.1.2 Integration of health into disaster risk reduction

5.1.2a

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

Yes = 1 , No = 0

Current Year Score: 1

Pandemics are integrated into Barbados's national risk reduction strategy, and there are standalone national disaster risk reduction strategy for pandemics. The 2014 Disaster Risk Reduction Country Document, from the Department of Emergency Management (DEM) integrates information on pandemics and describes some recent epidemic threats, including SARS, anthrax, and H1N1 influenza. [1] It identifies the further threats for spreading of vector diseases due to weather conditions, and the self-medication of people. It also includes vulnerability and capacity assessment based on the Red Cross, which includes identifying and mapping of vulnerabilities and hazards, determining community resources and skills, identifying actions to be undertaken by the community to mitigate risks, and developing proposals to address the issues. There is also an inclusion of the Hospital Safety Index, which serves to provide a snapshot of the probability that a hospital or health care facility may continue to function during an emergency situation based on structural and non-structural factors as well as, healthservice networks. Furthermore, the disaster risk reduction document lists the National Influenza Pandemic

Preparedness Plan and Dangerous Infectious Diseases Plan among the country's disaster management plans, but there is no indication of when these plans were published. [1] These plans are also not publicly available, including through the World Health Organization (WHO)'s Strategic Partnership for International Health Regulations (2005) and Health Security (SPH) database of National Plans for Pandemic Preparedness and Risk Management and the Ministry of Health and Wellness. [2, 3]

[1] Department of Emergency Management - Government of Barbados. 2014. "Country Document for Disaster Risk Reduction: Barbados, 2014". [<http://dipecholac.net/docs/xfiles/784-documento-pais-barbados-web.pdf>]. Accessed 26 January 2021.

[2] World Health Organization (WHO) - Strategic Partnership for International Health Regulations (2005) and Health Security (SPH). "National Plans for Pandemic Preparedness and Risk Management". [<https://extranet.who.int/sph/influenza-plan-barbados>]. Accessed 26 January 2021.

[3] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 26 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

Barbados is part of a regional group with regards to public health emergencies, and there is no evidence of gaps in implementation. Article 4 of the Agreement Establishing the Caribbean Public Health Agency (CARPHA)—signed by the Government of Barbados—states that supporting the Caribbean Community in "preparing for and responding to public health emergencies" is one of CARPHA's objectives. [1] Health emergency preparedness and response is therefore one of the functions of the CARPHA. [1, 2] In addition, the Caribbean Disaster Emergency Management Agency (CDEMA) is a regional agency for disaster management in the Caribbean Community (CARICOM), of which Barbados is a Member State. [3] CDEMA's mandate includes "coordinating the establishment, enhancement and maintenance of adequate emergency disaster response capabilities among the Participating States". [4] There is limited information available on CDEMA's role in public health emergencies. However, the Caribbean Community (CARICOM) indicates that health is one of CDEMA's areas of work, and a CDEMA News article from 2011 describes the establishment of a Health Disaster Risk Reduction (CHDRR) Committee. [5, 6] There is no evidence of gaps in implementation identified by the Caribbean Public Health Agency (CARPHA), and the Ministry of Health and Sanitation. [7, 8]

[1] Caribbean Public Health Agency (CARPHA). "Agreement Establishing the Caribbean Public Health Agency (CARPHA)". [https://carpha.org/Portals/0/Documents/CARPHA_IGA.pdf]. Accessed 26 January 2021.

[2] Caribbean Public Health Agency (CARPHA). "The Role and Functions of the Caribbean Public Health Agency (CARPHA)". [<https://carpha.org/Who-We-Are/Role-and-Function>]. Accessed 26 January 2021.

[3] Caribbean Disaster Emergency Management Agency (CDEMA). "About Us". [<https://www.cdema.org/about-us#what-is-cdema-s-mandate>]. Accessed 26 January 2021.

[4] Caribbean Disaster Emergency Management Agency (CDEMA). "What is CDEMA's Mandate?". [<https://www.cdema.org/about-us#what-is-cdema-s-mandate>]. Accessed 26 January 2021.

[5] Caribbean Community (CARICOM). "Caribbean Disaster Emergency Management Agency (CDEMA)".

[<https://caricom.org/institutions/caribbean-disaster-emergency-management-agency-cdema/>]. Accessed 26 January 2021.

[6] Caribbean Disaster Emergency Management Agency (CDEMA). 2011. "CDEMA News: Caribbean Disaster Emergency Management Agency". [https://www.cdema.org/index.php?option=com_content&view=article&id=951&Itemid=447]. Accessed 26 January 2021.

[7] Caribbean Public Health Agency (CARPHA). "<https://carpha.org/>". Accessed 16 February 2021.

[8] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/Ministries/health>]. Accessed 16 February 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: 2

Barbados is part of a regional group, with regards to animal health emergencies. The Caribbean Animal Health Network (CaribVET), of which Barbados is a member, is responsible for prevention and emergency preparedness plans for priority diseases. [1] Rabies, Salmonellosis, and Leptospirosis are identified by CaribVET as priority diseases. [2] The 2010 charter for CaribVET states that one of the roles of the Veterinary epidemiologist / para-epidemiologist (VEP) project is to support and operate a rapid national and regional emergency response task force. [3] Representatives from CaribVET have also been involved in the development of the Caribbean's Global Health Security Agenda (GHSA) roadmap. [4, 5] There is no evidence of gaps in implementation identified by the Caribbean Animal Health Network (CaribVET), and the Ministry of Health and Sanitation. [6, 7]

[1] Caribbean Animal Health Network (CaribVET). "About the Network". [<https://www.caribvet.net/about-the-network>]. Accessed 26 January 2021.

[2] Caribbean Animal Health Network (CaribVET). "Veterinary Public Health". [<https://www.caribvet.net/thematics/veterinary-public-health>]. Accessed 26 January 2021.

[3] Caribbean Animal Health Network (CaribVET). "Caribbean Animal Health Network Charter". [https://www.caribvet.net/content/download/4499/33474/version/1/file/CaribVET_CHARTER_FINAL_EN2011%28detailed%29.pdf]. Accessed 26 January 2021.

[4] Caribbean Animal Health Network (CaribVET). "The Caribbean Animal Health Network (CaribVET) establishes high-level ties with Caribbean Disaster Emergency Management Agency (CDEMA)". [<https://www.caribvet.net/news/the-caribbean-animal-health-network-caribvet-establishes-high-level-ties-with-caribbean-disaster-emergency-management-agency-cdema>]. Accessed 26 January 2021.

[5] Caribbean Community (CARICOM) "Working towards Regional Health Security in the Caribbean". [<https://caricom.org/working-towards-regional-health-security-in-the-caribbean/>]. Accessed 26 January 2021.

[6] Caribbean Animal Health Network (CaribVET). [<https://www.caribvet.net/>]. Accessed 16 February 2021.

[7] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/Ministries/health>]. Accessed 16 February 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: 0

2021

Biological Weapons Convention

5.3.1c

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

Yes = 1 , No = 0

Current Year Score: 1

2021

Biological Weapons Convention

5.3.1d

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

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

Current Year Score: 1

2021

Biological Weapons Convention

5.3.2 Voluntary memberships

5.3.2a

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

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

- Membership in the Australia Group (AG)
- Membership in the Proliferation Security Initiative (PSI)

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

Current Year Score: 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: 0

2021

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

5.4.1b

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

Yes = 1 , No = 0

Current Year Score: 0

2021

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

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

5.4.2a

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

Yes = 1 , No = 0

Current Year Score: 0

2021

OIE PVS assessments

5.4.2b

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

Yes = 1 , No = 0

Current Year Score: 0

2021

OIE PVS assessments

5.5 FINANCING

5.5.1 National financing for epidemic preparedness

5.5.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that Barbados has allocated national funds to improve capacity to address epidemic threats within the past three years. The Caribbean Community Member States, where Barbados is a member, contribute quotas to make up CARPHA's funding, in addition to funding obtained from partners supporting health and development work in the Caribbean, though there is no publicly available detail on financial or technical commitments Barbados has made towards CARPHA. [1] The national budget for 2019-2020 contains expenditures for the HIV Prevention and Control Project, but it does not contain any funding on capacity to address epidemic threats. [2] There is no further evidence found on the websites of the Ministry of Health and Wellness, Ministry of Finance, Economic Affairs and Investments, Ministry of Agriculture and Food Security, Official Website of the Barbados Government, and the Prime Ministr's Office. [3, 4, 5, 6, 7]

[1] Caribbean Public Health Agency (CARPHA). "Frequently Asked Questions - How is CARPHA funded?".

[http://carpha.org/who-we-are/faqs]. Accessed 28 January 2021.

[2] Ministry of Finance, Economic Affairs and Investments. "Barbados Estimates 2019-2020".

[http://www.caribbeanelections.com/eDocs/budget/bb_budget/bb_draft_estimates_2019_2020.pdf]. Accessed 28 January 2021.

[3] Ministry of Health and Wellness of Barbados. [https://www.gov.bb/ministries/health]. Accessed 28 January 2021.

[4] Ministry of Finance, Economic Affairs and Investments of Barbados. [https://www.gov.bb/ministries/finance-economic-affairs]. Accessed 28 January 2021.

[5] Ministry of Agriculture and Food Security of Barbados. [https://agriculture.gov.bb/]. Accessed 17 January 2021.

[6] Official Website of the Barbados Government. [https://www.gov.bb/]. Accessed 28 January 2021.

[7] Prime Minister's Office Barbados. [<https://pmo.gov.bb/>]. 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 that Barbados can access in the face of a public health emergency. The Stop Epidemics There and Here (SETH) Fund provides financial support and assistance to the Caribbean Public Health Agency (CARPHA) and its Member States, which includes Barbados, in managing outbreaks and emergencies with health and humanitarian consequences. [1] Activities of the SETH Fund include immediate response interventions against vaccine-preventable diseases and deployment of rapid response personnel during outbreaks, public health emergencies, severe natural disasters, chemical and other events with health consequences. [1] Barbados is not eligible for World Bank pandemic financing. [2]

[1] Caribbean Public Health Agency (CARPHA) Foundation. "Stop Epidemics There and Here (SETH) Fund ".
[<http://carphafoundation.carpha.org/SETH-Fund>]. Accessed 26 January 2021.

[2] International Development Association (IDA) - World Bank Group. "Borrowing Countries".
[<http://ida.worldbank.org/about/borrowing-countries>]. Accessed 26 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: 0

There is no evidence that, in the past three years, senior leaders in Barbados have made a public commitment to support other countries to improve capacity to address epidemic threats by providing financing or support, or to improve its own domestic capacity to address epidemic threats. The Caribbean Public Health Agency (CARPHA) was established in 2013 as the public health agency for the Caribbean Community (CARICOM) and coordinates responses to public health crisis in the Caribbean by providing resources for disease prevention and control strategies in outbreak and epidemic situations. [1, 2] Caribbean Community Member States contribute quotas to make up CARPHA's funding, in addition to funding obtained from partners supporting health and development work in the Caribbean, though there is no publicly available detail on financial or technical commitments Barbados has made towards CARPHA. [3] Beyond the regional commitment through CARPHA, there is no evidence that Barbados has made a public commitment to support other countries to improve capacity to address epidemic threats from the Global Health Security Funding Tracking Dashboard. [4] The Ministry of Health and Wellness, Ministry of Foreign Affairs and Foreign Trade, and Official Website of the Barbados Government provide no evidence that the country has made or fulfilled public commitments. [5, 6, 7] Barbados is not among the countries that contribute to the World Health Organization (WHO)'s Contingency Fund for Emergencies (CFE), and the WHO makes no other mention of this type of public commitment by Barbados. [8, 9]

[1] Caribbean Public Health Agency (CARPHA) Foundation. "About CARPHA". [<http://carphafoundation.carpha.org/Who-We-Are/About-CARPHA>]. Accessed 28 January 2021.

[2] Caribbean Public Health Agency (CARPHA). "The Role and Functions of the Caribbean Public Health Agency (CARPHA)". [<http://carpha.org/Who-We-Are/Role-and-Functions>]. Accessed 28 January 2021.

[3] Caribbean Public Health Agency (CARPHA). "Frequently Asked Questions - How is CARPHA funded?". [<http://carpha.org/who-we-are/faqs>]. Accessed 28 January 2021.

[4] Global Health Security Funding Tracking Dashboard. "Barbados - Funder Profile". [<https://tracking.ghscosting.org/details/35/funder>]. Accessed 28 January 2021.

[5] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 28 January 2021.

[6] Ministry of Foreign Affairs and Foreign Trade of Barbados. [<https://www.foreign.gov.bb/>]. Accessed 28 January 2021.

[7] Official Website of the Barbados Government. [<https://www.gov.bb/>]. Accessed 28 January 2021.

[8] World Health Organization (WHO). "Contingency Fund for Emergencies (CFE)". [<http://www.who.int/emergencies/funding/contingency-fund/en/>]. Accessed 28 January 2021.

[9] World Health Organization (WHO). [<http://www.who.int/>]. Accessed 28 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: 1

There is evidence that Barbados has requested financing or technical support from donors to improve the country's domestic capacity to address epidemic threats, but there is no evidence that Barbados has provided other countries with financing or technical support to improve capacity to address epidemic threats in the past three years. There is evidence via the Global Health Security Funding Tracker that Barbados has invested donor financed to improve domestic capacity to address epidemic threats. The tracker notes that Barbados has received funding from multiple donors to enhance health security including prevention, detection and response, and the majority of funds are dedicated to the national laboratory system followed by emergency response and workforce development. The rest are distributed among biosafety and biosecurity, real time surveillance, zoonotic disease, reporting, national legislation, immunization, and antimicrobial resistance. The total funds disbursed between 2014-2020 reach USD 28 Million. [1] There is no further evidence provided on the websites of the Ministry of Health and Wellness, Ministry of Foreign Affairs and Foreign Trade, the World Health Organization (WHO), or media sources. [2, 3, 4]

[1] Global Health Security Tracking. "Barbados". [<https://tracking.ghscosting.org/details/889/recipient>]. Accessed 28 January 2021.

[2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 28 January 2021.

[3] Ministry of Foreign Affairs and Foreign Trade of Barbados. [<https://www.foreign.gov.bb/>]. Accessed 28 January 2021.

[4] World Health Organization (WHO). "Barbados". [<https://www.who.int/data/gho/data/countries/country-details/GHO/barbados?countryProfileId=471a4946-78c2-44ac-a40d-d7a7f1d224cb>]. Accessed 28 January 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: 0

2021

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

5.6 COMMITMENT TO SHARING OF GENETIC AND BIOLOGICAL DATA AND SPECIMENS

5.6.1 Commitment to sharing genetic data, clinical specimens, and/or isolated specimens (biological materials) in both emergency and nonemergency research

5.6.1a

Is there a publicly available plan or policy for sharing genetic data, clinical specimens, and/or isolated specimens (biological materials) along with the associated epidemiological data with international organizations and/or other countries that goes beyond influenza?

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available plan or policy by Barbados to share genetic data, epidemiological data or clinical specimens with international organizations and/or other countries that goes beyond influenza. A presentation at the 2014 Meeting of Caribbean National Epidemiologists and Laboratory Directors proposes a CARPHA public health information sharing agreement between CARPHA and CARPHA Member States is proposed. [1] There is no evidence that such an information sharing agreement was created. There is no evidence of a sharing plan or policy provided by the Ministry of Health and Wellness, or Ministry of Agriculture and Food Security. [2, 3]

[1] Caribbean Public Health Agency (CARPHA). 12th Meeting of Caribbean National Epidemiologists and Laboratory Directors, 2014. "CARPHA Data and Information Sharing Agreement: A Proposal"

[http://carpha.org:8086/Portals/0/docs/MEETINGS/Epid_LabDir/Crooks_CARPHA_Data_and_Information_Sharing_Agreement.pdf]. Accessed 28 January 2021.

[2] Ministry of Health and Wellness of Barbados. [<https://www.gov.bb/ministries/health>]. Accessed 28 January 2021.

[3] Ministry of Agriculture and Food Security of Barbados. [<https://agriculture.gov.bb/>]. Accessed 17 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 Barbados has not shared samples in accordance with the PIP framework in the past two years in local media outlets or through the WHO. [1]

[1] World Health Organisation (WHO). "Virus sharing". [http://www.who.int/influenza/pip/virus_sharing/en/]. Accessed 28 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 evidence that Barbados has not shared pandemic pathogen samples during an outbreak in the past two years in media outlets or through the WHO. [1, 2] There is also no evidence that Barbados has not shared any COVID-19 samples. [3]

[1] World Health Organisation (WHO). "News Releases". [<http://www.who.int/news-room/releases>]. Accessed 28 January 2021.

[2] World Health Organisation (WHO). "Barbados". [<https://www.who.int/data/gho/data/countries/country-details/GHO/barbados?countryProfileId=471a4946-78c2-44ac-a40d-d7a7f1d224cb>]. Accessed 28 January 2021.

[3] World Health Organisation (WHO). "COVID-19 Dashbord". [<https://covid19.who.int/region/amro/country/bb>]. Accessed 28 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: 2

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: 64

2020

Transparency International

6.1.1f

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

Input number

Current Year Score: 3

2020

Economist Intelligence

6.1.1g

Human rights risk (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 4

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: 4

2021

Economist Intelligence

6.1.3 Risk of social unrest

6.1.3a

What is the risk of disruptive social unrest?

Very low: Social unrest is very unlikely = 4, Low: There is some prospect of social unrest, but disruption would be very limited = 3, Moderate: There is a considerable chance of social unrest, but disruption would be limited = 2, High: Major social unrest is likely, and would cause considerable disruption = 1, Very high: Large-scale social unrest on such a level as to seriously challenge government control of the country is very likely = 0

Current Year Score: 2

2021

Economist Intelligence

6.1.4 Illicit activities by non-state actors

6.1.4a

How likely is it that domestic or foreign terrorists will attack with a frequency or severity that causes substantial disruption?

No threat = 4, Low threat = 3, Moderate threat = 2, High threat = 1, Very high threat = 0

Current Year Score: 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: 3

2021

Economist Intelligence

6.1.5 Armed conflict

6.1.5a

Is this country presently subject to an armed conflict, or is there at least a moderate risk of such conflict in the future?

No armed conflict exists = 4, Yes; sporadic conflict = 3, Yes; incursional conflict = 2, Yes, low-level insurgency = 1, Yes; territorial conflict = 0

Current Year Score: 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: 4

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: 99.6

2014

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: 0.74

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: 0.3

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

The share of employment in the informal sector is reported to be 5.5% for Barbados. However, this estimate is based on available data from 1998. This has been published by ILO in 2017. [1] There is no evidence of more recent data by the ILO, or the World Bank.

[1] International Labour Organization (ILO). 2017. "Informality and Economic Units in the Caribbean". [https://www.ilo.org/wcmsp5/groups/public/---americas/---ro-lima/---sro-port_of_spain/documents/publication/wcms_619979.pdf]. Accessed 31 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: 2

2021

Economist Intelligence Democracy Index

6.2.6 Inequality

6.2.6a

Gini coefficient

Scored 0-1, where 0=best

Current Year Score: 0.39

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: 31.16

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

2008-2018

World Bank; Economist Impact

6.4.3 Natural disaster risk

6.4.3a

What is the risk that the economy will suffer a major disruption owing to a natural disaster?

Very low = 4, Low = 3, Moderate = 2, High = 1, Very high = 0

Current Year Score: 0

2021

Economist Intelligence

6.5 PUBLIC HEALTH VULNERABILITIES

6.5.1 Access to quality healthcare

6.5.1a

Total life expectancy (years)

Input number

Current Year Score: 79.08

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: 475.9

2019

WHO

6.5.1c

Population ages 65 and above (% of total population)

Input number

Current Year Score: 16.23

2019

World Bank

6.5.1d

Prevalence of current tobacco use (% of adults)

Input number

Current Year Score: 8.7

2018

World Bank

6.5.1e

Prevalence of obesity among adults

Input number

Current Year Score: 23.1

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: 98.49

2017

UNICEF; Economist Impact

6.5.2b

Percentage of homes with access to at least basic sanitation facilities

Input number

Current Year Score: 97.28

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: 539.0

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