Cambodia

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

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. Cambodia's "National Policy to Combat Antimicrobial Resistance" was drafted with the WHO in 2014. It set up an interministerial working group that created the "National Strategy to Combat Antimicrobial Resistance", a three-year plan starting in 2015 that is based on WHO guidelines. [1, 2]

In late 2018, the government launched its "Multi-Sectoral Action Plan on Antimicrobial Resistance in Cambodia 2019-2023," expanding and updating its AMR efforts across the ministries of health, agriculture and environment. [3] Previous policies and strategies were disseminated only by the Ministry of Health. The five-year plan focuses on the following areas: Building human capacity; Evidence generation through surveillance and laboratories; Governance and coordination; Increasing public awareness; Rational use of antimicrobial medicines (antibiotics); Research and innovation. The action plan states, "An AMR surveillance system for people was initiated in 2017 with 8 reporting sentinel sites across the country starting in January 2018." It adds, "Routine data collection and reporting will use indicators and reporting mechanisms built into relevant programs and departments (e.g. AMR surveillance, laboratories, IPC, AMS) as guided by their specific protocols." The mission report for the Joint External Evaluation for Cambodia, completed in August/September 2016, notes there is more work to be done on both implementing and adding to the national AMR policy and corresponding strategy. [4]

[1] Ministry of Health. 2014. "National Policy to Combat Antimicrobial Resistance". [http://www.who.int/antimicrobial-resistance/national-action-plans/library/en/]. Accessed January 2021.
[2] Ministry of Health. 2015. "National Strategy to Combat Antimicrobial Resistance". [http://www.who.int/antimicrobial-resistance/national-action-plans/library/en/]. Accessed January 2021.
[3] Royal Government of Cambodia. 2019, "Multi-Sectoral Action Plan on Antimicrobial Resistance in Cambodia 2019-2023". [http://cdcmoh.gov.kh/images/Document/AMR/Multi-Sectoral_ActionPlan_on_AMR_2019-2023.pdf]. Accessed January 2021.
[4] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed 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: 2

There is publicly available evidence that Cambodia's national laboratory system can test for all of the 7+1 priority AMR pathogens. According to Cambodia's Joint External Evaluation (JEE) report, conducted in August/September 2016, "microbiology laboratories have the capacity to routinely test for bacterial pathogens, including World Health Organization (WHO) priority pathogens." [1] The government's "MultiSectoral Action Plan on Antimicrobial Resistance in Cambodia 2019-2023" states, "An AMR surveillance system for people was initiated in 2017 with 8 reporting sentinel sites across the country starting in January 2018" and "An AMR surveillance framework for animals was developed in 2017." [2]

Cambodia's page on the WHO's GLASS country profiles indicates that 10 laboratories have the capacity to perform Antimicrobial Susceptibility Testing "for all GLASS pathogens" -- Acinetobacter spp., E.coli, K. pneumoniae, N. gonorrhea, S. aureus, S. pneumoniae, Salmonella spp., Shigella spp. However, there is no data on any of the pathogens. [3]

Cambodia's JEE report indicates strong testing capacity for Mycobacterium tuberculosis, listing "Microscopy for Mycobacterium tuberculosis" among the health system's strengths, as well as stating that "Several independent disease-specific referral networks are in place, such as for HIV/AIDS, malaria, tuberculosis." Academic research conducted in 2013 describes a system for testing for multi-drug resistant TB: "All program staff in the districts have been trained to identify patients with presumptive MDR-TB and refer them or collect and transport their sputum samples to one of the three designated referral laboratories which have the capacity to perform culture and species identification. One of them, which is also the National Reference Laboratory (NRL) has the capacity to perform DST as well," it said. [4] The National Reference Laboratory website states that it conducts confirmatory testing for the country's 8 sentinel surveillance sites, but does not provide any data on its testing. [5]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] Royal Government of Cambodia. 2019. "Multi-Sectoral Action Plan on Antimicrobial Resistance in Cambodia 2019-2023". [http://cdcmoh.gov.kh/images/Document/AMR/Multi-Sectoral_ActionPlan_on_AMR_2019-2023.pdf]. Accessed January 2021.
[3] World Health Organization (WHO). "GLASS country profiles: Cambodia". [https://apps.who.int/gho/tableau-public/tpc-frame.jsp?id=2004]. Accessed January 2021.
[4] Sokhan Khann, et al. April 2013. "Linkage of Presumptive Multidrug Resistant Tuberculosis (MDR-TB) Patients to Diagnostic and Treatment Services in Cambodia". [https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0059903]. Accessed January 2021.
[5] National Institute of Public Health. "National Reference Laboratory". [https://niph.org.kh/niph/laboratory/index.html]. Accessed 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 to show that Cambodia's government conducts environmental detection or surveillance activities for antimicrobial residues or AMR organisms. Prior to the launch of Cambodia's "Multi-Sectoral Action Plan on Antimicrobial Resistance in Cambodia 2019-2023," the Environment Ministry was not involved in AMR efforts. The action plan indicates very limited capacity for environmental AMR testing as of 2019, and only general plans to scale up that

capacity. [1] "There are large data gaps in agriculture and environment," the plan states. "Expanded surveillance and monitoring systems for aquatic and terrestrial animals, water, food and environment should be started, and the other sectors can learn from human surveillance experiences," it adds. However, there is no evidence on the Ministry of Environment or Ministry of Health websites that these systems are operational. [2, 3] The mission report for the Joint External Evaluation for Cambodia, completed in August/September 2016, does not include findings or recommendations for environmental surveillance. [4]

[1] Royal Government of Cambodia. 2019. "Multi-Sectoral Action Plan on Antimicrobial Resistance in Cambodia 2019-2023". [http://cdcmoh.gov.kh/images/Document/AMR/Multi-Sectoral_ActionPlan_on_AMR_2019-2023.pdf]. Accessed January 2021.
[2] Ministry of Environment. "Homepage". [https://www.moe.gov.kh/en]. Accessed January 2021.
[3] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.
[4] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed 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: 0

There is no national legislation or regulation in place requiring prescriptions for antibiotic use for humans. The need for stronger regulation of antibiotics, in both human health care and animal husbandry, is among the strategic priorities in the government's "Multi-Sectoral Action Plan on Antimicrobial Resistance in Cambodia 2019-2023," which includes as an action step to "Develop and implement policy to restrict the sale of antibiotics without prescriptions." The plan also discusses creating guidelines for antibiotic use in animals, which currently don't exist. [1]

The National Policy to Combat Antimicrobial Resistance, released in September 2014, says "A strict licensing and monitoring scheme for pharmacies and other drug outlets shall be implemented to ensure that antimicrobials are dispensed only with valid prescriptions." [2] Yet despite media reports of a "ban" on unprescribed antibiotics, there is no evidence in the media or elsewhere of corresponding policy, legislation or enforcement action. [3] The Law on Management of Pharmaceuticals was last amended in 2007 and has no reference to antibiotics. [4] No other relevant laws have been passed on antimicrobial drug management. There are no announcements on the Ministry of Health website about new laws or enforcement of other directives. [5]

[1] Royal Government of Cambodia. 2019. "Multi-Sectoral Action Plan on Antimicrobial Resistance in Cambodia 2019-2023". [http://cdcmoh.gov.kh/images/Document/AMR/Multi-Sectoral_ActionPlan_on_AMR_2019-2023.pdf]. Accessed January 2021.
[2] Ministry of Health. 2014. "National Policy to Combat Antimicrobial Resistance" [http://www.who.int/antimicrobial-resistance/national-action-plans/library/en/]. Accessed January 2021.
[3] Phnom Penh Post. 2017. "Ministry bans buying, selling of antibiotics without prescription". [https://www.phnompenhpost.com/national/ministry-bans-buying-selling-antibiotics-without-prescription]. Accessed January 2021.
[4] Ministry of Health. 2007. "Law on the amendment of law on management of Pharmaceuticals". [http://apps.who.int/medicinedocs/en/d/Js22471en/]. Accessed January 2021.

[5] Ministry of Health. "Announcements". [http://moh.gov.kh/category/announcements/]. Accessed 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: 0

There is insufficient evidence of national legislation or regulation in place requiring prescriptions for antibiotic use for animals. The Law on Animal Health and Production came into force in 2016. It regulates companies seeking to sell antibiotics to animal owners. [1] It also bans giving animals medicine that artificially promotes growth. In 2019, the Ministry of Agriculture approved a "Prakas" (or directive) on "Procedures and standard requirements for the registration of drugs in the veterinary industry." [2] Though the directive does not explicitly refer to antibiotics, it does require all companies using "veterinary drugs" to register with the Ministry of Agriculture. Among the drugs regulated under the directive are drugs used to "Change or nurture the functions of all types of organisms," a category that could include antibiotics. Media reports are also vague about the intent of the directive, and there is no additional information about it on the Ministry of Agriculture website. [3]

The need for stronger regulation of antibiotics, in both human healthcare and animal husbandry, is among the strategic priorities in the government's "Multi-Sectoral Action Plan on Antimicrobial Resistance in Cambodia 2019-2023." [4] The plan discusses creating guidelines for antibiotic use in animals. A 2016 academic study of farms in Cambodia found "Antibiotic use in food animals was widespread and uncontrolled," adding "regulations are urgently needed." [5] There is no information about legislation or regulation of antibiotic use for animals on the Ministry of Health or Ministry of Agriculture websites, and there is no separate drug regulator. [6, 7]

[1] Ministry of Agriculture, Forestry and Fisheries. 2016. "Law on Animal Health and Production". [http://www.fao.org/faolex/results/details/en/c/LEX-FAOC173984/]. Accessed January 2021.

[2] Ministry of Agriculture (USDA translation). 2019. "Prakas on Procedures and Standard Requirements for Registration of Veterinary Drugs". [https://apps.fas.usda.gov/newgainapi/api/report/downloadreportbyfilename?filename=Registration%20of%20Animal%20Feeds%20Ingredients%20and%20Veterinary%20Drugs_Ho%20Chi%20Minh%20City_Cambodia_3-1-2019.pdf]. Accessed January 2021.

[3] Ministry of Agriculture. "Homepage". [https://web.maff.gov.kh/] Accessed January 2021.

[4] Royal Government of Cambodia. 2019. "Multi-Sectoral Action Plan on Antimicrobial Resistance in Cambodia 2019-2023". [http://cdcmoh.gov.kh/images/Document/AMR/Multi-Sectoral_ActionPlan_on_AMR_2019-2023.pdf]. Accessed January 2021.

[5] Chhorvoin Om and Mary-Louise McLaws. 2016. "Antibiotics: practice and opinions of Cambodian commercial farmers, animal feed retailers and veterinarians". [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5106781/]. Accessed January 2021.

[6] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed February 2021.

[7] Ministry of Agriculture. "Homepage". [https://web.maff.gov.kh/]. Accessed February 2021.

1.2 ZOONOTIC DISEASE

1.2.1 National planning for zoonotic diseases/pathogens

1.2.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence that Cambodia has a national plan on zoonotic disease. A "National Strategic Plan for Zoonoses Control" is referenced in the mission report for the Joint External Evaluation for Cambodia, completed in August/September 2016, however the plan is not available online. [1]

A joint 2019 report from the World Health Organization (WHO), World Organization for Animal Health (OIE) and the Food and Agriculture Organization of the United Nations (FAO) describes some of Cambodia's official activities regarding zoonotic disease control: "Cambodia created a Zoonoses Technical Working Group (Z-TWG) which was endorsed by a Memorandum of Understanding signed between the Ministry of Agriculture, Forestry and Fisheries (MAFF) and the Ministry of Health. [2] The Z-TWG meets monthly for members to communicate and discuss situations related to zoonotic diseases." The MAFF's Department of Animal Health and Production (DAHP) was created in 2016 and is mandated to manage animal disease control and zoonoses. The DAHP website was no longer online as of January 2021. The is no information about the plan or Z-TWG on the websites of the Ministry of Agriculture or the Ministry of Health's Communicable Disease Control department. [3, 4]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] World Health Organization (WHO), World Organization for Animal Health (OIE), Food and Agriculture Organization of the United Nations (FAO). 2019. "Taking a Multisectoral, One Health Approach: A Tripartite Guide to Addressing Zoonotic Diseases in Countries".
[https://www.oie.int/fileadmin/Home/eng/Media_Center/docs/EN_TripartiteZoonosesGuide_webversion.pdf]. Accessed January 2021.
[3] Ministry of Agriculture. "Homepage". [https://web.maff.gov.kh/]. Accessed January 2021.
[4] Communicable Disease Control Department. "National Policy and Strategy". [http://cdcmoh.gov.kh/iec-material-and-other-documents/national-policy]. Accessed 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 national legislation, plans or equivalent strategy documents which include measures for risk identification and reduction for zoonotic disease spillover events from animals to humans. There is a brief mention of related plans in the government's "Multi-Sectoral Action Plan on Antimicrobial Resistance in Cambodia 2019-2023," which includes an action step to "Conduct studies to establish correlations between AMR in animals, the environment and humans." [1]

There are specific cross-sectoral plans for the control and surveillance of rabies and influenza, however they do not include

specific risk identification and reduction strategies. [2, 3] The influenza plan, for example, call for stakeholders to "identify the level of biosecurity associated with existing structures and activities in the poultry production and supply chain" but does not assign policies or procedures to make that happen. There are specific cross-sectoral plans for the control and surveillance of rabies and influenza, and public references to a National Strategic Plan for Zoonotic Diseases and corresponding interministerial Zoonoses Technical Working Group (Z-TWG). [2, 3] The Ministry of Agriculture, Forest and Fisheries created a General Directorate of Animal Health and Production (GDAHP) in 2016 that is in charge of zoonosis control and surveillance. The DAHP website was no longer online as of January 2021. There is no information about the plan or Z-TWG on the websites of the Ministry of Agriculture or the Ministry of Health's Communicable Disease Control department. [4, 5]

[1] Royal Government of Cambodia. 2019. "Multi-Sectoral Action Plan on Antimicrobial Resistance in Cambodia 2019-2023". [http://cdcmoh.gov.kh/images/Document/AMR/Multi-Sectoral_ActionPlan_on_AMR_2019-2023.pdf]. Accessed January 2021.
[2] Royal Government of Cambodia. 2008. "National Comprehensive Avian and Human Influenza Plan". [http://www.ifrc.org/docs/idrl/915EN.pdf]. Accessed January 2021.
[3] World Health Organization (WHO), World Organization for Animal Health (OIE), Food and Agriculture Organization of the United Nations (FAO). 2019. "Taking a Multisectoral, One Health Approach: A Tripartite Guide to Addressing Zoonotic Diseases in Countries". [https://www.oie.int/fileadmin/Home/eng/Media_Center/docs/EN_TripartiteZoonosesGuide_webversion.pdf]. Accessed January 2021.
[4] Ministry of Agriculture. "Homepage". [https://web.maff.gov.kh/]. Accessed January 2021.
[5] Communicable Disease Control Department. "National Policy and Strategy". [http://cdcmoh.gov.kh/iec-material-and-other-documents/national-policy]. Accessed 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 evidence that there are national plans, guidelines, or laws that account for the surveillance and control of multiple zoonotic pathogens of public health concern in Cambodia. There is a surveillance and control plan for avian influenza, and discussion of a rabies control plan [1, 2]. Cambodia's Zoonosis Technical Working Group (Z-TWG) has created a priority diseases list that includes influenza A (H5N1), anthrax, leptospirosis, brucellosis and rabies, according to the mission report for the Joint External Evaluation for Cambodia (JEE), completed in August/September 2016. [3] The JEE report also references a National Strategic Plan for Zoonotic Diseases, but it is not available online. The Ministry of Agriculture, Forestry and Fisheries created a General Directorate of Animal Health and Production (GDAHP) in 2016 that is in charge of zoonosis control and surveillance. The DAHP website was no longer online as of January 2021. There is no information about the plan or Z-TWG on the websites of the Ministry of Agriculture, Forestry and Fisheries or the Ministry of Health's Communicable Disease Control department. [4, 5]

[1] Royal Government of Cambodia. 2008. "National Comprehensive Avian and Human Influenza Plan" [http://www.ifrc.org/docs/idrl/915EN.pdf] Accessed January 2021.
[2] Phnom Penh Post. 2017. "As its rabies plan lags, Cambodia feels the bite". [https://phnompenhpost.com/national-post-depth/its-rabies-plan-lags-cambodia-feels-bite]. Accessed January 2021.
[3] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.

[4] Ministry of Agriculture. "Homepage". [https://web.maff.gov.kh/]. Accessed January 2021.

[5] Communicable Disease Control Department. "National Policy and Strategy". [http://cdcmoh.gov.kh/iec-material-and-other-documents/national-policy]. Accessed 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

Cambodia's government has a cross-sectoral technical working group on zoonosis control, but there is no evidence of a department or similar unit dedicated to zoonotic disease that functions across ministries.

The mission report for the Joint External Evaluation for Cambodia, completed in August/September 2016, states that the zoonosis working group "meets regularly and provides a forum for information sharing, as well as for agenda and priority setting." [1] A 2019 report from UN agencies said the Zoonoses Technical Working Group (Z-TWG) "was endorsed by a Memorandum of Understanding signed between the Ministry of Agriculture, Forestry and Fisheries and the Ministry of Health" and that it "meets monthly for members to communicate and discuss situations related to zoonotic diseases." [2] There is a Department of Animal Health and Veterinary Public Health within the Ministry of Agriculture, Forestry and Fisheries that is tasked with "Surveillance, Monitoring and Zoonosis disease control." [3] However, there is no evidence on the Ministry of Health or Ministry of Agriculture websites that this department functions across other ministries. [4, 5]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.

[2] World Health Organization (WHO), World Organization for Animal Health (OIE), Food and Agriculture Organization (FAO). 2019. "Taking a Multisectoral, One Health Approach: A Tripartite Guide to Addressing Zoonotic Diseases in Countries". [https://www.oie.int/fileadmin/Home/eng/Media_Center/docs/EN_TripartiteZoonosesGuide_webversion.pdf]. Accessed January 2021.

[3] General Directorate of Animal Health and Production. "Departments and Institute". [http://gdahp-maff.org/page/gdahp-departments-institute/]. Accessed January 2021.

[4] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.

[5] Ministry of Agriculture, Forestry and Fisheries. "E-Library". [http://elibrary.maff.gov.kh/]. Accessed 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: 1

There is publicly available evidence that Cambodia has a national mechanism for owners of livestock to conduct and report on disease surveillance to a central government agency. Cambodia has a network of more than 12,000 Village Animal Health Workers (VAHWs) who report diseases to government veterinary authorities. These part-time workers are certified by the Ministry of Agriculture's General Directorate of Animal Health and Production (GDAHP). [1] The GDAHP website was no longer online as of January 2021. The directorate has hotlines dedicated to avian influenza reporting: 012 833 795 or 012 214 970. Some 12,000 VHWs have been trained by the government and various NGOs, with the aim of having at least one VAHW

in each village. [2] About 75% of VAHWs said they either immediately report diseases or submit monthly reports with officials, according to a 2017 study. [3] "VAHWs recorded relatively high rates of disease reporting, with 72% claiming they report diseases immediately and 74% undertaking monthly reporting to veterinary authorities," it stated.

[1] Stratton J, Toribio JL, Suon S. 2017. "Are Village Animal Health Workers Able to Assist in Strengthening Transboundary Animal Disease Control in Cambodia?". Transboundary Emerging Diseases 64
[2] :634-643. [https://www.ncbi.nlm.nih.gov/pubmed/26518247] Accessed January 2021.
[2] Clementine Calba, et al. 2014. "Development of a participatory tool for the evaluation of Village Animal Health Workers in Cambodia". Acta Tropica Vol 134:17-28.
[https://www.sciencedirect.com/science/article/pii/S0001706X14000424?via%3Dihub#sec0100]. Accessed January 2021.
[3] Stratton J, Toribio JL, Suon S. 2017. "Are Village Animal Health Workers Able to Assist in Strengthening Transboundary Animal Disease Control in Cambodia?". Transboundary Emerging Diseases 64
[2] :634-643. [https://www.ncbi.nlm.nih.gov/pubmed/26518247] Accessed 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 do not appear to be laws or guidelines that safeguard the confidentiality of information generated through surveillance activities relating to animals (for owners). The Law on Animal Health and Production makes no mention of confidentiality for animal owners. [1] The National Strategy for Zoonoses Control is not available on the Ministry of Health or Ministry of Agriculture websites and there is no indication that it includes confidentiality measures. [2, 3] The website of the General Directorate of Animal Health and Production (GDAHP), which oversees the program, was no longer online as of January 2021. Cambodia does not have broader data privacy or cybercrime laws in place, though they are reportedly in the legislative pipeline. The GDAHP 2016-2025 strategic plan calls for the creation of a national animal health information system, but it makes no mention of confidentiality. [4]

[1] Royal Government of Cambodia. 2016. "Law on Animal Health and Production".
[http://www.fao.org/faolex/results/details/en/c/LEX-FAOC173984/]. Accessed January 2021.
[2] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.
[3] Ministry of Agriculture, Forestry and Fisheries. "Homepage". [http://www.maff.gov.kh/]. Accessed January 2021
[4] General Directorate of Animal Health and Production. 2016. "Strategic Planning Framework for Livestock Development: 2016–2025". [https://drive.google.com/file/d/0ByyvkNeG8dN2MjZsTk9MZ1Mwams/view]. Accessed 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: 1

There is publicly available evidence that Cambodia conducts some surveillance of zoonotic disease in wildlife. While the Joint External Evaluation for Cambodia, completed in August/September 2016, notes that "a surveillance system for wildlife has not been established," programs have since been implemented to include wildlife disease surveillance in existing animal health surveillance networks. [1] The EU is funding the LACANET One Health Surveillance and Laboratory Network project,

which includes Cambodia and Laos. [2] A December 2017 meeting of LACANET stakeholders discussed the "unprecedented establishment of operational wildlife disease surveillance networks in both countries." [3] The LACANET website also specifies that the program tests vectors including "livestock, rodents, birds, bats, mosquitoes, ticks, chiggers and fleas." [4] Participants include Institut Pasteur du Cambodge (IPC), Wildlife Conservation Society (WCS) and the National Veterinary Research Institute (NaVRI). NaVRI is part of the General Directorate of Animal Health and Production within the Ministry of Agriculture, Fisheries and Forestry. This program utilizes the Village Animal Health Workers network across the country to report cases of disease in wildlife. It has trained 186 staff "to report and collect sick and dead wildlife," according to a WCS summary of the project. [5] The target pathogens include murine typhus in rodents; leptospirosis in rodents and mammals; and hantavirus in rodents, coronavirus in bats, rodents and carnivores. [6] The LACANET website has not been updated since 2017, raising questions about that program's continuity. The Wildlife Conservation Society has continued funding wildlife surveillance work in Cambodia, Vietnam and Laos, though the scope of that work is unclear, apart from focusing on protecting areas.

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] One Health Network Southeast Asia. December 2017. "Fourth LACANET One Health Project's Annual Planning meeting in Luang Prabang, Lao P.D.R". [http://www.onehealthsea.org/node/285]. Accessed January 2021.
[3] Institute Pasteur Cambodia, "The LACANET One Health Surveillance and Laboratory Network project". [http://www.pasteur-kh.org/virology-unit/projects/zoonoses/the-lacanet-one-health-surveillance-and-laboratory-network-project/] Accessed January 2021.
[4] Laos Cambodia One Health Network (LACANET). "Activities: Zoonotic Diseases Surveillance". [http://www.onehealthsea.org/node/144/]. Accessed January 2021.
[5] Wildlife Conservation Society. "Initiatives: Surveillance and Rapid Response". [https://oneworldonehealth.wcs.org/Initiatives/Surveillance-and-Rapid-Response.aspx]. Accessed January 2021.
[6] OneHealth Network: Southeast Asia. "Zoonotic Diseases Surveillance Target pathogens: What are we looking for?" [http://www.onehealthsea.org/node/144]. Accessed 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: 1

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: 5.63

2019

OIE WAHIS database

1.2.4b

Number of veterinary para-professionals per 100,000 people

Input number

> Current Year Score: 68.42

2019

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

The national plan on zoonotic disease does not include mechanisms for working with the private sector in controlling or responding to zoonoses. "The sizeable private sector does not yet participate in the surveillance system," according to the Joint External Evaluation for Cambodia, completed in August/September 2016. [1] "The public and/or private health clinical laboratory system is not incorporated into existing electronic disease surveillance systems," the report adds. The National Strategy to Combat Antimicrobial Resistance makes only passing mention of a mechanism for private sector data collection, outlining the objective to "establish a mandatory requirement for submission of all AMR data to the AMR WG, including from vertical programs, animal health, and food safety in the public, NGO, and private sectors." [2] There is no evidence on the Ministry of Health, Ministry of Agriculture or National Institute of Public Health websites of mechanisms to work with the private sector. [3, 4, 5]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] Ministry of Health. 2015. "National Strategy to Combat Antimicrobial Resistance" [http://www.who.int/antimicrobial-resistance/national-action-plans/library/en/]. Accessed January 2021.
[3] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.
[4] Ministry of Agriculture, Forestry and Fisheries. "E-Library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.
[5] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed 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

Cambodia does not have in place a record, updated within the past 5 years of the facilities in which especially dangerous pathogens and toxins are stored or processed. The Joint External Evaluation for Cambodia, completed in August/September 2016, recommended that the country "develop and keep up-to-date a complete inventory of dangerous pathogens stored at facilities." [1] The US CDC has since been working with Cambodian officials to draft legislation aimed at "strengthening laboratory biosecurity practices within Cambodia public health laboratories. [2] However, there is no indication from the CDC of further action from the Cambodian government since a 2017 workshop, and there is no indication on Ministry of Health, Ministry of Agriculture websites that this law has been passed or implemented. [3, 4] The National Institute of Public Health has a library of public health documents that includes a National Policy for Quality and Safety in Health (2017). [5] The Ministry of Defense does not have any laws, policies or literature on its website related to pathogens. [6] Although Cambodia is a party to the Biological Weapons Convention, there is no evidence that it has submitted Confidence Building Measures reports. [7] The U.S. Embassy in Cambodia lists "Laboratory Strengthening in Biosafety/Biosecurity" among its ongoing activities, specifying annual certification of "All 40+ biosafety cabinets at public health laboratories." However, it does not mention a list of facilities with dangerous pathogens or a running inventory of those facilities. [8] There is no evidence of Cambodia having such a record on the Verification Research, Training and Information Center's legislative database. [9]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] Centers for Disease Control and Prevention. 2017. "CDC in Cambodia – Strengthening laboratory biosafety and biosecurity through legislation". [https://www.cdc.gov/globalhealth/stories/strengthening_laboratory_biosafety.html]. Accessed January 2021.
[3] Ministry of Health. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-
%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%
98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.
[4] Ministry of Agriculture, Forestry and Fisheries. "Agricultural Library". [https://elibrary.maff.gov.kh/]. Accessed January 2021.
[5] Ministry of Health. 2017. "National Policy for Quality and Safety in Health".
[https://drive.google.com/file/d/1VHJzo9LCOEIKrPtKKcNDx2cKwKwaTyPX/view]. Accessed January 2021.
[6] Ministry of Defense. "Library". [https://mod.gov.kh/attachments#main-container]. Accessed January 2021.
[7] United Nations Office at Geneva (UNOG). "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed January 2021.
[8] US Embassy in Cambodia. "Centers for Disease Control and Surveillance". [https://kh.usembassy.gov/embassy/phnom-penh/sections-offices/cdc/]. Accessed January 2021.
[9] Verification Research, Training and Information Centre (VERTIC). "Legislative database".
[https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/]. Accessed 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

Cambodia does not have in place legislation 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. The Joint External Evaluation for Cambodia, completed in August/September 2016, notes that "there are currently no national biosafety or biosecurity regulations and no national curriculum for training exists." [1] The US CDC has since been working with Cambodian officials to draft legislation aimed at "strengthening laboratory biosecurity practices within Cambodia public health laboratories. [2] There is no indication on the websites of Ministry of Health, Ministry of Agriculture, National Institute of Public Health or Ministry of Defense websites that this legislation has been passed or implemented. [3, 4, 5, 6] Although Cambodia is a party to the Biological Weapons Convention, there is no evidence that it has submitted Confidence Building Measures reports. [7] There is no evidence of Cambodia having such regulations or legislation on the Verification Research, Training and Information Center's legislative database. [9]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] US Centers for Disease Control and Prevention. 2017. "CDC in Cambodia – Strengthening laboratory biosafety and biosecurity through legislation". [https://www.cdc.gov/globalhealth/stories/strengthening_laboratory_biosafety.html]. Accessed January 2021.
[3] Ministry of Health. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-
%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%
98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.
[4] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.
[5] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.
[6] Ministry of Defense. "Library". [https://mod.gov.kh/attachments#main-container]. Accessed January 2021.
[7] United Nations Office at Geneva (UNOG)."Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed January 2021.
[8] Verification Research, Training and Information Centre (VERTIC). "Legislative database".
[https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/]. Accessed 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 are no biosecurity regulations or legislation yet, so no agency has been designated to lead implementation. The Joint External Evaluation for Cambodia, completed in August/September 2016, notes "there are currently no national biosafety or biosecurity regulations and no national curriculum for training exists". [1] There is no indication on the Ministry of Health, Ministry of Agriculture, National Institute of Public Health or Ministry of Defense websites that an agency has been created to take responsibility for biosecurity enforcement. [2, 3, 4, 5] There is also no information about a biosecurity enforcement agency on the website of the US CDC for Cambodia, which has been working with the government in the biosecurity field. [6] Although Cambodia is a party to the Biological Weapons Convention, there is no evidence that it has submitted Confidence Building Measures reports. [7] There is no evidence of Cambodia having such an agency on the Verification Research, Training and Information Center's legislative database. [8]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] Ministry of Health. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-
%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%
98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.
[3] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/] Accessed January 2021.
[4] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.
[5] Ministry of Defense. "Library". [https://mod.gov.kh/attachments#main-container]. Accessed January 2021.
[6] US Centers for Disease Control and Prevention. 2017. "CDC in Cambodia – Strengthening laboratory biosafety and biosecurity through legislation". [https://www.cdc.gov/globalhealth/stories/strengthening_laboratory_biosafety.html]. Accessed January 2021.
[7] United Nations Office at Geneva (UNOG)."Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed January 2021.
[8] Verification Research, Training and Information Centre (VERTIC). "Legislative database".
[https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/]. Accessed 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 the country has taken action to consolidate its inventories of especially dangerous pathogens and toxins into a minimum number of facilities. The Joint External Evaluation for Cambodia, completed in August/September 2016, notes that national staff have attended training on biorisk management, shipping of infectious substances and biosafety cabinet inspection and management [1]. However, the report says, "infrastructural needs to ensure the containment of dangerous pathogens and a national inventory of such pathogens have not yet been compiled." There is no indication on the Ministry of Health, Ministry of Agriculture, National Institute of Public Health or Ministry of Defense websites that these guidelines have been completed. [2, 3, 4, 5] There is also no indication on the US CDC's Cambodia website that this guideline has been completed. [6] Although Cambodia is a party to the Biological Weapons Convention, there is no evidence that it has submitted Confidence Building Measures Reports. [7] There is no evidence on the Verification Research, Training and Information Center's legislative database. [8]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.

[2] Ministry of Health. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-
%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%
98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/]. Accessed January 2021.

[3] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.

[4] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.

[5] Ministry of Defense. "Library". [https://mod.gov.kh/attachments#main-container]. Accessed January 2021.

[6] US Centers for Disease Control and Prevention. 2017. "CDC in Cambodia: Strengthening laboratory biosafety and biosecurity through legislation". [https://www.cdc.gov/globalhealth/stories/strengthening_laboratory_biosafety.html]. Accessed January 2021.

[7] United Nations Office at Geneva (UNOG)."Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed January 2021

[8] Verification Research, Training and Information Centre (VERTIC). "Legislative database".
[https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/]. Accessed 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. The Joint External Evaluation for Cambodia, completed in August/September 2016, lists as a strength of Cambodia's the ability to conduct Polymerase chain reaction-based testing for influenza [1]. Anthrax is on the country's priority diseases list, but there is no indication in official national sources that Cambodia can conduct PCR-based testing for anthrax. The Institut Pasteur has the most sophisticated labs in the country -- with the ability to test for 150 diseases. However, its website does not specify that it can conduct testing for Ebola or anthrax. [2] There is no evidence on the Ministry of Health, Ministry of Agriculture, National Institute of Public Health or Ministry of Defense websites of an ability to test for Ebola or anthrax. [3, 4, 5, 6] Although Cambodia is a party to the Biological Weapons Convention (BWC), there is no evidence that it has submitted Confidence Building Measures Reports. [7]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.

[2] Institute Pasteur Cambodia. "Medical Biology Laboratory – Type of analysis". [https://www.pasteur-kh.org/medical-biology-laboratory-type-of-analysis/]. Accessed January 2021.

[3] Ministry of Health. "Ordinance, Decision, Directive". 2018.
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-
%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%
98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.

[4] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.

[5] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021. [6] Ministry of Defense. "Library". [https://mod.gov.kh/attachments#main-container]. Accessed January 2021.

[7] United Nations Office at Geneva (UNOG). "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed 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 trainthe-trainer program, for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential?

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Cambodia requires biosecurity training for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential. The Joint External Evaluation for Cambodia, completed in August/September 2016, notes that officers are in place at national and provincial laboratories, but notes that: "A national training curriculum for biosafety and biosecurity has not been developed, nor is it clear where such a training curriculum would be institutionalized." [1] Cambodia's Global Health Security Agenda Cambodia Comprehensive Roadmap (2016-2020) calls for a number of legislative changes regarding biosecurity protocols, including amendments to the Law on Prohibition of Chemical, Nuclear, Biological and Radiological Weapons and developing standard operating procedures (SOP) on emergency responses to chemical or biological events. [2] There is no evidence of these guidelines being drafted on the Ministry of Health, Ministry of Agriculture, National Institute of Public Health or Ministry of Defense websites. [3, 4, 5, 6] Although Cambodia is a party to the Biological Weapons Convention BWC), there is no evidence that it has submitted Confidence Building Measures Reports. [7] There is no evidence of Cambodia having such an agency on the Verification Research, Training and Information Center (VERTIC) BWC legislative database. [8]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] US Centers for Disease Control and Prevention. 2017. "CDC in Cambodia – Strengthening laboratory biosafety and biosecurity through legislation". [https://www.cdc.gov/globalhealth/stories/strengthening_laboratory_biosafety.html]. Accessed January 2021.
[3] Ministry of Health. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-
%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%
98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en] Accessed January 2021.
[4] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.
[5] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.
[6] Ministry of Defense. "Library". [https://mod.gov.kh/attachments#main-container]. Accessed January 2021.
[7] United Nations Office at Geneva (UNOG)."Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed January 2021.
[8] Verification Research, Training and Information Centre (VERTIC). "Legislative database".
[https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/]. Accessed 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 of legislation or policy framework for biosecurity control broadly, or specific regulations on licensing conditions specifying that security and other personnel with access to especially dangerous materials with pandemic potential are subject to special checks. The Joint External Evaluation for Cambodia, completed in August/September 2016, notes that there is no legislation or policy framework for biosecurity control, and that a national training curriculum for biosecurity has not been developed. [1] The evaluation does not mention background checks of personnel at existing facilities. There is no evidence of legislation or policies on the Ministry of Health, Ministry of Agriculture, National Institute of Public Health or Ministry of Defense websites. [2, 3, 4, 5] Although Cambodia is a party to the Biological Weapons Convention (BWC), there is no evidence that it has submitted Confidence Building Measures Reports. [6] There is also no evidence of Cambodia having such legislation on the Verification Research, Training and Information Center (VERTIC) BWC legislative database. [7]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] Ministry of Health. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-
%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%
98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.
[3] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.
[4] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.
[5] Ministry of Defense. "Library". [https://mod.gov.kh/attachments#main-container]. Accessed January 2021.
[6] United Nations Office at Geneva (UNOG). "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed January 2021.
[7] Verification Research, Training and Information Centre (VERTIC). "Legislative database".
[https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/]. Accessed 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

Cambodia does not have publicly available information on national regulations on the safe and secure transport of infectious substances (Categories A and B). There are no policies on infectious substance transport on the Ministry of Transport's website. [1] The National Institute of Public Health has guidelines on infectious patient transportation, but they do not include infectious substances. [2] The Joint External Evaluation for Cambodia, completed in August/September 2016, notes "standard operating procedures (SOP) are available for specimen collection, packaging and transport." [3] There is, however, no evidence of these regulations on the Ministry of Health, Ministry of Agriculture, National Institute of Public Health or Ministry of Defense websites. [4, 5, 6, 7] Although Cambodia is a party to the Biological Weapons Convention (BWC), there is no evidence that it has submitted Confidence Building Measures Reports. [8] There is also no evidence of Cambodia having such regulations on the Verification Research, Training and Information Center (VERTIC) legislative database. [9]

[1] Ministry of Transportation. "Policy". [https://www.mpwt.gov.kh/en/documents/policy]. Accessed January 2021.
[2] Ministry of Health. 2010. "Infection Prevention And Control Guidelines For Health Care Facilities". [https://drive.google.com/file/d/1mPsV7UROytkg49Vq895ZzNOHQzZ2_9dw/view]. Accessed January 2021.
[3] World Health Organization (WHO). 2016. "Joint External Evaluation of IHR Core Capacities The Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[4] Ministry of Health. "Ordinance, Decision, Directive". [http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9F%9F%E1%9E%98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.
[5] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.
[6] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.
[7] Ministry of Defense. "Library". [https://mod.gov.kh/attachments#main-container]. Accessed January 2021.
[8] United Nations Office at Geneva (UNOG)."Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed January 2021.
[9] Verification Research, Training and Information Centre (VERTIC). "Legislative database". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/]. Accessed January 2021.

1.3.5 Cross-border transfer and end-user screening

1.3.5a

Is there legislation and/or regulations in place to oversee the cross-border transfer and end-user screening of especially dangerous pathogens, toxins, and pathogens with pandemic potential?
Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of national legislation, regulation, or other guidance in place to oversee the cross-border transfer and end-user screening of especially dangerous pathogens, toxins and pathogens with pandemic potential. There are no national biosafety or biosecurity regulations in Cambodia -- as of November 2017 the US CDC was working with Cambodian government officials and health professionals to draft them. [1] There is no indication on the CDC website that this process has reached completion. There is a list of chemicals used in weapons that are banned under a law passed in 2007, but the list does not include pathogens or toxins or regulate cross-border transfer. [2] The Ministry of Environment created a Department of Hazardous Substances Management in 2015, but it deals with hazardous waste, not specifically toxins and pathogens. [3] There is no evidence of biosecurity legislation being finalized or implemented on the Ministry of Health, Ministry of Defense, Ministry of Industry and Handicraft, Ministry of Transportation and Ministry of Commerce websites. [4,

5, 6, 7, 8] Although Cambodia is a party to the Biological Weapons Convention (BWC), there is no evidence that it has submitted Confidence Building Measures Reports. [9] There is also no evidence of Cambodia having such legislation or guidance on the Verification Research, Training and Information Center (VERTIC) legislative database. [10]

[1] US Centers for Disease Control and Prevention, November 2017, "CDC in Cambodia" Strengthening laboratory biosafety and biosecurity through legislation". [https://www.cdc.gov/globalhealth/stories/strengthening_laboratory_biosafety.html]. Accessed January 2021.

[2] Royal Government of Cambodia. 2008. "Sub decree on Chemical substance involved in the productions of chemical, nuclear, biological and radiological weapons".

[http://www.vertic.org/media/National%20Legislation/Cambodia/KH_Law_Prohibition_CBRN_Regulations.pdf]. Accessed January 2021.

[3] Cambodia Ministry of Environment. November 2015. "Workshop 2015 of the Asian Network for Prevention of Illegal Transboundary Movement of Hazardous Wastes: Cambodia Updates of National Regulations, Implementation Status and Import/Export Statistics presentation".

[https://www.env.go.jp/en/recycle/asian_net/Annual_Workshops/2015_PDF/Day1_S1_06_Cambodia.pdf]. Accessed January 2021.

[4] Ministry of Health. "Laws and Regulations".

[http://moh.gov.kh/%E1%9E%94%E1%9F%92%E1%9E%9A%E1%9E%80%E1%9E%B6%E1%9E%9F/?lang=en#]. Accessed January 2021.

[5] Ministry of Defense. "Homepage". [https://mod.gov.kh/]. Accessed January 2021.

[6] Ministry of Transportation. "Policy". [https://www.mpwt.gov.kh/en/documents/policy]. Accessed January 2021.

[7] Ministry of Industry and Handicraft. "Official Documents". [http://www.mih.gov.kh/Events.aspx?DepartmentId=34]. Accessed January 2021.

[8] Ministry of Commerce. "Commerce Related Law". [https://www.moc.gov.kh/en-us/law]. Accessed January 2021.

[9] United Nations Office of Geneva (UNOG). "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed January 2021.

[10] Verification Research, Training and Information Centre (VERTIC). "Legislative database".

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

1.4 BIOSAFETY

1.4.1 Whole-of-government biosafety systems

1.4.1a

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

Yes = 1 , No = 0

Current Year Score: 0

Cambodia does not have in place national biosafety legislation and/or regulations. The Joint External Evaluation for Cambodia, completed in August/September 2016, notes there "are currently no national biosafety or biosecurity regulations," and no laws have been passed since that time. [1] The US CDC is working with the Ministry of Health to draft legislation, and was still holding workshops as of April 2018. [2] There is no evidence on the CDC website of additional activities on that legislation since. A Law on Biosafety came into force in 2008, but it deals exclusively with GMOs in the agriculture sector. [3] There is no evidence of national biosafety laws or regulations being finalized or implemented on the Ministry of Health, Ministry of Agriculture, National Institute of Public Health or Ministry of Defense website. [4, 5, 6, 7]

Although Cambodia is a party to the Biological Weapons Convention (BWC), there is no evidence that it has submitted Confidence Building Measures Reports. [8] There is also no evidence of Cambodia having such legislation or regulation on the Verification Research, Training and Information Center (VERTIC) legislative database. [9]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] US Centers for Disease Control and Prevention. 2017. "CDC in Cambodia – Strengthening laboratory biosafety and biosecurity through legislation". [https://www.cdc.gov/globalhealth/stories/strengthening_laboratory_biosafety.html]. Accessed January 2021.
[3] Royal Government of Cambodia. 2008. "Law on Biosafety". [http://www.cambodiaip.gov.kh/DocResources/a8bee9da-b8e4-42f1-b196-a8f4bac2ef0d_e9e18593-8994-4a44-818e-1c9f313dbe17-kh.pdf]. Accessed January 2021.
[4] Ministry of Health. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.
[5] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.
[6] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021
[7] Ministry of Defense. "Library". [https://mod.gov.kh/attachments#main-container]. Accessed January 2021.
[8] United Nations Office at Geneva (UNOG)."Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed January 2021.
[9] Verification Research, Training and Information Centre (VERTIC). "Legislative database". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/]. Accessed January 2021.

1.4.1b

Is there an established agency responsible for the enforcement of biosafety legislation and regulations?
Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of an established agency responsible for the enforcement of biosafety legislation and regulations. The Joint External Evaluation for Cambodia, completed in August/September 2016, notes there "are currently no national biosafety or biosecurity regulations," and no laws have been passed since that time. [1] The US CDC is working with the Ministry of Health to draft legislation and training guidelines, and was still holding workshops as of April 2018. [2] There is no evidence on the CDC website of additional activities on that legislation since. A Law on Biosafety came into force in 2008, but it deals exclusively with Genetically Modified Organisms (GMOs) in the agriculture sector. [3] There is no evidence of an agency responsible for biosafety enforcement on the Ministry of Health, Ministry of Agriculture, National Institute of Public Health or Ministry of Defense websites. [4, 5, 6, 7] Although Cambodia is a party to the Biological Weapons Convention (BWC), there is no evidence that it has submitted Confidence Building Measures Reports. [8] There is also no evidence of Cambodia having legislation or regulation on the Verification Research, Training and Information Center (VERTIC) legislative database. [9]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] US Centers for Disease Control and Prevention. 2017. "CDC in Cambodia: Strengthening laboratory biosafety and biosecurity through legislation". [https://www.cdc.gov/globalhealth/stories/strengthening_laboratory_biosafety.html].

Accessed January 2021.

[3] Royal Government of Cambodia. 2008. "Law on Biosafety," [http://www.cambodiaip.gov.kh/DocResources/a8bee9da-b8e4-42f1-b196-a8f4bac2ef0d_e9e18593-8994-4a44-818e-1c9f313dbe17-kh.pdf]. Accessed January 2021.

[4] Ministry of Health. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/]. Accessed January 2021.

[5] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.

[6] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.

[7] Ministry of Defense. "Library". [https://mod.gov.kh/attachments#main-container]. Accessed January 2021.

[8] United Nations Office at Geneva (UNOG)."Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed January 2021.

[9] Verification Research, Training and Information Centre (VERTIC). "Legislative database". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/]. Accessed 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 trainthe-trainer program, for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential?

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Cambodia requires biosafety training for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential. The Joint External Evaluation for Cambodia, completed in August/September 2016, notes "there are currently no national biosafety or biosecurity regulations and no national curriculum for training exists." [1] The US CDC was still working with Cambodian government officials on draft legislation and training guidelines as of April 2018. [2] There is no evidence on the CDC website of additional activities on that legislation since. There is no evidence of regulations or legislation requiring biosafety training on the Ministry of Health, Ministry of Agriculture, National Institute of Public Health or Ministry of Defense websites. [3, 4, 5, 6] Although Cambodia is a party to the Biological Weapons Convention (BWC), there is no evidence that it has submitted Confidence Building Measures reports. [7] There is also no evidence of Cambodia requiring biosafety training on the Verification Research, Training and Information Center (VERTIC) legislative database. [8]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] US Centers for Disease Control and Prevention, April 2018, "CDC in Cambodia – Strengthening laboratory biosafety and biosecurity through legislation". [https://www.cdc.gov/globalhealth/stories/strengthening_laboratory_biosafety.html]. Accessed January 2021.
[3] Ministry of Health. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.

[4] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.

[5] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.

[6] Ministry of Defense. "Library". [https://mod.gov.kh/attachments#main-container]. Accessed January 2021.

[7] United Nations Office at Geneva (UNOG)."Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed January 2021.

[8] Verification Research, Training and Information Centre (VERTIC). "Legislative database". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/]. Accessed 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 Cambodia 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. The Joint External Evaluation for Cambodia, completed in August/September 2016, provides no details on assessments of ongoing dangerous pathogen research. [1] There is no evidence that the National Institute of Public Health has conducted such assessments. [2] The Ministry of Defense website makes no mention of assessments on dual-use research (or any assessments of anything related to biosecurity). [3] The Ministry of Health has no information on such assessments. [4] There is no evidence on the Ministry of Agriculture website that the ministry is involved in the limited biosecurity activities that exist. [5] Although Cambodia is a party to the Biological Weapons Convention (BWC), there is no evidence that it has submitted Confidence Building Measures Reports. [6] There is also no evidence of Cambodia conducting such assessments on the Verification Research, Training and Information Center (VERTIC) legislative database. [7]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.

[2] National Institute of Public Health. "Health System Research Center". [https://niph.org.kh/niph/research/index.html]. Accessed January 2021.

[3] Ministry of Defense. "Library". [https://mod.gov.kh/attachments#main-container]. Accessed January 2021.

[4] Ministry of Health. "Health Research". [http://moh.gov.kh/%E1%9E%80%E1%9E%B6%E1%9E%9A%E1%9E%9F%E1%9E%B7%E1%9E%80%E1%9F%92%E1%9E%9F%E1%9E%B6%E2%80%8B%E1%9E%9F%E1%9F%92%E1%9E%9A%E1%9E%B6%E1%9E%9C%E1%9E%87%E1%9F%92%E1%9E%9A%E1%9E%B6%E1%9E%9C%E2%80%8B/?lang=en]. Accessed January 2021.

[5] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.

[6] United Nations Office at Geneva (UNOG)."Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed January 2021.

[7] Verification Research, Training and Information Centre (VERTIC). "Legislative database". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/]. Accessed 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

Cambodia does not have a national policy requiring oversight of dual-use research, such as research with especially dangerous pathogens, toxins, and/or pathogens with pandemic potential. The Joint External Evaluation for Cambodia, completed in August/September 2016, provides no information about an oversight policy. [1] There is no evidence of a policy on the National Institute of Public Health website [2]. The Ministry of Defense website makes no mention of a policy on dual-use research (or any regulations related to biosecurity), and the Ministry of Health has no information on such policies on its website. [3, 4] The Ministry of Agriculture website has no indication that the ministry is involved in the limited biosecurity activities that exist. [5] Although Cambodia is a party to the Biological Weapons Convention (BWC), there is no evidence that it has submitted Confidence Building Measures Reports. [6] There is also no evidence of Cambodia conducting such policy on the Verification Research, Training and Information Center (VERTIC) legislative database. [7]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] National Institute of Public Health. "Health System Research Center". [https://niph.org.kh/niph/research/index.html]. Accessed January 2021.
[3] Ministry of Defense. "Library". [https://mod.gov.kh/attachments#main-container]. Accessed January 2021.
[4] Ministry of Health. Health Research.
[http://moh.gov.kh/%E1%9E%80%E1%9E%B6%E1%9E%9A%E1%9E%9F%E1%9E%B7%E1%9E%80%E1%9F%92%E1%9E%9F%E
1%9E%B6%E2%80%8B%E1%9E%9F%E1%9F%92%E1%9E%9A%E1%9E%B6%E1%9E%9C%E1%9E%87%E1%9F%92%E1%9E%9A
%E1%9E%B6%E1%9E%9C%E2%80%8B/?lang=en]. Accessed January 2021.
[5] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.
[6] United Nations Office at Geneva (UNOG)."Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed January 2021.
[7] Verification Research, Training and Information Centre (VERTIC). "Legislative database".
[https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/]. Accessed January 2021.

1.5.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence of an agency responsible for oversight of research with especially dangerous pathogens, pathogens with pandemic potential, and/or other dual-use research. There is not specific mention of dual-use research, or research of dangerous pathogens, on the websites of the National Institute of Public Health, The Ministry of Defense or the Ministry of Health. [1, 2, 3] The Ministry of Agriculture website contains no indication that the ministry is involved in the limited biosecurity activities that exist. [4] The Pasteur Institute is the designated site for much of the most

serious medical lab work in the country, but also does not appear to have any oversight of dual-use research in the country [4]. The Joint External Evaluation for Cambodia, completed in August/September 2016, provides no information about an agency being responsible for oversight of research with dangerous pathogens. [5] Although Cambodia is a party to the Biological Weapons Convention (BWC), there is no evidence that it has submitted Confidence Building Measures Reports. [6] There is also no evidence of Cambodia having an agency responsible for such oversight on the Verification Research, Training and Information Center (VERTIC) legislative database. [7]

[1] National Institute of Public Health. "Health System Research Center". [https://niph.org.kh/niph/research/index.html]. Accessed January 2021.
[2] Ministry of Health. "Health Research".
[http://moh.gov.kh/%E1%9E%80%E1%9E%B6%E1%9E%9A%E1%9E%9F%E1%9E%B7%E1%9E%80%E1%9F%92%E1%9E%9F%E1%9E%B6%E2%80%8B%E1%9E%9F%E1%9F%92%E1%9E%9A%E1%9E%B6%E1%9E%9C%E1%9E%87%E1%9F%92%E1%9E%9A%E1%9E%B6%E1%9E%9C%E2%80%8B/?lang=en]. Accessed January 2021.
[3] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.
[4] Institute Pasteur Cambodia, Medical Laboratory. [http://www.pasteur-kh.org/medical-biology-laboratory/]. Accessed January 2021.
[5] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[6] United Nations Office at Geneva (UNOG)."Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed January 2021.
[7] Verification Research, Training and Information Centre (VERTIC). "Legislative database". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/]. Accessed 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 requiring the screening of synthesized DNA before it is sold. The Law on Biosafety mentions DNA, but only in the context of its use to alter living modified organisms. [1] LMOs are the exclusive focus of the Law on Biosafety. The law refers to the Environment Ministry's control of "transboundary movement, development, handling, transfer, use, storage, and release of living modified organisms resulting from modern biotechnology," but does not have specific provisions on screening of synthesized DNA before it is sold. There is no further evidence of legislation regulating DNA on the Environment Ministry's website. [2] There is no evidence of such legislation on the Ministry of Health, Ministry of Agriculture, National Institute of Public Health, Ministry of Defense or Ministry of Transport websites. [3, 4, 5, 6, 7] Although Cambodia is a party to the Biological Weapons Convention (BWC), there is no evidence that it has submitted Confidence Building Measures Reports. [8] There is also no evidence of Cambodia having any such legislation or regulation on the Verification Research, Training and Information Center (VERTIC) legislative database. [9]

[1] Royal Government of Cambodia. "Law on Biosafety". [http://www.lawkhmer.com/2017/03/law-on-biosafety.html]. Accessed January 2021.
[2] Ministry of Environment. "Laws and Regulations".

[http://www.moe.gov.kh/%E1%9E%85%E1%9F%92%E1%9E%94%E1%9E%B6%E1%9E%94%E1%9F%8B-
%E1%9E%93%E1%9E%B7%E1%9E%84%E1%9E%9B%E1%9E%B7%E1%9E%81%E1%9E%B7%E1%9E%8F%E1%9E%94%E1%9E%
91%E1%9E%8A%E1%9F%92%E1%9E%8B%E1%9E%B6%E1%9E%93]. Accessed January 2021.

[3] Ministry of Health. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-
%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%
98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.

[4] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.

[5] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.

[6] Ministry of Defense. "Library". [https://mod.gov.kh/attachments#main-container]. Accessed January 2021.

[7] Ministry of Transport. "Laws". [https://www.mpwt.gov.kh/en/documents/laws]. Accessed January 2021.

[8] United Nations Office at Geneva (UNOG). "Confidence Building Measures". [https://bwc-ecbm.unog.ch/state/cambodia]. Accessed January 2021.

[9] Verification Research, Training and Information Centre (VERTIC). "Legislative database".
[https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/c/]. Accessed 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: 1

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: 2

The Cambodian national laboratory system has the capacity to conduct diagnostic tests for at least 5 of the 10 World Health Organization (WHO)-defined core tests. Cambodia has the capacity to conduct polymerase chain reaction (PCR) testing for Influenza virus; serology for HIV; microscopy for mycobacterium tuberculosis; rapid diagnostic testing for plasmodium spp (malaria); and bacterial culture for Salmonella enteritidis serotype Typhi (typhoid), according to the latest Joint External Evaluation for Cambodia, completed in August/September 2016. [1] The National Reference Library website says it is the "leading laboratory in Cambodia for High Quality Laboratory Testing (170 types of tests)" but it does not describe what PCR testing it has the capacity for. [2] It can also test for Measles, Rubella, Dengue, Japanese Encephalitis and has extensive immunology and hematology services. The Institut Pasteur Cambodia has the capacity to do PCR testing for malaria, but there is no evidence on its website of additional PCR testing capacity. [3] The Ministry of Health website does not have any information on PCR testing capacity or other testing capacities. [4]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] National Institute of Public Health "National Reference Library". https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.
[3] Institut Pasteur Cambodia. (Not dated). "Malaria PCR detection in Cambodian low-transmission settings: dried blood spots versus venous blood samples". [http://www.pasteur-kh.org/malaria-unit/projects/supporting-and-evaluating-the-impact-of-the-strategies-implemented-by-nmcps/malaria-pcr-detection-in-cambodian-low-transmission-settings-dried-blood-spots-versus-venous-blood-samples/] Accessed January 2021.
[4] Ministry of Health, "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/]. Accessed 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 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. The Ministry of Health has no such plans or documents on its web pages devoted to policies, strategies and operational plans. [1] The Ministry of Agriculture has very few public health documents on its website, and nothing mentioning pathogen or virus testing. [2] The National Institute for Public Health posted guidelines in 2020 on preventing the spread of Covid-19 at health centers, but otherwise its website has no information about an emergency testing plan for novel pathogens. [3] The World Health Organization (WHO) regularly references its work with the government on creating a "National Master Plan for Covid-19," however the plan is not available on the WHO or ministry websites. [4]

[1] Ministry of Health, Policies and Planning. [http://moh.gov.kh/%e1%9e%82%e1%9f%84%e1%9e%9b%e1%9e%93%e1%9e%99%e1%9f%84%e1%9e%94%e1%9e%b6%e1%9e%99/?lang=en]. Accessed January 2021.
[2] Ministry of Agriculture. "Agricultural Library". [https://elibrary.maff.gov.kh/] Accessed January 2021.
[3] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/library/index.html]. Accessed January 2021.
[4] World Health Organization (WHO). 2020. "WHO works closely with the Royal Government of Cambodia in the fight against Covid-19". [https://www.who.int/cambodia/news/detail/12-05-2020-who-works-closely-with-the-royal-government-of-cambodia-in-the-fight-against-covid-19] Accessed April 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 no evidence of an accredited national laboratory that serves as a reference facility, however the National Public Health Laboratory (part of the National Institute of Public Health) publicly states its intention to apply for ISO 15189 certification on its website. [1] The Joint External Evaluation for Cambodia, completed in August/September 2016, said "No national health care reference facility has been identified" for core tests [2]. The Institute Pasteur Cambodia was granted ISO 15189 accreditation in December 2018, according to media reports, but is not a national laboratory. [3] The National Public Health Laboratory (NPHL, also called the National Reference Laboratory) website includes a 2020 job posting that states "NPHL is preparing to apply for the ISO 15189 accreditation in the current year". [4] There is no evidence that application has been submitted or approved. There is no information on the Ministry of Health websites about a regional reference facility used by Cambodia. [5]

[1] National Institute of Public Health. "National Reference Laboratory". [https://niph.org.kh/niph/laboratory/index.html] Accessed January 2021.
[2] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[3] Khmer Times, December 2018, "Pasteur Institute earns accreditation". [https://www.khmertimeskh.com/50561184/pasteur-institute-earns-accreditation/] Accessed January 2021.
[4] National Institute of Public Health. July 2020. "Job Announcement: Laboratory Quality Management System LQMS/ISO

Project Assistant". [https://niph.org.kh/niph/detail-news-events/207/index.html]. Accessed January 2021.
[5] Ministry of Health. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-
%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%
98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.

2.1.2b

Is there a national laboratory that serves as a reference facility which is subject to external quality assurance review?
Yes = 1 , No = 0
>   Current Year Score: 1

Cambodia's national laboratory system is subject to external quality assurance review. The Joint External Evaluation for Cambodia, completed in August/September 2016, notes that "key strengths of the national laboratory system are related to quality and biosafety through implementation of laboratory quality management systems, including participation in external quality assessment (EQA) programs". [1] On the website of the National Institute of Public Health, which houses the National Reference Laboratory, it includes information about EQA programs for each function of the lab. [2] For hematology and biochemistry, staff have participated in an EQA program with Oneworld Accuracy. For immunology and microbiology, staff have participated in a program at the Pacific Paramedical Training Center in New Zealand.

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] National Institute of Public Health. "National Reference Laboratory". [https://niph.org.kh/niph/laboratory/index.html]. Accessed 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 nationwide specimen transport system in Cambodia. The state of specimen transport networks, or lack thereof, was highlighted by the Covid-19 pandemic. A media report from June 2020 cited public health experts describing an "absence of a unified specimen transport network" meaning a system of cars and drivers that brings the specimens to the laboratory for testing." [1] The Joint External Evaluation for Cambodia, completed in August/September 2016, says Cambodia's standard operating procedures for specimen transport need to be strengthened and staff needs to be trained. [2] A study conducted in 2018 on TB diagnosis last year said specimen transport was possible, but the cost of transport was high for samples collected in rural areas. [3] Neither the Ministry of Health nor the National Institute for Public Health has information on their websites about a specimen transport system. [4, 5] There is no evidence online of private companies offering specimen transport in Cambodia.

[1] Phnom Penh Post, June 2020, "Cambodia braces for the worst as arrivals rise on easing restrictions".
[https://www.phnompenhpost.com/special-reports/cambodia-braces-worst-arrivals-rise-easing-restrictions]. Accessed

January 2021.

[2] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.

[3] C. Auld, K. Moore, and P. Killam. "Rollout of Xpert-MTB/RIF in Northwest Cambodia for the diagnosis of tuberculosis among PLHA". Public Health Action, December 2014 [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4533515/]. Accessed January 2021.

[4] Ministry of Health. "Ordinance, Decision, Directive". [http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/]. Accessed January 2021.

[5] National Institute of Public Health. "National Reference Laboratory." [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.

2.2.2 Laboratory cooperation and coordination

2.2.2a

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

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

Current Year Score: 0

There is no evidence of a plan in place to rapidly authorize or license laboratories to supplement the capacity of the Cambodia's public health laboratory system to scale-up testing during an outbreak. There is no information on the Ministry of Health or Ministry of Agriculture websites on plans or policies to license laboratories and scale up testing during an outbreak. [1, 2] At the start of the Covid-19 pandemic, only the Institute Pasteur du Cambodge and the National Public Health Laboratory, both located in Phnom Penh, were equipped to test for Covid-19. As of October 2020, only one additional facility, in Siem Reap, a tourism mecca, was actively testing for the virus, according to the World Health Organization and Ministry of Health. In a situation report on Cambodia Covid-19 pandemic, released on January 11, 2021, the WHO and MOH said "MOH is progressing with plans to expand and decentralize laboratory testing capacity for Covid-19 to three provincial laboratories: Siem Reap, Sihanoukville and Battambang." [3] It's also unclear how much the expansion of Covid-19 testing capacity to these areas could be utilized in the event of a different outbreak. The National Institute of Public Health posted a report early in the pandemic describing its role in testing for Covid-19 and training testers, but the training was focused on collecting specimens for testing in Phnom Penh laboratories. [4]

[1] Ministry of Health. "Policies and Planning". [http://moh.gov.kh/%e1%9e%82%e1%9f%84%e1%9e%9b%e1%9e%93%e1%9e%99%e1%9f%84%e1%9e%94%e1%9e%b6%e1%9e%99/?lang=en]. Accessed January 2021.

[2] Ministry of Agriculture. "Agricultural Library". [https://elibrary.maff.gov.kh/] Accessed January 2021.

[3] World Health Organization and Cambodia's Ministry of Health, January 2021, "Cambodia Coronavirus Disease 2019 (Covid-19) Situation Report #28". [https://www.who.int/docs/default-source/wpro---documents/countries/cambodia/covid-19/covid-19-joint-who-moh-sitrep-28.pdf?sfvrsn=ea7c7b49_5]. Accessed January 2021.

[4] National Institute of Public Health, March 2020, "Involvement of NIPH Laboratory Staff in the response to Covid-19 Outbreak in Cambodia," [https://niph.org.kh/niph/detail-news-events/189/index.html]. Accessed 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

The Ministry of Health conducts ongoing event-based surveillance (EBS) and analysis for infectious disease, but the evidence points to it being on a weekly basis and not daily. The Ministry of Health's Department of Communicable Diseases has a EBS surveillance team at health centers and local health departments across the country, part of what the Joint External Evaluation for Cambodia, completed in August/September 2016, describes as a "robust" EBS network in the country. EBS rapid response teams have at least one member at every health center and department, and at the central level (the CDC) according to the JEE assessment. A description of the reporting flow of the CamEWARN system shows the CDC as the national level body that collects reports. [2] Reporting to the CamEWARN system, which analyses data and initiates an investigation if it identifies irregularities, is done on a weekly basis.

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] Communicable Disease Control Department. "CamEWARN". [http://cdcmoh.gov.kh/surveillance/camewarn]. Accessed 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: 1

There is publicly available evidence that the country reported a potential public health emergency of international concern (PHEIC) to the WHO within the last two years. The last time the WHO reported Cambodia reporting an outbreak was in 2013 when there was an outbreak of avian influenza. [1] There are no announcements, press releases or other information about outbreaks in the past year on the Ministry of Health website. [2] There was an outbreak of avian flu in poultry in January, 2018, but there were no reports of it spreading to humans. [3] Cambodia has reported cases of the novel corona virus (covid-19) to the WHO before it was declared a PHEIC on January 30th 2020. [4]

[1] World Health Organization (WHO). 2013. "Emergencies preparedness, response: Cambodia".
[https://www.who.int/csr/don/archive/country/khm/en/]. Accessed January 2021.
[2] Ministry of Health. 2018. "News".
[http://moh.gov.kh/category/%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%94%E1%9F%92%E1%9E%9A%E1%9E%80%E1%9E%B6%E1%9E%9F%E2%80%8B%E1%9E%96%E1%9F%90%E1%9E%8F%E1%9F%8C%E1%9E%98%E1%9E%B6%E1%9E%93/?lang=en#]. Accessed in January 2021.
[3] Voice of America. 2018. "Cambodia Issues Health Warning Over Bird Flu Outbreak in Phnom Penh".

[https://www.voacambodia.com/a/cambodia-issues-health-warning-over-bird-flu-outbreak-in-phnom-penh/4209963.html].
Accessed January 2021.
[4] World Health Organization (WHO). 30 January 2020. "Novel Coronavirus (2019-nCoV) Situation Report - 10".
[https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200130-sitrep-10-
ncov.pdf?sfvrsn=d0b2e480_2] Accessed 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: 1

The government operates an electronic reporting surveillance system at both the national and sub-national level. The
CamEWARN reporting system is described in the Joint External Evaluation (JEE) for Cambodia, completed in
August/September 2016. [1] Members of Cambodia's disease surveillance rapid response team, located at local health
centers and departments at the national and provincial level, call a toll-free number once a week and enter weekly case
counts. That information is then approved on a digital database that is accessible to health staff using any web-enabled
device in any area with Internet access. The Ministry of Health's Communicable Disease Control Department website, which
hosts the CamEWARN system, says that new web-based software has been developed for reporting, and that all provinces
have been trained to use it. [2]. However, there is no evidence on the website that this has replaced on a local level the call-
in reporting described in the JEE assessment.

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the
Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] Communicable Disease Control Department. "CamEWARN". [http://cdcmoh.gov.kh/surveillance/camewarn]. Accessed
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 in Cambodia collects ongoing or real-time laboratory
data. The CamEWARN system, the government's centralized surveillance program, requires officials at 115 sites across the
country to manually enter reported cases on a weekly basis, according to the Joint External Evaluation for Cambodia,
completed in August/September 2016. [1] There are a multiple surveillance programs with a narrower reach. "In some
surveillance programs, review and/or dissemination of the data occurs infrequently (i.e. at monthly intervals and not in real
time)." A web-based platform has been implemented at the provincial and national levels, but there is no evidence of
updates to the system in the past two years on the website of the Ministry of Health's Communicable Disease Control
Department, which manages CamEWARN. [2]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the
Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] Communicable Disease Control Department. "CamEWARN". [http://cdcmoh.gov.kh/surveillance/camewarn]. Accessed

2.4 SURVEILLANCE DATA ACCESSIBILITY AND TRANSPARENCY

2.4.1 Coverage and use of electronic health records

2.4.1a

Are electronic health records commonly in use?

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

Current Year Score: 0

There is no publicly available evidence of electronic health records commonly in use in Cambodia, though there are plans in place to expand their use at public health centers. While some of the better private hospitals use them, efforts to implement them more broadly are just beginning, and aren't expected to be completed for a few years, according to media reports. [1] The Ministry of Health's Health Information System Master Plan 2016-2020 aims for nationwide deployment of electronic health records in 3 to 5 years. [2] "During Phase II (2021-2025), there would be nationwide deployment of a Hospital Management Information System (HMIS)/ electronic medical records (EMR) in the public health sector," it says. By 2020, the ministry aims to have 100% of government hospitals and 50% of health centers using EMRs. There is no evidence of programs, updates or reports on EMR use on the Ministry of Health or National Institute of Public Health websites. [3, 4] The latest Joint External Evaluation for Cambodia, completed in August/September 2016, makes no mention of electronic health records. [5]

[1] Phnom Penh Post. 2016. "All health providers must digitise: gov't". [https://www.phnompenhpost.com/national/all-health-providers-must-digitise-govt]. Accessed January 2021.
[2] Ministry of Health. 2017. "Health Information System Master Plan 2016-2020" [http://hismohcambodia.org/public/fileupload/carousel/HIS-MasterPlan-Nov2017.pdf]. Accessed January 2021.
[3] Ministry of Health. "Ordinance, Decision, Directive". [http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.
[4] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.
[5] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed 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: 0

The national public health system does not have access to electronic health records of individuals in Cambodia. Cambodia's Health Information System Master Plan 2016-2020 says: "During Phase II (2021-2025), there would be nationwide deployment of a Hospital Management Information System (HMIS)/electronic medical records (EMR) in the public health sector," and mentioned that a national Patient Medical Registration System would not be operating until at least 2020. [1].

There is no evidence that it is operational, or any other information about programs, updates or reports on EMR use, on the Ministry of Health or National Institute of Public Health websites. [2, 3] The Joint External Evaluation for Cambodia, completed in August/September 2016, makes no mention of electronic health records. [4]

[1] Ministry of Health. 2017. "Health Information System Master Plan 2016-2020" [http://hismohcambodia.org/public/fileupload/carousel/HIS-MasterPlan-Nov2017.pdf]. Accessed January 2021.
[2] Ministry of Health. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-
%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%
98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.
[3] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.
[4] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed 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 data is comparable in Cambodia. The Ministry of Health's Health Information System Master Plan 2016-2020 lays out a plan to set up a Patient Medical Records System by 2020, and a Health Interoperability Standards Committee was created in 2017. [1] However, currently, "PMRS does not employ health informatics standards in its application programming interfaces (APIs) or in its underlying data structures," according to the master plan. There is no evidence of programs, updates or reports on electronic health record use on the Ministry of Health or National Institute of Public Health websites. [2, 3] The Joint External Evaluation for Cambodia, completed in August/September 2016, makes no mention of electronic health records. [4]

[1] Ministry of Health. 2017. "Health Information System Master Plan 2016-2020" [http://hismohcambodia.org/public/fileupload/carousel/HIS-MasterPlan-Nov2017.pdf]. Accessed January 2021.
[2] Ministry of Health. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-
%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%
98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.
[3] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.
[4] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed 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: 1

There is evidence of established mechanisms at the relevant ministries responsible for animal, human and wildlife surveillance to share data. A Zoonosis Technical Working Group, formed as part of a MoU between the ministries of health and agriculture, meets once a month for information sharing and planning, according to a joint 2019 report from the WHO, OIE and FAO. [1] "The Z-TWG meets monthly for members to communicate and discuss situations related to zoonotic diseases," it states. The MoU is not available on the Ministry of Health or Ministry of Agriculture websites. [2, 3] The Joint External Evaluation for Cambodia, completed in August/September 2016, notes that animal and human health officials meet regularly and share training resources, but recommends that Cambodia "develop and implement standard operating procedures for joint or coordinated surveillance activities for priority zoonotic diseases." [4] There is no additional information on the Ministry of Health or Ministry of Agriculture websites.

[1] World Health Organization (WHO), World Organization for Animal Health (OIE), Food and Agriculture Organization (FAO). 2019. "Taking a Multisectoral, One Health Approach: A Tripartite Guide to Addressing Zoonotic Diseases in Countries". [https://www.oie.int/fileadmin/Home/eng/Media_Center/docs/EN_TripartiteZoonosesGuide_webversion.pdf]. Accessed January 2021.
[2] Ministry of Health. "Ordinance, Decision, Directive". [http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.
[3] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.
[4] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed 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: 1

There is publicly available evidence that Cambodia makes de-identified health surveillance data on disease outbreaks publicly available via reports on its CamEWARN website (through the Ministry of Health). Weekly surveillance reports from the CamEwarn system show cases of Acute Diarrhea, Fever with Rash, Acute Flaccid Paralysis, Severe Respiratory Infection Acute Hemorrhagic Fever, Meningitis or Encephalitis, and Acute Jaundice, according to reports on the Communicable Disease Control Department website. [1] The weekly reports, through the end of 2020, include the following qualification: "Although the numbers of reported cases were below threshold levels, outbreaks may have been missed as the reports were uncompleted." [2] One CamEwarn report in December 2020, for example, includes an increase in cases of acute jaundice, which was reported to health authorities and partners, as well as an "event" with a puffer fish. [3] The mission report for the Joint External Evaluation for Cambodia, completed in August/September 2016, notes that health surveillance data is available to all health staff across the country, but does not reference its public availability. [4]

[1] Communicable Disease Control Department. "CamEWARN". [http://cdcmoh.gov.kh/surveillance/camewarn]. Accessed January 2021.

[2] Communicable Disease Control Department. October 2018. "CamEWARN Case Based Surveillance Report: Week 43 (24 October 2018-30 October 2018)".
[http://cdcmoh.gov.kh/images/Document/Camewarn/Weekly_reports/2018/CamEwarn_Weekly_Report_W43_2018.pdf] Accessed January 2021.

[3] Communicable Disease Control Department. December 2020. "CamEWARN Weekly Surveillance Report, Week 51 (14 December 2020-20 December 2020)".
[http://cdcmoh.gov.kh/images/Document/Camewarn/Weekly_reports/2020/Weekly_Surveillance_Report_W51_2020.pdf]. Accessed January 2021.

[4] World Health Organization (WHO). 26 August- 2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed 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

Cambodia makes de-identified Covid-19 surveillance data available on government websites. Until July 2020, the Ministry of Health's Department of Communicable Disease Control was posting daily surveillance reports to its website [1]. It has continued to disseminate daily case counts (including new cases, recovering cases and deaths) via daily emails, as well as hosting a map, updated daily, showing case counts in each province, including total and new case counts. [2]

[1] Communicable Disease Control Department. "Covid-19 Daily Surveillance Reports". [http://cdcmoh.gov.kh/resource-documents/daily-surveillance-reports]. Accessed January 2021.

[2] Communicable Disease Control Department. "Covid-19 Maps". [https://covid19-map.cdcmoh.gov.kh/]. Accessed January 2021.

2.4.4 Ethical considerations during surveillance

2.4.4a

Is there legislation and/or regulations that safeguard the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities?
Yes = 1 , No = 0

> Current Year Score: 0

There is no public evidence of laws, regulations, or guidelines that safeguard the confidentiality of identifiable health information for individuals. There is no data protection or privacy legislation in Cambodia, according to the UN Conference on Trade and Development. [1] There is no sector-wide regulations or directives on patient confidentiality on the Ministry of Health website. [2] Cambodia does not have broader data privacy or cybercrime laws in place, though they are reportedly in the legislative pipeline. [3] The Ministry's handbook on caring for children subjected to sexual violence includes advice on confidentiality, but does not reference broader rules or regulations. [4] The National Institute of Public Health website does not have any evidence of privacy regulations or guidelines. [5] The Joint External Evaluation for Cambodia, completed in August/September 2016, does not reference any data privacy or confidentiality safeguards. [6]

[1] UN Conference on Trade and Development. 2018. Data Protection and Privacy Legislation Worldwide.
[http://unctad.org/en/Pages/DTL/STI_and_ICTs/ICT4D-Legislation/eCom-Data-Protection-Laws.aspx]. Accessed January 2021.
[2] Ministry of Health. 2018. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-
%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%
98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.
[3] [Khmer Times, July 2017, "Cybercrime law on the way". [https://www.khmertimeskh.com/19731/cybercrime-law-on-the-
way/]. Accessed January 2021.
[4] Ministry of Health. 2015. "Clinical Handbook on Health Care for Children Subjected to Violence or Sexual Abuse".
[https://www.unicef.org/cambodia/Clinical_Handbook_A5_English_V4.pdf]. Accessed January 2021.
[5] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed
January 2021.
[6] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the
Kingdom of Cambodia". [https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.11-eng.pdf]. Accessed
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 public evidence of legislation or regulation that safeguard the confidentiality of identifiable health information for individuals. There is no data protection or privacy legislation in Cambodia, according to the UN Conference on Trade and Development. [1] There is no sector-wide regulations or directives on patient confidentiality on the Ministry of Health website. [2] Cambodia does not have broader data privacy or cybercrime laws in place, though they are reportedly in the legislative pipeline. [3] The Ministry's handbook on caring for children subjected to sexual violence includes advice on confidentiality, but does not reference broader rules or regulations. [4] The National Institute of Public Health website does not have any evidence of privacy regulations or guidelines. [5] The Joint External Evaluation for Cambodia, completed in August/September 2016, does not reference any data privacy or confidentiality safeguards. [6]

[1] UN Conference on Trade and Development. 2018. "Data Protection and Privacy Legislation Worldwide".
[http://unctad.org/en/Pages/DTL/STI_and_ICTs/ICT4D-Legislation/eCom-Data-Protection-Laws.aspx]. Accessed January 2021.
[2] Ministry of Health. 2018. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-
%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%
98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.
[3] Khmer Times, July 2017, "Cybercrime law on the way". [https://www.khmertimeskh.com/19731/cybercrime-law-on-the-
way/]. Accessed January 2021.
[4] Ministry of Health. 2015. "Clinical Handbook on Health Care for Children Subjected to Violence or Sexual Abuse".
[https://www.unicef.org/cambodia/Clinical_Handbook_A5_English_V4.pdf]. Accessed January 2021.
[5] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed
January 2021.
[6] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the
Kingdom of Cambodia". [https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.11-eng.pdf]. Accessed

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

> Current Year Score: 2

Cambodia's government has made a commitment via a cooperative agreement to share surveillance data during a public health emergency with other countries in the region for more than one disease. Cambodia signed a memorandum of understanding in 1999 to join Mekong Basin Disease Surveillance, a group of six countries (Cambodia, China (Yunnan and Guangxi Provinces), Laos PDR, Myanmar, Thailand, Vietnam) that share information about infectious diseases and biosecurity. Cambodia extended the MoU in 2015. Among the activities is sharing surveillance data for "joint outbreak responses." [1] Among the priority diseases outlined in the MoU are HIV/AIDS, TB, Malaria, Rabies, SARS, Avian Influenza. In early 2018, PLOS Neglected Tropical Diseases published an article looking at outbreak reporting systems among countries in Greater Mekong subregion. It found that data was being shared, but not always in an integrated manner. [2] The mission report for the Joint External Evaluation for Cambodia, completed in August/September 2016, makes no mention of Cambodia's commitments to sharing surveillance data with other countries. [3]

[1] Mekong Basin Disease Surveillance. "Cross-Border Information". [http://www.mbdsnet.org/mbds-cross-border-information/]. Accessed January 2021.
[2] Lawpoolsri S, et al. 2018. "Data quality and timeliness of outbreak reporting system among countries in Greater Mekong subregion: Challenges for international data sharing". PLOS Neglected Tropical Diseases 12
[4]. [https://journals.plos.org/plosntds/article/file?id=10.1371/journal.pntd.0006425&type=printable]. Accessed January 2021.
[3] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed 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 insufficient evidence of a system in place to provide support at the sub-national level to conduct contact tracing in the event of an active or future public health emergency. The only publicly available outbreak response plan is the "Cambodia National Comprehensive Avian and Human Influenza Plan," which was passed in 2007 and does not account for

widespread human-to-human transmission, or describe a contact tracing plan. [1] While Cambodia appeared to draw on elements of this influenza response framework in its Covid-19 response – such as Rapid Response Teams trained to identify symptoms and conduct tests – there is no evidence that a pre-existing system existed. There is no information about a national system to support contact tracing on the Ministry of Health website, or the Communicable Disease Control Department website. [2, 3]. A joint situation report from the World Health Organization and Cambodia's Ministry of Health described a robust and nationwide contact tracing network composed of "Almost 3,000 Rapid Response Team members across the country conduct case investigation and contact tracing." It adds of the government's Covid-19 response "A broad testing strategy is being implemented nationwide, including testing all suspect cases meeting case definition." [4]

[1] Ministry of Health. "Cambodia National Comprehensive Avian and Human Influenza Plan". 2007. [https://apaci.asia/images/Resources/Pandemic_planning/cambodia_national_comprehensive_avian_human_influenza_plan _2007.pdf] Accessed January 2021.
[2] Ministry of Health "Policies and Sector Strategic Plans". [http://moh.gov.kh/%e1%9e%82%e1%9f%84%e1%9e%9b%e1%9e%93%e1%9e%99%e1%9f%84%e1%9e%94%e1%9e%b6%e 1%9e%99/?lang=en]. Accessed January 2021.
[3] Communicable Disease Control Department. "National Guideline, Policy and Strategy". [http://cdcmoh.gov.kh/iec-material-and-other-documents/national-policy]. Accessed January 2021.
[4] World Health Organization and Cambodia's Ministry of Health, January 2021, "Cambodia Coronavirus Disease 2019 (Covid-19) Situation Report".[https://www.who.int/docs/default-source/wpro---documents/countries/cambodia/covid-19/covid-19-joint-who-moh-sitrep-28.pdf?sfvrsn=ea7c7b49_5]. Accessed 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 Cambodia 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. Joint Covid-19 situation reports from the World Health Organization and Ministry of Health, the most detailed public information available on Cambodia's response, make no mention of economic support (paychecks or job assurances) for those quarantining or self-isolating. [1] In fact, Cambodia has taken measures to ensure it is not on the hook for expenses, particularly in the case of foreign travelers. [2] In November, the government announced that quarantine violators would be fined US$250, according to media reports. [3] There is no information about wraparound services on the Ministry of Health website, or the website of its Communicable Disease Control Department. [4, 5]

[1] World Health Organization and Cambodia's Ministry of Health, January 2021, "Cambodia Coronavirus Disease 2019 (Covid-19) Situation Report #28".[https://www.who.int/docs/default-source/wpro---documents/countries/cambodia/covid-19/covid-19-joint-who-moh-sitrep-28.pdf?sfvrsn=ea7c7b49_5]. Accessed January 2021.
[2] US Embassy in Cambodia. "Covid-19 Information". [https://kh.usembassy.gov/covid-19-information/]. Accessed January 2021.
[3] Khmer Times, November 2020, "Cambodia says Covid-19 quarantine violators face fine, paltry at best". [https://www.khmertimeskh.com/50781766/cambodia-says-covid-19-quarantine-violators-face-fine-paltry-at-best/]. Accessed January 2021.
[4] Ministry of Health. "Policies and Sector Strategic Plans".

[http://moh.gov.kh/%e1%9e%82%e1%9f%84%e1%9e%9b%e1%9e%93%e1%9e%99%e1%9f%84%e1%9e%94%e1%9e%b6%e1%9e%99/?lang=en]. Accessed January 2021.

[5] Communicable Disease Control Department. "National Guideline, Policy and Strategy". [http://cdcmoh.gov.kh/iec-material-and-other-documents/national-policy]. Accessed 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

Cambodia does not appear to make de-identified data on contact tracing efforts for Covid-19 available via daily reports on government websites. The Ministry of Health's Communicable Disease Control Department posted detailed daily reports on contact tracing for the first few months of the pandemic, but seems to have ceased publication of those reports in July 2020 (the page has not been updated since August 2020). [1] It has continued to update a map showing daily case counts, but contact tracing information is not included. [2] The World Health Organization and Ministry of Health publish joint weekly situation reports that include contact tracing statistics. [3] There is no daily contact tracing information published elsewhere on the Ministry of Health or Ministry of Agriculture websites. [4, 5] The Ministry of Health posts daily updates on Covid case counts and recoveries on its Facebook page, but those documents do not include tracing data. [6]

[1] Communicable Disease Control Department. "Covid-19 Daily Surveillance Reports". [http://cdcmoh.gov.kh/resource-documents/daily-surveillance-reports]. Accessed January 2021.

[2] Communicable Disease Control Department. "Covid-19 maps". [https://covid19-map.cdcmoh.gov.kh/]. Accessed January 2021.

[3] World Health Organization and Cambodia's Ministry of Health, January 2021, "Cambodia Coronavirus Disease 2019 (Covid-19) Situation Report". [https://www.who.int/docs/default-source/wpro---documents/countries/cambodia/covid-19/covid-19-joint-who-moh-sitrep-28.pdf?sfvrsn=ea7c7b49_5]. Accessed January 2021.

[4] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.

[5] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.

[6] Ministry of Health. "Facebook page" [https://www.facebook.com/MinistryofHealthofCambodia]. Accessed 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: 0

There is insufficient evidence of a joint plan or cooperative agreement between the public health system and border control authorities to identify suspected and potential cases in international travelers and trace and quarantine their contacts in the event of an active or future public health emergency. There is no evidence of such an agreement on the Ministry of Health

(MOH) or Ministry of Interior websites. [1, 2] With support from the World Health Organization (WHO), the US Embassy, and other stakeholders, Cambodia has a system to screen foreign visitors (and returning migrant workers) for Covid-19 at border entry points and airports. New border measures were implemented in June, according to a joint situation report from the WHO and Cambodia's Ministry of Health. [3] "WHO continues its support to the MOH with screening at borders, quarantine for those with symptoms, and follow-up of individuals," said a WHO timeline of its support of Cambodia's Covid-19 response. [4] As Covid-19 cases surged in Thailand in December, Cambodia ramped up its screening at borders, but was focusing those efforts on Cambodia migrant workers returning home, according to media reports. [5] But none of these reports mention a standing agreement between public health and border officials to screen for cases during a public health emergency.

[1] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed January 2021.
[2] Ministry of Interior. "Homepage". [https://www.interior.gov.kh/] Accessed January 2021.
[3] World Health Organization and Cambodia's Ministry of Health, January 2021, "Cambodia Coronavirus Disease 2019 (Covid-19) Situation Report #28". [https://www.who.int/docs/default-source/wpro---documents/countries/cambodia/covid-19/covid-19-joint-who-moh-sitrep-28.pdf?sfvrsn=ea7c7b49_5]. Accessed January 2021.
[4] World Health Organization (WHO). October 2020. "Timeline of WHO's response to Covid-19 in Cambodia". [https://www.who.int/docs/default-source/wpro---documents/countries/cambodia/covid-19/timeline-of-who-response-to-covid-19-in-cambodia.pdf?sfvrsn=53b73753_2]. Accessed January 2021.
[5] Phnom Penh Post, December 2020, "Alert on borders as new Covid cases rise". [https://www.phnompenhpost.com/national/alert-borders-new-covid-cases-rise]. Accessed 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

An applied epidemiology training program is available in country, however there is no evidence that resources are provided by the government to send citizens to another country to participate in applied epidemiology training programs. The Cambodia Applied Epidemiology Training (CAET) Program was established in 2011 and is organized by the Communicable Disease Control Department of the Ministry of Health. "For the past 8 years WHO staff and technical experts have provided support for course development, quality improvement, teaching and student supervision," says a World Health Organization (WHO) factsheet on the program. [1] A WHO article on the program in June 2018 said participants learn intervention epidemiology skills to carry out effective surveillance, risk assessment and outbreak response in their provinces. [2] After a 4-week introductory course, a few trainees are chosen to continue onto the 6-month program. Cambodia is a member of the Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET), however its training program is not accredited by TEPHINET. [3] Cambodia is also part of the A SEAN Plus Three Field Epidemiology Training Network (ASEAN+3 FETN network), which facilitates programs modelled after the US CDC's two-year Epidemic Intelligence Service (EIS) program.

[4] However, there is no evidence that either of those organizations provide resources to Cambodia to send citizens to another country to participate in applied epidemiology training programs. The mission report for the Joint External Evaluation for Cambodia, completed in August/September 2016, confirms that training if happening under the CAET program but does not mention sending people to other countries for training. [5] There is no information on the Ministry of Health website about resources for sending citizens abroad for training. [6]

[1] World Health Organization (WHO). 2018. "Applied Epidemiology Training Programme Fact sheet".
[http://www.wpro.who.int/cambodia/areas/aet/factsheet/en/]. Accessed January 2021.
[2] World Health Organization (WHO). June 2018. "Applied Epidemiology Training graduates are the leaders during disease outbreaks". [http://www.wpro.who.int/cambodia/mediacentre/releases/20180604-aet/en/]. Accessed January 2021.
[3] Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET). "Cambodia Field Epidemiology Training Program". [https://www.tephinet.org/training-programs/cambodia-field-epidemiology-training-program]. Accessed January 2021.
[4] ASEAN Plus Three Field Epidemiology Training Network. "Annual report".
[http://www.aseanplus3fetn.net/read_more_pdf/FETNP1-10.pdf]. Accessed January 2021.
[5] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[6] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed 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: 1

There is a specific animal health field epidemiology training program offered in Cambodia. The General Directorate of Animal Health and Production, Ministry of Agriculture, Forestry and Fisheries (MAFF) runs the Cambodian Applied Veterinary Epidemiology Training (CAVET), according to a World Health Organization (WHO) fact sheet. [1] The WHO does not indicate that veterinary health workers are part of the Cambodia Applied Epidemiology Training (CAET) program for human health workers. There is no information about the CAET program on the Ministry of Agriculture website. [2] The Joint External Evaluation for Cambodia, completed in August/September 2016, notes that "cross-training opportunities for professionals in human health and animal health sectors are available" through the CAET and CAVET, but does not have details about the program. [3]

[1] World Health Organization (WHO). 2018. "Applied Epidemiology Training Programme Fact sheet"
[http://www.wpro.who.int/cambodia/areas/aet/factsheet/en/]. Accessed January 2021.
[2] Ministry of Agriculture. "News". [http://www.maff.gov.kh/news?lang=kh]. Accessed January 2021.
[3] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed 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: 1

There is no evidence that Cambodia has an overarching national public health emergency response plan in place which addresses planning for multiple communicable diseases with pandemic potential. However, there is evidence of disease specific plans. Cambodia has an emergence response plan for Highly Pathogenic Avian Influenza (HPAI) in the National Comprehensive Avian and Human Influenza Plan, which covers outbreak investigation, response and management. [1] Cambodia has elements of an emergency management system and a "robust" event-based surveillance network, according to the Joint External Evaluation for Cambodia, completed in August/September 2016. However, the response plan does not meet WHO standards for disaster preparedness. "Although there are some threat-specific plans in place, such as for HIV, no Strategic National Risk Assessment (SNRA) or through a Threat and Hazard Identification and Risk Assessment (THIRA process) has been conducted...to identify priority risks. The Emergency Operations Center (EOC) plan does not contain the entirety of the threat-specific contingency plan annexes that would be required," the report says. [2] The government created a "National Strategic Plan for the Disaster Risk Management for Health 2015-2019;" it does not contain a plan itself, but rather lays out a roadmap to have a comprehensive plan in place by 2019. [3] Annual updates on that plan are not available on the Ministry of Health website. [4] There is no evidence on a national public health emergency response plan on the website of the National Committee for Disaster Management, which is focused more on natural disaster response. [5]

[1] Royal Government of Cambodia. 2008. "National Comprehensive Avian and Human Influenza Plan". [http://www.ifrc.org/docs/idrl/915EN.pdf]. Accessed January 2021.
[2] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[3] Ministry of Health. 2015. "National Strategic Plan on Disaster Risk Management for Health 2015-2019". [https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/nsp_on_drm_for_hea

lth_2015-_2019_launched.pdf]. Accessed January 2021.

[4] Ministry of Health. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-
%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%
98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.

[5] National Committee for Disaster Management. "Library".
[http://www.ncdm.gov.kh/PubLibraryPage/AdvanceListPubLibraries]. Accessed 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 that Cambodia has an overarching national public health emergency response plan in place, and hence no evidence that it has been updated in the past 3 years. It has elements of an emergency management system, but does not meet World Health Organization (WHO) standards for disaster preparedness, according to the Joint External Evaluation for Cambodia, completed in August/September 2016. "Although there are some threat-specific plans in place, such as for HIV, no Strategic National Risk Assessment (SNRA) or national Threat and Hazard Identification and Risk Assessment (THIRA) has been conducted...to identify priority risks. The Emergency Operations Center (EOC) plan does not contain the entirety of the threat-specific contingency plan annexes that would be required," the report says [1]. The government created a "National Strategic Plan for the Disaster Risk Management for Health 2015-2019;" it does not contain a plan itself, but rather lays out a roadmap to have a comprehensive plan in place by 2019 [2]. Annual updates on that plan are not available on the Ministry of Health website [3]. There is no evidence on a national public health emergency response plan on the website of the National Committee for Disaster Management, which is focused more on natural disaster response. [4]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] Ministry of Health. 2015. "National Strategic Plan on Disaster Risk Management for Health 2015-2019". [https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/nsp_on_drm_for_health_2015-_2019_launched.pdf]. Accessed January 2021.
[3] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed January 2021.
[4] National Committee for Disaster Management. "Library".
[http://www.ncdm.gov.kh/PubLibraryPage/AdvanceListPubLibraries]. Accessed 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 Cambodia has an overarching national public health emergency response plan in place, and hence no evidence that it includes considerations for pediatric and/or other vulnerable populations. It has elements of an emergency management system, but it does not meet World Health Organization (WHO) standards for disaster preparedness, according to the Joint External Evaluation for Cambodia, completed in August/September 2016. "Although there are some threat-specific plans in place, such as for HIV, no Strategic National Risk Assessment (SNRA) or Threat and Hazard Identification and Risk Assessment (THIRA) has been conducted...to identify priority risks. The Emergency Operations

Center (EOC) plan does not contain the entirety of the threat-specific contingency plan annexes that would be required," the report says [1]. The government created a "National Strategic Plan for the Disaster Risk Management for Health 2015-2019;" it does not contain a plan itself, but rather lays out a roadmap to have a comprehensive plan in place by 2019 [2]. Annual updates on that plan are not available on the Ministry of Health website [3]. There is no evidence on a national public health emergency response plan on the website of the National Committee for Disaster Management, which is focused more on natural disaster response. [4]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] Ministry of Health. 2015. "National Strategic Plan on Disaster Risk Management for Health 2015-2019".
[https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/nsp_on_drm_for_health_2015-_2019_launched.pdf]. Accessed January 2021.
[3] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed January 2021.
[4] National Committee for Disaster Management. "Library".
[http://www.ncdm.gov.kh/PubLibraryPage/AdvanceListPubLibraries]. Accessed 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 no evidence that Cambodia has a specific mechanism for engaging with the private sector to assist with outbreak emergency preparedness and response. There is no evidence of a comprehensive national health emergency plan according to the Joint External Evaluation for Cambodia, completed in August/September 2016. [1] The "National Strategic Plan for the Disaster Risk Management for Health 2015-2019" does not reference any plans for a mechanism or MOU to engage the private sector in whatever plan materializes. [2] There are no updates or evaluation of the strategic plan on the Ministry of Health or National Committee for Disaster Management websites. [3, 4]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] Ministry of Health. 2015. "National Strategic Plan on Disaster Risk Management for Health 2015-2019".
[https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/nsp_on_drm_for_hea

lth_2015-_2019_launched.pdf]. Accessed January 2021.

[3] Ministry of Health. "Ordinance, Decision, Directive".
[http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-
%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%
98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.

[4] National Committee for Disaster Management. "Library".
[http://www.ncdm.gov.kh/PubLibraryPage/AdvanceListPubLibraries]. Accessed 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: 0

There is no evidence that Cambodia has a policy, plan and/or guidelines in place to implement non-pharmaceutical interventions (NPIs) during an epidemic or pandemic for one or more diseases. According to a joint situation report from the World Health Organization and Cambodia's Ministry of Health on the country's Covid-19 response, "The government continuously assesses the adjustment of non-pharmaceutical interventions (NPIs) through a gradual step-wise approach that considers the effectiveness, socio-economic cost, and public acceptability of each measure, while continuing to increase surveillance to inform decision-making." [1] There is no reference to guiding policies or documents in the government's decision to shut down schools, bars, etc. The Ministry of Health's Communicable Disease Control Department, the agency that leads outbreak responses, does not have NPI guidance or policies on its website. [2] There is no evidence of such policies or guidelines on the Ministry of Health or National Committee for Disaster Management websites. [3, 4]

[1] World Health Organization and Cambodia's Ministry of Health. January 2021. "Cambodia Coronavirus Disease 2019 (Covid-19) Situation Report #28". [https://www.who.int/docs/default-source/wpro---documents/countries/cambodia/covid-19/covid-19-joint-who-moh-sitrep-28.pdf?sfvrsn=ea7c7b49_5]. Accessed January 2021.
[2] Communicable Disease Control Department. "Covid-19 Documents Management". [http://cdcmoh.gov.kh/resource-documents/covid-19-documents]. Accessed January 2021.
[3] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed January 2021.
[4] National Committee for Disaster Management. "Library".
[http://www.ncdm.gov.kh/PubLibraryPage/AdvanceListPubLibraries]. Accessed 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 some evidence that Cambodia has activated their national emergency response plan for an infectious disease outbreak in the past year but there is no evidence that Cambodia has completed a national-level biological threat-focused exercise in the past year. According to the World Bank, Cambodia updated its National Pandemic Preparedness Plan in 2019 to include "Clear Coordination, Command and Control structures were put in place for a multisectoral, whole-of-government, whole-of-society response." [1] Cambodia's public health response structures are described in Standard Operating Procedures for the Ministry of Health's Emergency Operations Center. [2] The World Bank said the Covid-19 response was "drawn from the 2019 updated National Pandemic Preparedness Plan and are as follows: incident management and planning, surveillance and risk assessment, laboratory, clinical management and health care services, infection prevention and control, non-pharmaceutical public health measures, risk communication, points of entry and operational logistics." There is no additional evidence that Cambodia activated its national emergency response plan on the Ministry of Health website or National Committee for Disaster Management website. [3, 4] There is no evidence that Cambodia has completed a national-level biological threat-focused exercise in the past year. The World Health Organization reports the last simulation exercise (SimEx) in Cambodia was in April 2018. [5] There is no additional information about the pandemic preparedness plan or simulation exercises on the Ministry of Health website. [6]

[1] World Bank. April 2020. "Project appraisal document for the Cambodia Covid-19 emergency response project". [http://documents1.worldbank.org/curated/en/737031585950801934/pdf/Cambodia-Covid-19-Emergency-Response-Project.pdf]. Accessed January 2021.
[2] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf]. Accessed January 2021.
[3] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed January 2021.
[4] National Committee for Disaster Management. "Homepage". [http://www.ncdm.gov.kh/]. Accessed February 2021.
[5] World Health Organization (WHO). "Simulation Exercise: Cambodia". [https://extranet.who.int/sph/simulation-exercise?region=205&country=337]. Accessed January 2021.
[6] Communicable Disease Control Department. "Covid-19 Documents Management". [http://cdcmoh.gov.kh/resource-documents/covid-19-documents]. Accessed 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 Cambodia in the past year has identified a list of gaps and best practices in response and developed a plan to improve response capabilities. Cambodia's own public health agencies make no mention of such exercises, [1] or a plan to hold such exercises, and the World Health Organization (WHO) does not reference such activities in its timeline of Cambodia's Covid-19 response. [2]. According to the WHO's After Action Review (AAR) dashboard, Cambodia's last AAR was in July 2018, in response to an outbreak of methanol poisoning. [3] There is no evidence of such policies or guidelines on the

Ministry of Health or National Committee for Disaster Management websites. [4, 5]

[1] Communicable Disease Control Department. "Covid-19 Documents Management". [http://cdcmoh.gov.kh/resource-documents/covid-19-documents]. Accessed January 2021.

[2] World Health Organization, October 2020, "Timeline of WHO's response to Covid-19 in Cambodia". [https://www.who.int/docs/default-source/wpro---documents/countries/cambodia/covid-19/timeline-of-who-response-to-covid-19-in-cambodia.pdf?sfvrsn=53b73753_2]. Accessed January 2021.

[3] World Health Organization (WHO). "After Action Review: Cambodia". [https://extranet.who.int/sph/after-action-review?region=205&country=337] Accessed January 2021.

[4] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed January 2021.

[5] National Committee for Disaster Management. "Library". [http://www.ncdm.gov.kh/PubLibraryPage/AdvanceListPubLibraries]. Accessed 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 Cambodia has, in the past year, undergone a national-level biological threat-focused exercise that has included private sector representatives. Cambodia's own public health agencies make no mention of such exercises, [1] or a plan to hold such exercises, and the World Health Organization (WHO) does not reference such activities in its timeline of Cambodia's Covid-19 response. [2]. According to the WHO's After Action Review (AAR) dashboard, Cambodia's last AAR was in July 2018, in response to an outbreak of methanol poisoning. Cambodia last conducted a simulation exercise for its response to a public health emergency in 2018, according to the WHO. [3,4] There is no evidence that private sector representatives were involved. There is also no evidence on the Ministry of Health website or National Committee for Disaster Management websites of such exercises. [5,6]

[1] Ministry of Health's Communicable Disease Control Department. "Covid-19 Documents Management". [http://cdcmoh.gov.kh/resource-documents/covid-19-documents]. Accessed January 2021.

[2] World Health Organization, October 2020, "Timeline of WHO's response to Covid-19 in Cambodia". [https://www.who.int/docs/default-source/wpro---documents/countries/cambodia/covid-19/timeline-of-who-response-to-covid-19-in-cambodia.pdf?sfvrsn=53b73753_2]. Accessed January 2021.

[3] World Health Organization (WHO). "After Action Review: Cambodia". [https://extranet.who.int/sph/after-action-review?region=205&country=337] Accessed January 2021.

[4] World Health Organization/ "Simulation Exercise: Cambodia". [https://extranet.who.int/sph/simulation-exercise?region=205&country=337]. Accessed January 2021.

[5] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed January 2021.

[6] National Committee for Disaster Management. "Library". [http://www.ncdm.gov.kh/PubLibraryPage/AdvanceListPubLibraries]. Accessed 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

Cambodia has in place a physical Emergency Operations Center. In August 2019, the Ministry of Health published the document "Emergency Operations Center and Incident Management System Standard Operating Procedures," which documents a "multi-function space featuring work space, meeting space, and advanced telecommunications and presentation capability." [1] The facility is overseen by a representative of the Department of Communicable Disease Control for use during infectious disease outbreaks. The document also outline the activation triggers to the EOC, activities after activation, and the structure of cooperation. The Joint External Evaluation for Cambodia, completed in August/September 2016, described Cambodia's EOC facility but did not discuss its operational readiness. [2] The World Bank, which provided US$20 m to bolster Cambodia's Covid-19 relief efforts, said the National Public Health Emergency Operation Center "coordinates the country's Covid-19 preparedness and response efforts." [3]

[1] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf]. Accessed January 2021.
[2] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[3] World Bank. April 2020. "Project appraisal document for the Cambodia Covid-19 emergency response project". [http://documents1.worldbank.org/curated/en/737031585950801934/pdf/Cambodia-Covid-19-Emergency-Response-Project.pdf]. Accessed 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 Cambodia's Emergency Operations Center is required to conduct a drill at least once per year or of drills being conducted. While there is a physical Emergency Operations Center, many of the standard operating procedures and plans for it, including training exercises have not been developed, according to the Joint External Evaluation for Cambodia, completed in August/September 2016. [1] Cambodia's "National Strategic Plan for the Disaster Risk Management for Health" highlights the need for emergency response drills. "Emergency drill exercises should be planned and implemented regularly," says the strategic plan although there is no further information on the frequency [2]. Those recommendations are supposed to be implemented by 2019-2020. In August 2019, the Ministry of Health published the document "Emergency Operations Center and Incident Management System Standard Operating Procedures," however there is no provision describing regular drills. [3] There is no evidence on the Ministry of Health or National Committee for Disaster Management websites that this plan has been updated, or that those exercises have begun. [4, 5]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.

[2] Ministry of Health. 2015. "National Strategic Plan on Disaster Risk Management for Health 2015-2019". [https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/nsp_on_drm_for_health_2015-_2019_launched.pdf]. Accessed January 2021.

[3] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf]. Accessed January 2021.

[4] Ministry of Health. "Ordinance, Decision, Directive". [http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.

[5] National Committee for Disaster Management. "Library". [http://www.ncdm.gov.kh/PubLibraryPage/AdvanceListPubLibraries]. Accessed 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 no public evidence to show that the EOC has conducted within the last year a coordinated emergency response or emergency response exercise activated within 120 minutes of the identification of the public health emergency/scenario. The Law on Disaster Management (2015) does call for response simulations, but only in broad strokes and a sub-decree with specifics has not been created. [1] A United Nations Development Program (UNDP) and Red Cross handbook on developing subsidiary legislation advises the government to "Develop and regularly update a set of Standard Operating Procedures (SOPs) for emergency response operations and conduct training, drills and simulation exercises to ensure all relevant participants understand the procedures." [2] In August 2019, the Ministry of Health published the document "Emergency Operations Center and Incident Management System Standard Operating Procedures," however it does not include any provisions on regular exercises. [3] There is no indication on the Ministry of Health or National Committee for Disaster Management websites that the EOC has conducted an emergency response or related exercise within 120 minutes of identifying a public health emergency. [4, 5]

[1] Royal Government of Cambodia. 2015. "Law on Disaster Management". [http://www.ifrc.org/Global/Publications/IDRL/DM%20acts/Cambodia%20DM%20Law_English.pdf]. Accessed January 2021.

[2] UN Development Program and International Committee of the Red Cross. 2017. "Implementing the Law on Disaster Management in Cambodia: Developing Subsidiary Legislation". [https://www.ifrc.org/docs/IDRL/Cambodia%20DM%20Subsidiary%20Legislation%20Report%20LR.PDF]. Accessed January 2021.

[3] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf]. Accessed January 2021.

[4] Ministry of Health. "Ordinance, Decision, Directive. [http://moh.gov.kh/%E1%9E%94%E1%9E%91%E1%9E%94%E1%9E%89%E1%9F%92%E1%9E%87%E1%9E%B6-%E1%9E%9F%E1%9F%81%E1%9E%85%E1%9E%80%E1%9F%92%E1%9E%8F%E1%9E%B8%E2%80%8B%E1%9E%9F%E1%9E%9E%

98%E1%9F%92%E1%9E%9A%E1%9F%81%E1%9E%85-%E1%9E%9B/?lang=en]. Accessed January 2021.

[5] National Committee for Disaster Management. "Library".

[http://www.ncdm.gov.kh/PubLibraryPage/AdvanceListPubLibraries]. Accessed 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 Cambodian public health and national security authorities have carried out an exercise to respond to a potential deliberate biological event, or that standard operating procedures, guidelines, MOUs are in place between the public health and security authorities to respond to a potential deliberate biological event. "Scenario-based communication and coordination exercises have not tested the use of existing mechanisms (such as disaster response coordination) for managing large-scale public health emergencies," according to the latest Joint External Evaluation for Cambodia, completed in August/September 2016 [1]. Cambodia launched its "Chemical, Biological, Radiological and Nuclear National Action Plan" in December 2017, as part of the European Union's Centers of Excellence Initiative. [2] The plan does not appear to be available online, however a draft version is summarized in a United Nations (UN) Interregional Crime and Justice Research Institute presentation. [3] Developing standard operating procedures for bio response is among the plans outlined in that presentation. There is no indication on the Ministry of Health or National Committee for Disaster Management websites that those standard operating procedures have been drafted or approved, or that public health and security officials have carried out a response exercise. [4, 5]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] UN Interregional Crime and Justice Research Institute. 2017. "EU CBRN CoE Initiative: Official launch of the Chemical, Biological, Radiological and Nuclear National Action Plan of the Kingdom of Cambodia".
[http://www.unicri.it/news/article/CBRN_CoE_Cambodia]. Accessed January 2021.
[3] European Commission Joint Research Centre. September 2015. "Overview of the EU CBRN Centres of Excellence Initiative". [https://aseanregionalforum.asean.org/wp-content/uploads/2019/10/Annex-E-Overview-of-EU-CBRN-Centre-of-Excellence-by-Dr.-Margarida-Goulart.pdf] Accessed January 2021.
[4] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.
[5] National Committee for Disaster Management. "Library".
[http://www.ncdm.gov.kh/PubLibraryPage/AdvanceListPubLibraries]. Accessed 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

Cambodia's risk communication plan does not outline how messages will reach populations and sectors with different communications needs. The Ministry of Health published Emergency Operations Center standard operating procedures in 2019, outlining a risk communications strategy in cases of public health emergencies. [1] However, it only offers a general description of a function tasked with delivering "health messages using the most effective means preferred by the target population in local languages and monitors their effectiveness. The Joint External Evaluation (JEE) for Cambodia, completed in August/September 2016, says a risk communication strategy is being drafted [2]. The JEE assessment says: "There is a decentralized system to reach out to affected communities" and "Outreach activities target specific communities (such as to Muslim communities for MERS-CoV and to affected villages for avian influenza)." There is no additional documentation of a risk communication plan on the Ministry of Health or National Committee for Disaster Management websites. [3, 4]

[1] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf]. Accessed January 2021.
[2] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[3] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.
[4] National Committee for Disaster Management. "Library".
[http://www.ncdm.gov.kh/PubLibraryPage/AdvanceListPubLibraries]. Accessed 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: 1

Cambodia has in place a risk communication plan that is specifically intended for use during a public health emergency. The Ministry of Health published Emergency Operations Center (EOC) standard operating procedures (SOPs) in 2019, outlining a risk communications strategy in cases of public health emergencies. [1] The document outlines general steps to be taken within 24 hours, within 24 to 72 hours, within 3-10 days and then 10-30 days and 30-60 days. It also identifies a sub-function of the EOC that "assesses the social and cultural context of populations at risk, engages stakeholders at national and local levels, develops tailored and targeted messages for dissemination, ensuring that they are technically sound and socio-culturally appropriate, and conducts rapid surveys and other assessments to determine the barriers to adopting health

advice." The Joint External Evaluation for Cambodia, completed in August/September 2016, notes that "communications strategy document (comprising risk communications principles, practice and SOPs) has been drafted with the help of World Health Organization (WHO) and is awaiting approval." [2]

[1] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf]. Accessed January 2021.
[2] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed 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

Cambodia's risk communication plan does not designate a specific position within the government to serve as the primary spokesperson to the public during a public health emergency. Ly Sovann, the director of the Communicable Disease Control Department within the Ministry of Health, is widely referred to in the media as the ministry's spokesperson, and often serves that function amid emergencies (such as Covid-19). However, in the Ministry's Emergency Operations Center (EOC) standard operating procedures, which outline the government's risk communication strategy, the task of with the public falls under the EOC "leadership" function, which varies depending on the emergency and response team. [1] The EOC "leadership" is responsible for "the coordination of Ministry response to media and public queries for information, and development and dissemination of both internal and external communication products. Proactive approach so that risk and crisis communication is coherent and consistent." There is no additional information about the risk communication plan, or the specific position to serve as a spokesman, on the Ministry of Health or National Committee for Disaster Management websites. [2, 3]

[1] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf]. Accessed January 2021.
[2] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.
[3] National Committee for Disaster Management. "Library".
[http://www.ncdm.gov.kh/PubLibraryPage/AdvanceListPubLibraries]. Accessed 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: 1

There is evidence that Cambodia's public health system has actively shared messages in the past year via online media platforms to inform the public about ongoing public health concerns. The Joint External Evaluation for Cambodia, completed in August/September 2016, said the "Ministry of Health's communications capabilities cover not just mainstream media but also social media." [1] The Ministry of Health's Facebook page shares daily updates on Covid-19 case counts (officials documents and a brief text summary). [2] The page also shares regular updates about the Ministry's activities, though it generally focuses on official meetings or activities as opposed to specific public health event or misinformation.

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021
[2] Ministry of Health. "Facebook page". [https://www.facebook.com/Ministry.of.Health.Secretartarit/?ref=br_rs]. Accessed 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: 0

There is evidence that senior Cambodian leaders have shared misinformation or disinformation on infectious diseases in the past two years. There have been two Covid-related incidents, one involving the prime minister and another the health minister, that have drawn public scrutiny for being somewhat misleading. At a press conference in late January 2020, the prime minister asked reporters wearing face masks to take them off. "The prime minister doesn't wear a mask," he said, "so why do you?" [1] By March the prime minister was encouraging people to wear masks in public. Around the same time, the health minister told a reporter the novel coronavirus cannot survive in temperatures higher than 30 degrees Celsius, suggesting it was unlikely to spread in Cambodia's heat. The minister also added in that interview that "the virus lives in mucus. It can be transmitted from one person to another, so we still have to be careful." [2]

[1] The Diplomat, January 2020, "Cambodia's Hun Sen Blasts Online Virus Misinformation". [https://thediplomat.com/2020/01/cambodias-hun-sen-blasts-online-virus-misinformation/]. Accessed January 2021.
[2] Phnom Penh Post, January 2020, "Cambodia too hot for virus". [https://phnompenhpost.com/national/cambodia-too-hot-virus]. Accessed 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: 40

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: 129.92**

2019

International Telecommunication Union (ITU)

3.6.3 Female access to a mobile phone

3.6.3a

Percentage point gap between males and females whose home has access to a mobile phone
Input number
> **Current Year Score: 12**

2019

Gallup; Economist Impact calculation

3.6.4 Female access to the Internet

3.6.4a

Percentage point gap between males and females whose home has access to the Internet
Input number
> **Current Year Score: 11.0**

2019

Gallup; Economist Impact calculation

3.7 TRADE AND TRAVEL RESTRICTIONS

3.7.1 Trade restrictions

3.7.1a

In the past year, has the country issued a restriction, without international/bilateral support, on the export/import of medical goods (e.g. medicines, oxygen, medical supplies, PPE) due to an infectious disease outbreak?
Yes = 0 , No = 1

> Current Year Score: 0

There is evidence that Cambodia 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. The World Trade Organization's "Covid-19: Measures affecting trade in goods" list confirms that Cambodia issued "Temporary export ban on Covid-19 test kits (HS 3822.00.30; 3822.00.90; 9027.80.10; 9027.80.30; 9027.80.40), due to the Covid-19 pandemic" effective 30 March 2020. [1] There are reports in the media of such restrictions and none of the relevant ministry websites for health, commerce, agriculture, foreign affairs make any mention of restricting trade of medical goods [2, 3, 4, 5].

[1] World Trade Organization. June 4, 2021. "Covid-19: Measures affecting trade in goods".
[https://www.wto.org/english/tratop_e/covid19_e/trade_related_goods_measure_e.htm] Accessed June 24, 2021.
[2] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed January 2021.
[3] Ministry of Agriculture, Forestry and Fisheries. "Homepage". [https://web.maff.gov.kh/]. Accessed January 2021.
[4] Ministry of Commerce. "Homepage". [http://www.moc.gov.kh/en-us/]. Accessed January 2021.
[5] Ministry of Foreign Affairs. "Covid-19". [https://www.mfaic.gov.kh/covid-19]. Accessed 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: 0

There is evidence that Cambodia 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. The World Trade Organization's "Covid-19: Measures affecting trade in goods" list confirms that Cambodia issued "Temporary export ban on rice, paddy rice and fish, due to the Covid-19 pandemic (originally implemented on 5 April 2020)", terminated on 20 May 2020. [1]

[1] World Trade Organization. June 4, 2021. "Covid-19: Measures affecting trade in goods".
[https://www.wto.org/english/tratop_e/covid19_e/trade_related_goods_measure_e.htm] Accessed June 24, 2021.

3.7.2 Travel restrictions

3.7.2a

In the past year, has the country implemented a ban, without international/bilateral support, on travelers arriving from a specific country or countries due to an infectious disease outbreak?
Yes = 0 , No = 1

> Current Year Score: 0

In the past year, Cambodia has implemented a ban, without international/bilateral support, on travelers arriving from specific countries due to an infectious disease outbreak. In April, the Ministry of Foreign Affairs announced that Cambodia would extend a ban on travelers from select countries experiencing high rates of Covid-19 infection. "To prevent the further spread of the Novel Coronavirus (Covid-19) in Cambodia, the Ministry of Health has decided to extend the temporary suspension of travel in Cambodia for foreigners from France, Germany, Iran, Italy, Spain and the United States of America," said a press release issued on April 17, 2020. [1] In May, the government began allowing foreign visitors from these and other countries,

but requires a 14-day quarantine upon entry. [2]

[1] Ministry of Foreign Affairs. April 2020. "Press Release on Covid-19 travel restrictions".
[https://www.mfaic.gov.kh/detail/41992] Accessed January 2021.
[2] Ministry of Foreign Affairs. "Information on Cambodia Travel Restrictions". [https://www.mfaic.gov.kh/covid-19].
Accessed Janaury 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: 19.27

2014

WHO; national sources

4.1.1b
Nurses and midwives per 100,000 people
Input number
> Current Year Score: 68.55

2018

WHO; national sources

4.1.1c
Does the country have a health workforce strategy in place (which has been updated in the past five years) to identify fields where there is an insufficient workforce and strategies to address these shortcomings?
Yes = 1 , No = 0
> Current Year Score: 0

There is insufficient evidence that Cambodia has a health workforce strategy updated in the past five years. The Ministry of Health's overall strategic plan 2016-2020 says: "The Health Workforce Development Plan provides guidance on staff levels and distribution, pre-service and in-service training, management and incentives and performance management." [1] However the plan is not available on the Ministry of Health's website, nor is additional information about a health workforce development strategy. [2] The Joint External Evaluation for Cambodia, completed in August/September 2016, says: "Cambodia has a detailed health workforce development plan for 2016-2020 that focuses on staffing for curative services" but adds it does not "include public health professions (such as epidemiologists)". [3] Reporting on its own activities in Cambodia, the World Health Organization said Cambodia's Fourth Health Workforce Development Plan "is expected to be launched in 2021."[4] There is no additional information on the Ministry of Health website. [5]

[1] Ministry of Health. 2016. "The third Health Strategic Plan 2016-2020 (HSP3)".
[http://hismohcambodia.org/public/fileupload/carousel/HSP3-(2016-2020).pdf]. Accessed January 2021.
[2] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed January 2021.
[3] World Health Organization (WHO). 26 August-September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[4] World Health Organization (WHO). November 2019. "Investing in the health workforce for the future". [https://www.who.int/cambodia/news/feature-stories/detail/investing-in-the-health-workforce-for-the-future]. Accessed January 2021.
[5] Ministry of Health. 2018. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.

4.1.2 Facilities capacity

4.1.2a
Hospital beds per 100,000 people
Input number
          Current Year Score: 90

2016

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 Cambodia has the capacity to isolate patients with highly communicable diseases in patient isolation facilities located within the country. Cambodia had 65 isolation rooms in 11 referral hospitals throughout Cambodia, according to a study by BMJ Open Respiratory Research published in June 2018, although no information exists on the design of these facilities. [1] Regarding the isolation facilities, the BMJ Open Respiratory Research study refers to a 2016 tuberculosis report that is not available online. The Joint External Evaluation for Cambodia, completed in August/September 2016, says that there are isolation units at border checkpoints and elsewhere in the country, though they "are often inadequate and not up to standard." [2] The Ministry of Health's Communicable Disease Control Department has a "Quarantine" section on its

website, but it is under construction. [3] There is no additional information on the Ministry of Health website. [4]

[1] BMJ Open Respiratory Research, June 2018, "Initiation, scale-up and outcomes of the Cambodian National MDR-TB programme 2006–2016: hospital and community-based treatment through an NGO–NTP partnership". [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6018896/] Accessed January 2021.
[2] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[3] Communicable Disease Control Department "Quarantine". [http://cdcmoh.gov.kh/quarantine/quarantine-formality]. Accessed January 2021.
[4] Ministry of Health. 2018. "Homepage". [http://moh.gov.kh/]. Accessed 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: 0

There is no evidence that Cambodia has demonstrated capacity to expand isolation capacity in response to an infectious disease outbreak or developed, updated or tested a plan to expand isolation capacity in the past two years. The Joint External Evaluation for Cambodia, completed in August/September 2016, says "Isolation rooms and equipment are often inadequate and not up to standard." [1] There is no evidence on the Ministry of Health or National Committee for Disaster Management websites that isolation capacity has been expanded, or that plans are underway to do so. [2,3] According to the World Bank, Cambodia updated its National Pandemic Preparedness Plan in 2019. [4] However, the plan is not available online in Khmer or English. In 2019, the government disseminated Standard Operating Procedures for the Ministry of Health's Emergency Operations Center. [5] There is no mention in the document of isolation capacity. The World Health Organization, which provides regular updates on its work fighting Covid-19 in Cambodia, has not published any information about expanding isolation capacity. [6]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed January 2021.
[3] National Committee for Disaster Management. "Homepage". [http://www.ncdm.gov.kh/]. Accessed February 2021.
[4] World Bank. April 2020. "Project appraisal document for the Cambodia Covid-19 emergency response project". [http://documents1.worldbank.org/curated/en/737031585950801934/pdf/Cambodia-Covid-19-Emergency-Response-Project.pdf]. Accessed January 2021.
[5] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf]. Accessed January 2021.
[6] World Health Organization (WHO). "Covid-19 response in Cambodia". [https://www.who.int/cambodia/emergencies/covid-19-response-in-cambodia] Accessed April 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 available evidence of a national procurement protocol in place which can be utilized by the Ministries of Health and Agriculture for the acquisition of medical supplies and laboratory supplies. "A national system for procurement and quality assurance is not in place," according to the Joint External Evaluation for Cambodia, completed in August/September 2016. [1] However, the evaluation adds: "There is a specific unit responsible for procurement, including media and reagents for laboratory diagnostics." The Ministry of Health has a page titled "Procurement," but not information on that page, and there is no indication elsewhere that the ministry has established a procurement protocol in the past two years. [2] The national reference laboratory is at the National Institute of Public Health. The NIPH website makes no reference to a procurement protocol for the acquisition of laboratory needs. [3] The Ministry of Agriculture's website has no information about medical or laboratory supplies. [4] Cambodia's "Covid-19 Master Plan" is referenced in documents from the World Health Organization and World Bank, but does not appear to be publicly available online in either Khmer or English. [5]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] Ministry of Health. "Procurement".
[http://moh.gov.kh/%E1%9E%80%E1%9E%B6%E1%9E%9A%E1%9E%84%E1%9E%B6%E1%9E%9A%E1%9E%9B%E1%9E%91%E1%9F%92%E1%9E%92%E1%9E%80%E1%9E%98%E1%9F%92%E1%9E%98/?lang=en] Accessed January 2021.
[3] National Institute of Public Health. "National Reference Laboratory". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.
[4] Ministry of Agriculture. "Homepage". [https://web.maff.gov.kh/]. Accessed January 2021.
[5] World Bank. April 2020. "Project appraisal document for the Cambodia Covid-19 emergency response project". [http://documents1.worldbank.org/curated/en/737031585950801934/pdf/Cambodia-Covid-19-Emergency-Response-Project.pdf]. Accessed 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 insufficient evidence that Cambodia has a stockpile of medical supplies (e.g. medical countermeasures (MCM), medicines, vaccines, medical equipment, Personal Protective Equipment (PPE)) for national use during a public health emergency. There are media reports on Cambodia providing donations of medical equipment (specifically masks) to countries including Nepal, East Timor, Laos and Myanmar. In one article in November 2020, the health minister reportedly said Cambodia was not worried about a domestic shortage because the prime minister "had ordered the health ministry to purchase more masks and equipment to refill the government stockpile." [1] However there is no information about a medical stockpile on the Ministry of Health or Ministry of Defense websites. [2, 3] The Joint External Evaluation for Cambodia, completed in August/September 2016, makes passing reference to improving stockpile maintenance but does not describe the state of Cambodia's medical stockpiles. [4] The Ministry of Health's Emergency Operations Center standard operating procedures also reference stockpile preparedness but do not details existing resources. [5] Cambodia's "Covid-19 Master Plan" is referenced in documents from the World Health Organization and World Bank, but does not appear to be publicly available online in either Khmer or English.

[1] Phnom Penh Post, November 2020, "Government to provide Covid-19 equipment to East Timor". [https://www.phnompenhpost.com/national/govt-provide-covid-19-equipment-east-timor]. Accessed January 2021.
[2] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.
[3] Ministry of Defense. "Homepage". [https://mod.gov.kh/] Accessed January 2021.
[4] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[5] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf]. Accessed 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 insufficient evidence that Cambodia has a stockpile of laboratory supplies (e.g. reagents, media) for national use during a public health emergency. There are media reports on Cambodia providing donations of medical equipment (specifically masks) to countries including Nepal, East Timor, Laos and Myanmar. In one article in November 2020, the health minister reportedly said Cambodia was not worried about a domestic shortage because the prime minister "had ordered the health ministry to purchase more masks and equipment to refill the government stockpile." [1] However there is no information about a laboratory stockpile on the Ministry of Health or Ministry of Defense websites. [2, 3] The Joint External Evaluation for Cambodia, completed in August/September 2016, makes passing reference to improving stockpile maintenance but does not describe the state of Cambodia's laboratory stockpiles. [4] The Ministry of Health's Emergency Operations Center standard operating procedures also reference stockpile preparedness but do not details existing resources. [5] Cambodia's "Covid-19 Master Plan" if referenced in documents from the World Health Organization and World Bank, but does not appear to be publicly available online in either Khmer or English.

[1] Phnom Penh Post, November 2020, "Government to provide Covid-19 equipment to East Timor". [https://www.phnompenhpost.com/national/govt-provide-covid-19-equipment-east-timor]. Accessed January 2021.
[2] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.
[3] Ministry of Defense. "Homepage". [https://mod.gov.kh/] Accessed January 2021.
[4] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the

Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[5] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf].

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 Cambodia conducts or requires an annual review of the national stockpile to ensure supply is sufficient for a public health emergency, as there is no evidence that it has a national stockpile. There are media reports on Cambodia providing donations of medical equipment (specifically masks) to countries including Nepal, East Timor, Laos and Myanmar. In one article, in November 2020, the health minister reportedly said Cambodia was not worried about a domestic shortage because the prime minister "had ordered the health ministry to purchase more masks and equipment to refill the government stockpile." [1] However there is no information about a medical stockpile on the Ministry of Health or Ministry of Defense websites. [2, 3] The Joint External Evaluation for Cambodia, completed in August/September 2016, makes passing reference to improving stockpile maintenance but does not describe the state of Cambodia's medical stockpiles. [4] The Ministry of Health's Emergency Operations Center standard operating procedures also reference stockpile preparedness but do not detail existing resources. [5] Cambodia's "Covid-19 Master Plan" if referenced in documents from the World Health Organization and World Bank, but does not appear to be publicly available online in either Khmer or English.

[1] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf]. Accessed January 2021.
[2] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.
[3] Ministry of Defense. "Homepage". [https://mod.gov.kh/] Accessed January 2021.
[4] Phnom Penh Post. November 2020. "Government to provide Covid-19 equipment to East Timor".
[https://www.phnompenhpost.com/national/govt-provide-covid-19-equipment-east-timor]. Accessed January 2021.
[5] Xinhua. January 2021. "Cambodia provides over 2 mln masks, medical supplies to Nepal for Covid-19 fight".
[http://www.xinhuanet.com/english/2021-01/04/c_139640516.htm] Accessed January 2021.
[6] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.

4.2.3 Manufacturing and procurement for emergencies

4.2.3a

Does the country meet one of the following criteria?
- Is there evidence of a plan/agreement to leverage domestic manufacturing capacity to produce medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency?
- Is there evidence of a plan/mechanism to procure medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency?
Needs to meet at least one of the criteria to be scored a 1 on this measure., Yes for both = 1, Yes for one = 1, No for both = 0

Current Year Score: 0

There is insufficient evidence of a plan/agreement to leverage domestic manufacturing capacity to produce medical supplies (e.g. Medical Countermeasures (MCM), medicines, vaccines, equipment, PPE) -- or a plan/mechanism to procure medical supplies -- for national use during a public health emergency. The Ministry of Health's Emergency Operations Center standard operating procedures refer to a Logistics function for supply chain management. [1] But there is no evidence on the Ministry of Health or Ministry of Defense websites of additional planning documents or official agreements. [2, 3] The World Bank provided US$20 million to Cambodia's Covid relief efforts, US$6.5 million of which was focused on procuring "drugs and medical supplies for case management and infection prevention" due to concerns over insufficient domestic capacity. There were also media reports of Cambodia donating medical equipment (specifically masks) to other Southeast Asian countries, and receiving supplies from China. [4, 5] But neither appeared to be part of continuing plans or agreements. The Joint External Evaluation for Cambodia, completed in August/September 2016, recommended that Cambodia "Develop a mechanism for standardized procurement of equipment and supplies." [6] Cambodia's "Covid-19 Master Plan" if referenced in documents from the World Health Organization and World Bank, but does not appear to be publicly available online in either Khmer or English.

[1] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf]. Accessed January 2021.
[2] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.
[3] Ministry of Defense. "Homepage". [https://mod.gov.kh/] Accessed January 2021.
[4] Phnom Penh Post. November 2020. "Government to provide Covid-19 equipment to East Timor". [https://www.phnompenhpost.com/national/govt-provide-covid-19-equipment-east-timor]. Accessed January 2021.
[5] Xinhua. January 2021. "Cambodia provides over 2 mln masks, medical supplies to Nepal for Covid-19 fight". [http://www.xinhuanet.com/english/2021-01/04/c_139640516.htm] Accessed January 2021.
[6] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed 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 insufficient evidence of a plan/agreement to leverage domestic manufacturing capacity to produce laboratory supplies or a plan/mechanism to procure laboratory supplies for national use during a public health emergency. The Ministry of Health's Emergency Operations Center standard operating procedures refer to a logistics function for supply chain management. [1] But there is no evidence on the Ministry of Health or Ministry of Defense websites of additional planning documents or official agreements. [2, 3] The World Bank provided US$20 million to Cambodia's Covid relief efforts, US$6.5 million of which was focused for procuring "drugs and medical supplies for case management and infection prevention" due to concerns over insufficient domestic capacity. There were also media reports of Cambodia donating medical equipment (specifically masks) to other Southeast Asian countries, and receiving supplies from China, but not reports mentioning laboratory supplies. [4, 5] The Joint External Evaluation for Cambodia, completed in August/September 2016, recommended that Cambodia "Develop a mechanism for standardized procurement of equipment and supplies." [6] Cambodia's "Covid-19 Master Plan" if referenced in documents from the World Health Organization and World Bank, but does not appear to be

publicly available online in either Khmer or English.

[1] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf]. Accessed January 2021.

[2] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.

[3] Ministry of Defense. "Homepage". [https://mod.gov.kh/] Accessed January 2021.

[4] Phnom Penh Post. November 2020. "Government to provide Covid-19 equipment to East Timor". [https://www.phnompenhpost.com/national/govt-provide-covid-19-equipment-east-timor]. Accessed January 2021.

[5] Xinhua. January 2021. "Cambodia provides over 2 mln masks, medical supplies to Nepal for Covid-19 fight". [http://www.xinhuanet.com/english/2021-01/04/c_139640516.htm] Accessed January 2021.

[6] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed 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 Cambodia has a plan, program, or guidelines in place for dispensing medical countermeasures (MCM) for national use during a public health emergency. The World Health Organization refers to Cambodia's "Covid-19 Master Plan" in its situation reports on Cambodia's coronavirus response, as well as noting: "The National Immunization Program has drafted the Covid-19 National Deployment and Vaccination Plan (NDVP) with a focus on the following areas: Cold storage capacity assessment, Vaccination strategies, and Management structure." [1] However, neither the master plan nor the NDVP are available on the Ministry of Health, Ministry of Defense, or related websites. [2, 3] There are also no non-Covid-related plans, programs or guidelines on dispensing medical countermeasures available on those websites. The Joint External Evaluation for Cambodia, completed in August/September 2016, said that Cambodia had SOPs in place for importing medical counter measures, but they did not cover dispensing medical counter measures. [4]

[1] World Health Organization and Cambodia's Ministry of Health. January 2021. "Cambodia Coronavirus Disease 2019 (Covid-19) Situation Report #28". [https://www.who.int/docs/default-source/wpro---documents/countries/cambodia/covid-19/covid-19-joint-who-moh-sitrep-28.pdf?sfvrsn=ea7c7b49_5]. Accessed January 2021.

[2] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.

[3] Ministry of Defense. "Homepage". [https://mod.gov.kh/] Accessed January 2021.

[4] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.

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

4.3.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence of a public plan in Cambodia to receive health personnel from other countries to respond to a public health emergency. The Ministry of Health's Emergency Operations Center's standard operating procedures refer to a function tasked with supporting "the training of existing national personnel and additional surge staff that may be repurposed to emergency response." [1] However, it does not offer a corresponding plan, and there is no evidence of such a plan on the Ministry of Health or Ministry of Defense websites. [2, 3] The World Health Organization (WHO) refers to Cambodia's "Covid-19 Master Plan" in its situation reports on Cambodia's coronavirus response, [4] but there is no evidence of that plan being posted online in either English or Khmer, nor is there any indication that it covers receiving medical personnel. The Joint External Evaluation for Cambodia, completed in August/September 2016, said Cambodia is "Able to rely on effective mechanisms to receive health personnel as evidenced by receipt of WHO experts during a major outbreak of enterovirus 71 in 2012." However, there is no indication that these mechanisms are outlined in a publicly available plan. [5]

[1] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf]. Accessed January 2021.

[2] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.

[3] Ministry of Defense. "Homepage". [https://mod.gov.kh/] Accessed January 2021.

[4] World Health Organization and Cambodia's Ministry of Health, January 2021, "Cambodia Coronavirus Disease 2019 (Covid-19) Situation Report #28". [https://www.who.int/docs/default-source/wpro---documents/countries/cambodia/covid-19/covid-19-joint-who-moh-sitrep-28.pdf?sfvrsn=ea7c7b49_5]. Accessed January 2021.

[5] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed 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: 2

2020

World Policy Analysis Center

4.4.1b

Access to skilled birth attendants (% of population)

Input number

> **Current Year Score: 89**

2014

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: 143.95**

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**

The government has not 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. There is no evidence of such a policy or statement on relevant pages of the Ministry of Health's website, nor the website of the National Committee for Disaster Management. [1, 2] There is no indication in news coverage or World Health Organization (WHO) reports of such a policy or commitment. [3] The WHO refers to Cambodia's "Covid-19 Master Plan" in its situation reports on Cambodia's coronavirus response, [4] but there is no evidence of that plan being posted online in either English or Khmer,

nor is there any indication that it includes a provision giving healthcare workers priority access to healthcare services.

[1] Ministry of Health. 2018. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed January 2021.
[2] National Committee for Disaster Management. "Homepage". [http://www.ncdm.gov.kh/]. Accessed January 2021.
[3] World Health Organization (WHO). 2018. "Institutional Repository for Information Sharing: Cambodia search". [http://iris.wpro.who.int/handle/10665.1/1280/discover?filtertype_1=title&filter_relational_operator_1=contains&filter_1=cambodia&submit_apply_filter=&query=cambodia&rpp=10&sort_by=dc.date.issued_dt&order=desc]. Accessed January 2021.
[4] World Health Organization and Cambodia's Ministry of Health, January 2021, "Cambodia Coronavirus Disease 2019 (Covid-19) Situation Report #28". [https://www.who.int/docs/default-source/wpro---documents/countries/cambodia/covid-19/covid-19-joint-who-moh-sitrep-28.pdf?sfvrsn=ea7c7b49_5]. Accessed 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 formal system in place for public health officials and healthcare workers to communicate during a public health emergency. Public health officials in Cambodia use the smartphone messaging app WhatsApp to communicate during a public health emergency, according to the Joint External Evaluation for Cambodia, completed in August/September 2016. [1] "The Cambodian Department of Communicable Disease Control has taken an innovative approach to communicating among its staff and senior leaders during public health events and emergencies by using a popular messaging application (WhatsApp) to share images of documents and discussions leading to potential activations," the assessment says. There is no evidence on the Ministry of Health of National Institute of Public Health websites that a formal system has been put in place in the past two years. [2, 3] The Ministry of Health's Emergency Operations Center standard operating procedures do not include provisions on a system for healthcare workers to communicate with public health officials. [4]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] Ministry of Health. 2018. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.
[3] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.
[4] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf]. Accessed 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 system for public health officials and healthcare workers to communicate during an emergency, hence there is also no system that encompasses healthcare workers in both the public and private sector. Public health officials in Cambodia use the smartphone messaging app WhatsApp to communicate during a public health emergency, according to the Joint External Evaluation for Cambodia, completed in August/September 2016. [1] "The Cambodian Department of Communicable Disease Control has taken an innovative approach to communicate among its staff and senior leaders during public health events and emergencies by using a popular messaging application (WhatsApp) to share images of documents and discussions leading to potential activations," the assessment says. There is no evidence on the Ministry of Health or National Institute of Public Health websites that a formal system has been put in place in the past two years. [2, 3] The Ministry of Health's Emergency Operations Center's standard operating procedures do not include provisions for a system for health workers to communicate with public health officials. [4]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] Ministry of Health. 2018. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.
[3] National Institute of Public Health. "Health Policy Documents". [https://niph.org.kh/niph/laboratory/index.html]. Accessed January 2021.
[4] Ministry of Health. August 2019. "Emergency Operations Centre and Incident Management System Standard Operating Procedures". [https://niph.org.kh/niph/uploads/library/pdf/GL244_5_6102813189454430703_eng.pdf]. Accessed 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 Cambodia's national public health system is monitoring and tracking the number of healthcare-associated infections (HCAIs) that take place in healthcare facilities. The World Health Organization and USAID assisted Cambodia in creating an infection prevention and control (IPC) program, which is reflected in "Infection Prevention And Control Guidelines For Health Care Facilities", released in 2010. [1] The Ministry of Health's "National Infection Control Policy" describes the reporting procedure and structure to "systematically collect data on the incidence of HCAI (new infections)." [2] It directs hospitals to form surveillance teams to meet regularly and report to provincial and national health departments. The Department of Hospital Services is in charge of monitoring infections at healthcare facilities, however there is no evidence on the Ministry of Health (MoH) website that they collect and analyze HCAI data. [3] There is also no evidence of such data collection on the MoH Communicable Disease Control Department website, or the National Institute of Public Health website. [4,5]

[1] Ministry of Health, 2010, "Infection Prevention And Control Guidelines For Health Care Facilities". [https://drive.google.com/file/d/1mPsV7UROytkg49Vq895ZzNOHQzZ2_9dw/view]. Accessed January 2021.

[2] Ministry of Health, 2009, "National Infection Control Policy".; [http://cdcmoh.gov.kh/images/Document/Collaborative/5-Policy%2012Dec09%20English%20Final.pdf]. Accessed January 2021.

[3] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed January 2021.

[4] Communicable Disease Control Department. "Homepage". [http://cdcmoh.gov.kh]. Accessed January 2021.

[5] National Institute of Public Health. "Homepage". [https://niph.org.kh]. Accessed 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: 1

There is a national requirement for an ethical review from an ethics committee before beginning a clinical trial. The Ministry of Health established the National Ethics Committee for Health Research in 2004 with assistance from the World Health Organization (WHO). The committee must "review and approve all types of research proposals involving human participants." Its standard operating procedures describe that process. [1] It remains active, indicated by a planned meeting to review research proposals on December 25, 2020, advertised on its website [2].

[1] Ministry of Health. 2008. "National Ethics Committee for Health Research: Standard Operating Procedures". [http://nechr.org.kh/beta/camhrp/public/Cam_IRBs_HR_SOP_eng.pdf]. Accessed January 2021.

[2] National Ethics Committee for Health Research. "Homepage". [http://www.nechr.org.kh/beta/camhrp/index.php/camhrp/index]. Accessed 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 evidence of an expedited process for approving clinical trials, however it is unclear if they apply to unregistered medical countermeasures to treat ongoing pandemics. The chair of the National Ethics Committee for Health Research has the authority to grant an expedited review only for trials that meet the following criteria: Non-significant risk protocols, Protocols that use previously collected data/specimens, Minor revision of previously approved protocol. [1] There are no results for previous research on "countermeasures." [2] On the application form for reviews, "clinical trials" is an option but there is no mention of countermeasures. There is no additional information about clinical trial on the Ministry of Health website, and Cambodia does not have a separate government agency overseeing research. [3]

[1] Ministry of Health. 2008. "National Ethics Committee for Health Research: Standard Operating Procedures". [http://nechr.org.kh/beta/camhrp/public/Cam_IRBs_HR_SOP_eng.pdf]. Accessed January 2021.

[2] National Ethics Committee for Health Research. "Countermeasure".
[http://www.nechr.org.kh/beta/camhrp/index.php/camhrp/search/advancedResults]. Accessed January 2021.
[3] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed 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 no government agency responsible for approving new medical countermeasures for humans. There is no evidence that research on countermeasures has been conducted in the country, and all of Cambodia's preparedness strategies call for importing countermeasures. "At its current level of development, it is more relevant for Cambodia to receive medical countermeasures," said the latest Joint External Evaluation for Cambodia, completed in August/September 2016. [2] The National Ethics Committee for Health Research is the body responsible for reviewing all research involving humans, but there is no indication on its website that it has reviewed countermeasure research. [2] There is no national drugs authority; the National Authority for Combating Drugs focuses on criminal use and distribution of narcotics. There is no additional information about clinical trials on the Ministry of Health website, and Cambodia does not have a separate government agency overseeing research. [3]

[1] World Health Organization (WHO). 26 August-2 September 2016. "Joint External Evaluation of IHR Core Capacities of the Kingdom of Cambodia". [https://www.who.int/ihr/publications/who-whe-cpi-2017.11/en/]. Accessed January 2021.
[2] National Ethics Committee for Health Research. "Homepage".
[http://www.nechr.org.kh/beta/camhrp/index.php/camhrp/index]. Accessed January 2021.
[3] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed 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 of Cambodia having an expedited process for approving medical countermeasures for human use during public health emergencies. The chair of the National Ethics Committee for Health Research has the authority to grant an expedited review only for clinical trials that meet the following criteria: Non-significant risk protocols, Protocols that use previously collected data/specimens, Minor revision of previously approved protocol. [1] There are no results for previous research on "countermeasures." [2] On the application form for reviews, "clinical trials" is an option but there is no mention of countermeasures. There is no additional information about clinical trial on the Ministry of Health website, and Cambodia does not have a separate government agency overseeing research. [3]

[1] Ministry of Health. 2008. "National Ethics Committee for Health Research: Standard Operating Procedures".
[http://nechr.org.kh/beta/camhrp/public/Cam_IRBs_HR_SOP_eng.pdf]. Accessed January 2021.
[2] National Ethics Committee for Health Research. "Countermeasure search".
[http://www.nechr.org.kh/beta/camhrp/index.php/camhrp/search/advancedResults]. Accessed January 2021.

[3] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed 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: 0

There is no public evidence that pandemics are integrated into the national risk reduction strategy, nor is there publicly available evidence of a standalone national disaster risk reduction strategy for pandemics. The "National Action Plan for Disaster Risk Reduction (NAP-DRR) 2014-2018" includes a definition of biological hazards that includes "outbreaks of epidemic diseases," but neither terms appears in the actual DRR plans for this period. [1] The action plan focuses almost exclusively on preparing for natural disasters. There is no evidence of a separate national disaster risk reduction strategy for pandemics on the website of the Ministry of Health's Communicable Disease Control Department, which is in charge of health-related disasters [2], nor on the Ministry of Health or National Committee for Disaster Management websites. [3, 4]

[1] Royal Government of Cambodia. 2013. "National Action Plan for Disaster Risk Reduction (NAP-DRR) 2014-2018". [http://www.rcrc-resilience-southeastasia.org/wp-content/uploads/2017/12/2014_national_action_plan_for_disaster_risk_reduction__nap-drr__2014-2018_english.pdf]. Accessed January 2021.
[2] Communicable Disease Control Department. "National Policy and Strategy". [http://cdcmoh.gov.kh/iec-material-and-

other-documents/national-policy]. Accessed January 2021.

[3] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.

[4] National Committee for Disaster Management. "Homepage". [http://www.ncdm.gov.kh/]. Accessed 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

Cambodia is party to a regional MoU with regard to public health emergencies. Cambodia is part of the Mekong Basin Disease Surveillance network, a regional mechanism for "joint outbreak responses relevant to the regional and global health agenda." [1] The network's MoU was last extended in 2015. [2] The network continues to be active in coordinating cooperation and capacity building among CLMV (Cambodia, Laos, Myanmar, Vietnam) countries. [3] The MoU says the network focuses on "HIV/AIDS, Plague, TB, Malaria, severe diarrhea, vaccine preventable diseases, Rabies, emerging diseases like SARS and highly pathogenic Avian Influenza...and other influenza transmitted from animal to human, and outbreaks of emerging/re-emerging infectious diseases with global, regional and sub-regional significance." The network's website further details its cross-border cooperation: "Regular information exchange, joint outbreak investigation, cross-border meetings, monitoring and evaluation, multi-sector engagement (especially immigration, local authorities), cross-border epidemiologic case history, cross-border medical care and clinical follow-up, expansion to nearby provincial areas." [1] There is no additional information on the Ministry of Health or Ministry of Foreign Affairs websites about new MoUs with other countries or regional groups. [4, 5]

[1] Mekong Basin Disease Surveillance. "About MBDS". [http://www.mbdsnet.org/about-mbds/]. Accessed January 2021.

[2] Mekong Basin Disease Surveillance. 2015. "Memorandum of Understanding". [http://mbdsnet.org/mbds-memorandum-of-understanding/]. Accessed January 2021.

[3] Mekong Basin Disease Surveillance. "eNewsletter November 2020". [http://mbdsnet.org/enewsletter_november_2020/] Accessed January 2021.

[4] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.

[5] Ministry of Foreign Affairs. "Homepage". [https://www.mfaic.gov.kh/]. Accessed January 2021.

5.2.1b

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

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

Current Year Score: 0

There is insufficient evidence that Cambodia has cross-border agreements with regional groups with regard to animal health emergencies. Cambodia is part of the Association of Southeast Asian Nations (ASEAN) Coordinating Center for Animal Health and Zoonoses (ACCAHZ), formed in 2016 for the "prevention, control, and eradication of transboundary animal diseases and

zoonoses." [1] Yet as of October 2020, the regional agreement had not come into force because it requires all ASEAN countries to ratify the MOU, and Indonesia has yet to sign on, according to a media article by an expert in the field. [2] The MoU also does not mention coordination on animal health emergencies specifically. Cambodia is also involved in the South-East Asia and China Foot and Mouth Disease (SEACFMD) Program, which involves seven regional countries and China, and is part of the World Organization for Animal Health (OIE)'s Sub-Commission for Southeast Asia. [3] There is no additional information about cross-border agreements on the Ministry of Health or Ministry of Agriculture websites. [4, 5]

[1] Association of Southeast Asian Nations. 2016. "Agreement on the Establishment of ASEAN Coordinating Centre for Animal Health and Zoonoses (ACCAHZ)". [http://agreement.asean.org/media/download/20161108071810.pdf]. Accessed January 2021.
[2] Phnom Penh Post. October 2020. "Does ASEAN have a zoonosis plan?".
[https://www.phnompenhpost.com/opinion/does-asean-have-zoonosis-plan]. Accessed February 2021.
[3] World Organization for Animal Health (OIE). "The South-East Asia and China Foot and Mouth Disease (SEACFMD) Campaign". [https://rr-asia.oie.int/en/our-mission/our-mission-regional-strategies/the-south-east-asia-and-china-foot-and-mouth-disease-seacfmd-campaign/]. Accessed January 2021.
[4] Ministry of Health. "Homepage". [http://moh.gov.kh/]. Accessed January 2021.
[5] Ministry of Agriculture, Forestry and Fisheries. "E-library". [http://elibrary.maff.gov.kh/]. Accessed January 2021.

5.3 INTERNATIONAL COMMITMENTS

5.3.1 Participation in international agreements

5.3.1a

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

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

Current Year Score: 2

2021

Biological Weapons Convention

5.3.1b

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

Yes = 1 , No = 0

Current Year Score: 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: 2

2021

Biological Weapons Convention

5.3.2 Voluntary memberships

5.3.2a

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

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

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

Current Year Score: 1

2021

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

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

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

5.4.1a

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

Yes = 1 , No = 0

Current Year Score: 1

2021

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

5.4.1b

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

Yes = 1 , No = 0

Current Year Score: 0

2021

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

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

5.4.2a

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

Yes = 1 , No = 0

Current Year Score: 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 Cambodia has allocated national funds to improve capacity to address epidemic threats within the past three years. Cambodia's budget saw major cuts across the board in 2021, due to the economic impact of Covid-19. [1] And there is no indication of specific allocations for epidemic threat preparedness in 2019 and 2020. The health sector more generally saw a reduction in funding in 2019 and a slight increase in 2020, according to media reports. [2, 3] Cambodia's National Strategic Development Plan 2019-2023, a document that offers a general framework for government spending priorities, only makes one passing mention of epidemic response, noting epidemiology capacity remains a challenge and adding "New epidemics or new pop-ups continue to threaten regional and international security." [4] Neither Cambodia's government nor parliament posts the full budget funding online.

[1] Khmer Times. June 2020, "Trimmer 2021 budget: Government plans 50 percent drop in spending". [https://www.khmertimeskh.com/50734167/trimmer-2021-budget-government-plans-50-percent-drop-in-spending/] Accessed January 2021.
[2] Phnom Penh Post. October 2018. "PM approves 2019 budget". [https://phnompenhpost.com/national/pm-approves-2019-budget] Accessed January 2021.
[3] Voice of America. October 2019. "Cambodia's Draft 2020 Budget Shows Significant Increase in Defense Spending". [https://www.voacambodia.com/a/Cambodias-draft-2020-budget-shows-significant-increase-in-defense-spending/5143647.html] Accessed January 2021.
[4] Royal Government of Cambodia. July 2019. "National Strategic Development Plan 2019-2023". [http://www.mop.gov.kh/DocumentEN/NSDP%202019-2023%20in%20English.pdf] Accessed 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 Cambodia can access in the face of a public health emergency. Cambodia is an International Development Association (IDA) eligible borrowing country, meaning it is eligible for the World Bank pandemic financing facility. [1, 2] The IDA provided US$20 million to Cambodia in 2020 "building on existing instruments to support IDA- and International Bank for Reconstruction and Development (IBRD)-eligible countries in addressing the health sector and broader development impacts of Covid-19." [3]

[1] International Development Association. "Borrowing Countries". [http://ida.worldbank.org/about/borrowing-countries]. Accessed January 2021.
[2] World Bank. December 2017. "Pandemic Emergency Financing Facility: Operational Brief for Eligible Countries". [http://pubdocs.worldbank.org/en/119961516647620597/PEF-Operational-Brief-Dec-2017.pdf] Accessed January 2021.
[3] World Bank. April 2020. "Project appraisal document for the Cambodia Covid-19 emergency response project". [http://documents1.worldbank.org/curated/en/737031585950801934/pdf/Cambodia-Covid-19-Emergency-Response-Project.pdf]. Accessed January 2021.

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

5.5.4a

Is there evidence that senior leaders (president or ministers), in the past three years, have made a public commitment either to:
- Support other countries to improve capacity to address epidemic threats by providing financing or support?
- Improve the country's domestic capacity to address epidemic threats by expanding financing or requesting support to improve capacity?

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

Current Year Score: 1

In the past three years, there is evidence of support from Cambodia's senior leadership for improving domestic and regional capacity to address epidemic threats. According to a World Health Organization press release, Cambodia's government committed to strengthen its IHR capacities in October 2018. Eng Huot, Secretary of State of the Ministry of Health, expressed the importance of "strong national political and technical commitment, multi-sectoral and inter-ministerial cooperation, and continuous support from partners, national and international organizations [to ensure] successful implementation of the National Workplan". [1] Additionally, at a 2018 meeting of ASEAN health ministers, ASEAN notes that Professor Eng Huot "strongly advocated for ASEAN Member States' participation in the Global Health Security Agenda (GHSA) and fully supported the implementation of national and regional activities leading to the achievement of the vision, goals and targets contained in the GHSA 2024 Framework." [2] More recently, Cambodia pledged Covid-19 assistance to a number of countries but has not made a more general commitment to helping improve capacity to address epidemic threats. [3]

[1] World Health Organization (WHO). "Cambodia commits to strengthening IHR capacities". [https://www.who.int/cambodia/news/detail/30-10-2018-cambodia-commits-to-strengthening-ihr-capacities]. Accessed February 2021.
[2] Association of Southeast Asian Nations (ASEAN). November 2018. "ASEAN Health Ministers renew commitment to fight communicable and emerging infectious diseases". [https://asean.org/asean-health-ministers-renew-commitment-fight-communicable-emerging-infectious-diseases]. Accessed February 2021.
[3] The Diplomat. December 2020. "What Explains Cambodia's Covid-19 Charm Offensive?". [https://thediplomat.com/2020/12/what-explains-cambodias-covid-19-charm-offensive/]

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 Cambodia has, in the past three years, provided other countries with support to improve capacity to address epidemic threats or requested financing or technical support from donors to improve the country's domestic capacity. In March 2020, Cambodia's Ministry of Economy and Finance requested US$20 million from the World Bank "to enhance preparedness activities for Covid-19 and strengthen the health system both at national and subnational level," according to a World Bank project appraisal document. [1] Cambodia also provided a few regional countries with basic supplies to support their Covid-19 efforts. The Georgetown Infectious Disease Atlas Global Health Security Tracker shows that Cambodia received millions in funding for epidemic threat response and related areas, with total donor health-related support topping US$100 million in each of the past three years. [2] However, there is no evidence of Cambodia making requests for that support in media reports, World Health Organization communications, or on the Ministry of Health or Ministry of Foreign Affairs websites. [3, 4, 5]

[1] World Bank. April 2020. "Project appraisal document for the Cambodia Covid-19 emergency response project". [http://documents1.worldbank.org/curated/en/737031585950801934/pdf/Cambodia-Covid-19-Emergency-Response-Project.pdf]. Accessed January 2021.
[2] Georgetown Infectious Disease Atlas (GIDA). "Global Health Security Tracking site, Recipient profile: Cambodia". [https://tracking.ghscosting.org/details/906/recipient]. Accessed February 2021.

[3] World Health Organization (WHO). "Cambodia country overview". [https://www.who.int/countries/khm/] Accessed January 2021.

[3] Ministry of Health. "Homepage". [http://moh.gov.kh/?lang=en]. Accessed January 2021.

[4] Ministry of Foreign Affairs. "Covid-19". [https://www.mfaic.gov.kh/covid-19]. Accessed 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

Cambodia does not have a publicly available plan or policy for sharing genetic data, epidemiological data, clinical specimens, or isolated specimens (biological materials) with international organizations or other countries that goes beyond influenza. The National Institute of Public Health has the most comprehensive list of healthcare-related plans and policies, but it does not include anything on sharing genetic data, epidemiological data, or specimens [1]. There is no evidence of such a plan on the Ministry of Health website [2] or that of the Communicable Disease Control Department [3]. The Institut Pasteur, which is part of an international influenza network, does not appear to have commitments beyond influenza. [4]

[1] National Institute of Public Health. 2018. "Health Policy Documents". [https://niph.org.kh/niph/library/index.html]. Accessed January 2021.

[2] Ministry of Health. 2018. "Operations plans". [http://moh.gov.kh/%E1%9E%95%E1%9F%82%E1%9E%93%E1%9E%80%E1%9E%B6%E1%9E%9A%E2%80%8B%E1%9E%94%E1%9F%92%E1%9E%9A%E1%9E%8F%E1%9E%B7%E1%9E%94%E1%9E%8F%E1%9F%92%E1%9E%8F%E1%9E%B7%E2%80%8B/?lang=en]. Accessed January 2021.

[3] Communicable Disease Control Department. "Homepage". [http://cdcmoh.gov.kh/]. Accessed January 2021.

[4] Institut Pasteur Cambodia. "Public Health and Epidemiology Unit". [http://www.pasteur-kh.org/epidemiology-unit/]. Accessed 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 Cambodia has not shared samples in accordance with the Pandemic Influenza Preparedness (PIP) framework in the past two years. There is no evidence of not sharing samples on the World Health Organization's Cambodia page or its PIP framework page. [1, 2] None of the news coverage of influenza in Cambodia indicates that there was a failure to share samples.

[1] World Health Organization (WHO). "Cambodia: news and features". [http://www.who.int/countries/khm/en/]. Accessed January 2021.
[2] World Health Organization (WHO). "Pandemic Influenza Preparedness (PIP) Framework".
[http://www.who.int/influenza/pip/en/]. Accessed 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 public evidence that Cambodia has not shared pandemic pathogen samples during an outbreak in the past two years. There is no evidence of not sharing samples on the World Health Organization's Cambodia page [1]. None of the news coverage in Cambodia indicates that pathogen samples were not shared, including for Covid-19.

[1] World Health Organization (WHO). 2018. "Cambodia: news and features". [http://www.who.int/countries/khm/en/]. Accessed January 2021. Accessed 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: 2

2020

Economist Intelligence

6.1.1b

Quality of bureaucracy (Economist Intelligence score; 0-4, where 4=best)

Input number

> **Current Year Score: 0**

2020

Economist Intelligence

6.1.1c

Excessive bureaucracy/red tape (Economist Intelligence score; 0-4, where 4=best)

Input number

> **Current Year Score: 1**

2020

Economist Intelligence

6.1.1d

Vested interests/cronyism (Economist Intelligence score; 0-4, where 4=best)

Input number

> **Current Year Score: 1**

2020

Economist Intelligence

6.1.1e

Country score on Corruption Perception Index (0-100, where 100=best)

Input number

> **Current Year Score: 21**

2020

Transparency International

![GHS INDEX - GLOBAL HEALTH SECURITY INDEX]

6.1.1f

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

Input number

Current Year Score: 0

2020

Economist Intelligence

6.1.1g

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

Input number

Current Year Score: 0

2020

Economist Intelligence

6.1.2 Orderly transfers of power

6.1.2a

How clear, established, and accepted are constitutional mechanisms for the orderly transfer of power from one government to another?

Very clear, established and accepted = 4, Clear, established and accepted = 3, One of the three criteria (clear, established, accepted) is missing = 2, Two of the three criteria (clear, established, accepted) are missing = 1, Not clear, not established, not accepted = 0

Current Year Score: 1

2021

Economist Intelligence

6.1.3 Risk of social unrest

6.1.3a

What is the risk of disruptive social unrest?

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

Current Year Score: 1

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: 3

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: 1

2021

Economist Intelligence

6.1.5 Armed conflict

6.1.5a

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

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

Current Year Score: 3

2021

Economist Intelligence

6.1.6 Government territorial control

6.1.6a

Does the government's authority extend over the full territory of the country?

Yes = 1, No = 0

> Current Year Score: 1

2021

Economist Intelligence

6.1.7 International tensions

6.1.7a

Is there a threat that international disputes/tensions could have a negative effect?

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

> Current Year Score: 1

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: 80.53

2015

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: 0.53

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: 3.78**

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: 2**

According to a 2012 ILO survey, 93.6% of Cambodian workers are employed in the informal sector. The 2012 data is the latest survey by the ILO, and is also cited as the most recent data by the World Bank.

[1] International Labor Organization. "ILOSTAT Explorer"
[https://www.ilo.org/shinyapps/bulkexplorer21/?lang=en&segment=indicator&id=EAP_DWAP_SEX_AGE_RT_A]. Accessed January 2021.

6.2.3c

Coverage of social insurance programs (% of population)
Scored in quartiles (0-3, where 3=best)
> **Current Year Score: 0**

2016, or latest available

World Bank; Economist Impact calculations

6.2.4 Public confidence in government

6.2.4a

Level of confidence in public institutions
Input number
> **Current Year Score: 1**

2021

6.2.5 Local media and reporting

6.2.5a

Is media coverage robust? Is there open and free discussion of public issues, with a reasonable diversity of opinions?

Input number

Current Year Score: 0

2021

Economist Intelligence Democracy Index

6.2.6 Inequality

6.2.6a

Gini coefficient

Scored 0-1, where 0=best

Current Year Score: 0.38

Latest available.

World Bank; Economist Impact calculations

6.3 INFRASTRUCTURE ADEQUACY

6.3.1 Adequacy of road network

6.3.1a

What is the risk that the road network will prove inadequate to meet needs?

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

Current Year Score: 1

2021

Economist Intelligence

6.3.2 Adequacy of airports

6.3.2a

What is the risk that air transport will prove inadequate to meet needs?

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

Current Year Score: 1

Economist Intelligence

6.3.3 Adequacy of power network

6.3.3a

What is the risk that power shortages could be disruptive?
Very low = 4, Low = 3, Moderate = 2, High = 1, Very high = 0
> **Current Year Score: 1**

2021

Economist Intelligence

6.4 ENVIRONMENTAL RISKS

6.4.1 Urbanization

6.4.1a

Urban population (% of total population)
Input number
> **Current Year Score: 23.8**

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: -12.73**

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: 69.57

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: 652.4

2019

WHO

6.5.1c
Population ages 65 and above (% of total population)
Input number

Current Year Score: 4.72

2019

World Bank

6.5.1d
Prevalence of current tobacco use (% of adults)
Input number

Current Year Score: 21.8

2018

World Bank

6.5.1e

Prevalence of obesity among adults

Input number

 Current Year Score: 3.9

2016

WHO

6.5.2 Access to potable water and sanitation

6.5.2a

Percentage of homes with access to at least basic water infrastructure

Input number

 Current Year Score: 78.51

2017

UNICEF; Economist Impact

6.5.2b

Percentage of homes with access to at least basic sanitation facilities

Input number

 Current Year Score: 59.23

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: 55.56

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