

Malawi

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

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Category 1: Preventing the emergence or release of pathogens with potential for international concern

1.1 ANTIMICROBIAL RESISTANCE (AMR)

1.1.1 AMR surveillance, detection, and reporting

1.1.1a

Is there a national AMR plan for the surveillance, detection, and reporting of priority AMR pathogens?

Yes, there is evidence of an AMR plan, and it covers surveillance, detection, and reporting = 2, Yes, there is evidence of an AMR plan, but there is insufficient evidence that it covers surveillance, detection, and reporting = 1, No evidence of an AMR plan = 0

Current Year Score: 0

There is insufficient evidence that Malawi has a national antimicrobial resistance plan for the surveillance, detection and reporting of priority AMR pathogens. Although the Joint External Evaluation report (JEE), conducted in February 2019, states that Malawi has "developed a national AMR strategy (2017-2022) that incorporates an action plan" there is no publicly available evidence of this action plan. It also states that the AMR surveillance plan has yet to be developed. [1] The Public Health Institute of Malawi (PHIM) outlines that in "February 2017, Malawi recognised AMR as a public health risk that needs to be given priority. Following which the country has developed a National AMR Strategy in line with the Global Action Plan that would inform the activities and interventions for AMR". The draft plan is not published on the Institute website [2]. A presentation on antimicrobial resistance in Malawi, given in Accra, March 2018, outlines that "one of the key objectives of the National Action Plan is to generate evidence through surveillance and research", and "to develop a National Research Agenda for AMRs in Malawi" [3]. There is no evidence of a national AMR plan on the World Health Organisation (WHO) Library of National Action Plans, the Ministry of Health & Population, the Ministry of Agriculture, Irrigation & Water Development [4,5,6].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 December 2020.

[2] Public Health Institute of Malawi (PHIM). "Antimicrobial Resistance". [<http://malawipublichealth.org/index.php/departments/national-public-health-reference-laboratory/antimicrobial-resistance>]. Accessed 21 December 2020.

[3] Munthali, A.C. Centre for Social Research, University of Malawi. March 2018. "Antimicrobial resistance in Malawi: generating (qualitative) evidence to inform policy and programming". [https://cdn.southampton.ac.uk/assets/imported/transforms/content-block/UsefulDownloads_Download/591690112F17499F8EE380426995981B/11munthali.pdf]. Accessed 21 December 2020.

[4] World Health Organisation (WHO). "Library of National Action Plans on AMR". [<http://www.who.int/antimicrobial-resistance/national-action-plans/library/en>]. Accessed 21 December 2020.

[5] Ministry of Health & Population. <http://www.health.gov.mw/>. Accessed 21 December 2020.

[6] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 21 December 2020.

1.1.1b

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

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

Current Year Score: 1

There is publicly available evidence to demonstrate that Malawi has a national laboratory that can test for 7 priority AMR pathogens. The Joint External Evaluation report (JEE), conducted in February 2019, states that a national microbiology reference laboratory for AMR detection and reporting, and a national AMR surveillance system with nine priority pathogens, are incorporated into the IDSR. [1] The Public Health Institute of Malawi (PHIM) states that the National Micro-Reference Laboratory can conduct testing for E. coli, K. pneumoniae, S. aureus, S. pneumoniae, Salmonella spp., Shigella spp. and N. gonorrhoeae. "The National Micro-Reference Laboratory does a routine check on antibacterial resistance of various pathogens. In the first half of this year, the lab has reported that 9 pathogens are showing very high resistance to commonly used antibiotics. The pathogens include Methicillin-resistant Staph aureus (MRSA), Neisseria gonorrhoeae, Klebsiella pneumoniae, Escherichia coli, Streptococcus pneumoniae, Pseudomonas aeruginosa, Acinetobacter, salmonella, Typhi and Shigella " [2]. There is no mention, in either source, of testing for Mycobacterium tuberculosis.

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 December 2020.

[2] Public Health Institute of Malawi (PHIM). "9 pathogens showing resistance to commonly used antibiotics". [<http://malawipublichealth.org/index.php/news-and-events/10-9-pathogens-showing-resistance-to-commonly-used-antibiotics>]. Accessed 21 December 2020.

1.1.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi is conducting detection and surveillance activities (e.g. in soil, waterways, etc) for antimicrobial residues or AMR organisms. There is no evidence of such activities through the Joint External Evaluation report (JEE), conducted in February 2019, the Ministries of Health, of Agriculture, of Natural Resources, Energy and Mining, under which the Department of the Environment falls, the Public Health Institute (including the page for the Disease Surveillance, Prevention, Response and Control Division) or in the WHO Library of national action plans. [1,2,3,4,5,6]

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 21 December 2020.

[2] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 21 December 2020.

[3] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 21 December 2020.

[4] Ministry of Natural Resources, Energy and Mining.

[<https://www.mnrem.gov.mw/#:~:text=The%20Ministry%20of%20Natural%20Resources,growth%20and%20development%20of%20Malawi.>]. Accessed 21 December 2020.

[5] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 21 December 2020.

[6] WHO Library of national action plans. 2021. [<http://www.who.int/antimicrobial-resistance/national-action-plans/library/en>]. Accessed 22 January 2021.

1.1.2 Antimicrobial control

1.1.2a

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

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

Current Year Score: 1

Malawi has legislation in place requiring prescriptions for antibiotic use for humans, but there is evidence of gaps in implementation. The Pharmacy, Medicines and Poisons Act 1988 outlines that "subject to the provisions of this section, no person shall sell by retail, or supply in circumstances corresponding to retail sale or administer, other than to himself, a medicinal product of a description or a class specified by Order made by the Minister and published in the Gazette, except in accordance with a prescription given by an appropriate practitioner", or unless "the sale or supply or administration of a medicinal product to a patient is by a medical practitioner or dentist who holds a dispensing license" [1]. There is, however, no publicly available list of the medicinal products under this provision [2, 3]. The Pharmacy, Medicines and Poisons Act of 1988 is in the process of being repealed, to be replaced by the Pharmacy and medicines Regulatory Authority Act. Although the draft has been approved by Cabinet and tabled in Parliament, the Bill has yet to be passed into law and is not publicly available. [4] Concurrent with the processing of the Bill, the Pharmacy and Medicines Regulatory Authority (PMRA), formerly known as Pharmacy, Medicine and Poisons Board (PMPB) (which no longer has an online presence), is the new pharmaceutical regulatory body mandated to oversee compliance to the Act. [5] The Joint External Evaluation report (JEE), conducted in February 2019, states that a national committee exists to recommend antibiotics systems for antimicrobial stewardship, and that there are national treatment guidelines "but no mechanisms to ensure or enforce appropriate prescription and use of antimicrobials in human health, animal health and food production." [6] A Globalcitizen article, dated 3 April 2019, quotes a local doctor as saying "in Malawi, anyone can just walk into a pharmacy to buy antibiotics without a prescription note from a doctor." [7]. An article from November 2017 from The Nation outlines that prescriptions for antibiotics are required in Malawi but that many patients have access to antibiotics without them. It reads: "According to the experts, antibiotic resistance in the country is largely fuelled by abuse of antibiotics by patients who access the protected drug without prescription despite clear guidelines which demand that they should only be sold or ordered with a prescription". [8]

[1] Malawi Legal Information Institute. May 1988. "Pharmacy, Medicines and Poisons Act 1988".

[<https://malawilii.org/mw/legislation/act/1988/15>]. Accessed 23 December 2020.

[2] Malawi Legal Information Institute. [<https://malawilii.org/>]. Accessed 23 December 2020.

[3] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 23 December 2020.

[4] (Malawi) Public Service Reforms. 2020. [<http://www.reforms.gov.mw/psrmu/pharmacy-medicines-and-poisons-board>]. Accessed 23 December 2020.

[5] Pharmacy and medicines Regulatory Authority. [<https://www.facebook.com/pmramalawi/about>]. 23 December 2020.

[6] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 23 December 2020.

[7] Globalcitizen. 3 April 2019. "Malawi Has an Antibiotics Resistance Crisis That Could Spiral Out of Control".

[<https://www.globalcitizen.org/en/content/malawi-antibiotics-crisis-antimicrobial-resistance/>]. Accessed 23 December 2020.

[8] The Nation. November 2017. "Drug resistance: Malawi's death trap". [<https://mwnation.com/drug-resistance-malawis-death-trap/>]. Accessed 22 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 that Malawi has legislation in place requiring prescriptions for antibiotic use for animals. The Pharmacy, Medicines and Poisons Act 1988 outlines that "subject to the provisions of this section, no person shall sell by retail, or supply in circumstances corresponding to retail sale or administer, other than to himself, a medicinal product of a description or a class specified by Order made by the Minister and published in the Gazette" unless "the sale or supply of a medicinal product is for administration to an animal or herd by a veterinary surgeon who holds a dispensing license". [1] However, there is no publicly available list of the medicinal products under this provision. [2] There are no Gazette notices on the Malawi Legal Information Institute website. [3] The Pharmacy, Medicines and Poisons Act of 1988 is in the process of being repealed, to be replaced by the Pharmacy and Medicines Regulatory Authority Act. Although the draft has been approved by Cabinet and tabled in Parliament, the Bill has yet to be passed into law and is not publicly available. [4] Concurrent with the processing of the Bill, the Pharmacy and Medicines Regulatory Authority (PMRA), formerly known as Pharmacy, Medicine and Poisons Board (PMPB) (which no longer has an online presence), is the new pharmaceutical regulatory body mandated to oversee compliance to the Act. [5] The Joint External Evaluation report (JEE), conducted in February 2019, states that a national committee exists to recommend antibiotics systems for antimicrobial stewardship, and that there are national treatment guidelines "but no mechanisms to ensure or enforce appropriate prescription and use of antimicrobials in human health, animal health and food production." [6] There are no Gazette notices about prescriptions on the Malawi Legal Information Institute website [7]

[1] Malawi Legal Information Institute. May 1988. "Pharmacy, Medicines and Poisons Act 1988".

[<https://malawilii.org/mw/legislation/act/1988/15>]. Accessed 23 December 2020.

[2] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 21 January 2021.

[3] Malawi Legal Information Institute. [<https://malawilii.org/>]. Accessed 23 December 2020.

[4] (Malawi) Public Service Reforms. 2020. [<http://www.reforms.gov.mw/psrmu/pharmacy-medicines-and-poisons-board>]. Accessed 23 December 2020.

[5] Pharmacy and medicines Regulatory Authority. [<https://www.facebook.com/pmramalawi/about>]. 23 December 2020.

[6] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi.

[<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 23 December 2020.

[7] Malawi Legal Information Institute. "Gazette notices". [https://malawilii.org/consol_leglist/gazette_legislation/gazette-notices]. Accessed 23 December 2020.

1.2 ZOO NOTIC DISEASE

1.2.1 National planning for zoonotic diseases/pathogens

1.2.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has a national law, plan or strategy document, on zoonotic disease. The Joint External Evaluation report (JEE), conducted in February 2019, recommends the formalization of a multisectoral policy for collaboration on zoonotic diseases, and developing "a plan with clear objectives to integrate zoonotic diseases of public health importance into the mainstream immunization programme." [1] According to the Ministry of Agriculture, the purpose

of the Department for Animal Health and Industry is "to promote sustainable livestock development and protect the general public from zoonotic disease through the delivery of animal production and veterinary services", however, there is no mention of a zoonotic strategy document. [2]. There is no other evidence of such a plan through the Ministry of Health or the Public Health Institute of Malawi (PHIM). [3,4].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 23 December 2020.

[2] Ministry of Agriculture, Irrigation & Water Development. "Animal Health and Industry". [<http://www.agriculture.gov.mw/index.php/2016-03-17-20-24-29/animal-health-and-industry>]. 23 December 2020.

[3] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 23 December 2020.

[4] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 23 December 2020.

[4] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 23 December 2020.

1.2.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has national legislation, plans or equivalent strategy document(s) which includes measures for risk identification and reduction for zoonotic disease spill-over events from animals to humans. No information on this could be found through the COVID-19 Preparedness and Response Plan, the 2019 Joint External Evaluation report, the Ministries of Agriculture or Health, or in an April 2020 Researchgate review of the Public Health Act. [1,2,3,4,5]

[1] COVID-19 Preparedness and Response Plan, Republic of Malawi. [https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 23 December 2020.

[2] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 23 December 2020.

[3] Ministry of Agriculture, Irrigation & Water Development. Animal health and industry. [<http://www.agriculture.gov.mw/index.php/2016-03-17-20-24-29/animal-health-and-industry>]. 23 December 2020.

[4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 23 December 2020.

[5] Researchgate. 2 April 2020. "A Review of the Public Health Act in Malawi". [https://www.researchgate.net/publication/340967054_A_Review_of_the_Public_Health_Act_in_Malawi_A_Case_for_Reform_and_Consolidation]. Accessed 23 December 2020.

1.2.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has national plans, guidelines or laws that account for the surveillance and control of multiple zoonotic pathogens of public health concern. According to the Ministry of Health, their "Preventative Health Programmes have been effectively designed and implemented to prevent and promote health interventions and hence aim to reduce the burden of preventable, communicable and treatable disease in Malawi". Eight control programmes are listed, for diseases including Bilharzia, Malaria, Onchocerciasis and Trypanosomiasis, but these programmes are limited and do not account for surveillance and control. [1] The Ministry of Health also has the Epidemiology Unit, which is responsible for the "Implementation of Integrated Disease Surveillance and Response (IDSR) which monitors 15 diseases or conditions" including "Malaria, TB and Schistosomiasis" but no further information is provided [2]. The 2019 Joint External Evaluation report (JEE) notes, as an area that needs strengthening, "The ministries of agriculture and of health work in silos, with no system or mechanism for joint disease surveillance and control of zoonotic diseases. It further recommends the establishment of "a coordinated surveillance system for zoonotic diseases and conduct joint simulation exercises." The report also states that the animal health sector has identified five zoonotic diseases; rabies, bovine tuberculosis, brucellosis, cysticercosis and human African trypanosomiasis, "with control policies designed to reduce their spread into humans. However, progress in implementing these policies is slow because of limited resources, a lack of infrastructure and inadequate professional capacities." [3] According to the Ministry of Agriculture, the Department for Animal Health and Industry is responsible for promoting "sustainable livestock development and protect the general public from zoonotic disease through the delivery of animal production and veterinary services" and to conduct "disease surveillance", however, there is no mention of which diseases are under surveillance. [4] The Public Health Act outlines Malawi's notifiable diseases, including anthrax and rabies, and states that an occurrence of any of these notifiable diseases must be reported to the Ministry of Health. There is, however, nothing further on the control of these diseases [5]. There is no further evidence of zoonotic pathogen plans through the Public Health Institute of Malawi (PHIM). [6]

[1] Ministry of Health & Population. "Preventive Health Programmes".

[<http://www.health.gov.mw/index.php/directorates/preventive-health/preventive-health-programmes>]. Accessed 23 December 2020.

[2] Ministry of Health & Population. "The Epidemiology Unit".

[<http://www.health.gov.mw/index.php/directorates/preventive-health/epidemiology-unit>]. Accessed 23 December 2020.

[3] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi.

[<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 23 December 2020.

[4] Ministry of Agriculture, Irrigation & Water Development. "Animal Health and Industry".

[<http://www.agriculture.gov.mw/index.php/2016-03-17-20-24-29/animal-health-and-industry>]. Accessed 23 December 2020.

[5] Malawi Legal Information Institute. "Public Health Act". [https://malawilii.org/mw/consolidated_legislation/3401].

Accessed 23 December 2020.

[6] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 23 December 2020.

1.2.1d

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

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has a department, agency or unit dedicated to zoonotic disease that functions across ministries. The 2019 Joint External Evaluation report (JEE) lists as a priority action to "Formalize a multisectoral policy for collaboration on zoonotic diseases." The report also recommends that "there should be a joint agreement between the human and animal health sectors on priority zoonotic diseases". [1] The Epidemiology Unit, within the Ministry of Health, is responsible for implementation of Integrated disease surveillance and response (IDSR) which

monitors 15 diseases or conditions. The unit's Mission Statement is that it aims to strengthen integrated disease surveillance and response. There is, however, no mention of functioning across ministries. [2] There is no further evidence of such a unit through the Ministry of Agriculture or the Public Health Institute. [3,4].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 23 December 2020.

[2] The Ministry of Health and Population. Epidemiology Unit.

[<https://www.health.gov.mw/index.php/directorates/preventive-health/epidemiology-unit>]. Accessed 23 December 2020.

[3] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 23 December 2020.

[4] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 23 December 2020.

1.2.2 Surveillance systems for zoonotic diseases/pathogens

1.2.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has a national mechanism (either voluntary or mandatory) for owners of livestock to conduct and report on disease surveillance to a central government agency. There is no evidence of such a mechanism through the 2019 Joint External Evaluation report (JEE), the Ministries of Health or Agriculture, or the Public Health Institute of Malawi (PHIM). [1,2,3,4].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 23 December 2020.

[2] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 23 December 2020.

[2] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 23 December 2020.

[3] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 23 December 2020.

1.2.2b

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

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence that Malawi has laws or guidelines that safeguard the confidentiality of information generated through surveillance activities for animals (for owners). The Electronic Transactions and Cyber Security Act of 2016 contains several generic conditions for use of personal data, however surveillance activity data is not specifically mentioned, neither is it clear whether this legislation would apply to the surveillance of owned livestock. [1] There is no further evidence of such confidentiality through the 2019 Joint External Evaluation report (JEE), the Ministries of Health or Agriculture, or the Public Health Institute of Malawi (PHIM). [2,3,4,5].

[1] Malawi Communications Regulatory Authority (MACRA). November 2016. "The Electronic Transactions and Cyber Security Act 2016". <http://www.macra.org.mw/wp-content/uploads/2014/07/E-Transactions-Act-2016.pdf>. Accessed 25 December 2020.

[2] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 December 2020.

[3] Ministry of Health & Population. <http://www.health.gov.mw/>. Accessed 25 December 2020.

[4] Ministry of Agriculture, Irrigation & Water Development. <http://www.agriculture.gov.mw/>. Accessed 25 December 2020.

[5] Public Health Institute of Malawi (PHIM). <http://malawipublichealth.org>. Accessed 25 December 2020.

1.2.2c

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

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi is conducting surveillance of zoonotic disease in wildlife (e.g., wild animals, insects, other disease vectors). The 2019 Joint External Evaluation (JEE) report has, among its recommendations for priority action, "Establish a coordinated surveillance system for zoonotic diseases and conduct joint simulation exercises." [1] According to the Ministry of Agriculture, the Department of Animal Health and Industry protects "the general public from zoonotic diseases" and conducts "disease surveillance" but there is no mention of surveillance in wildlife [2]. The not-for-profit from Lilongwe Wildlife Trust, conducts "passive disease surveillance, and several targeted research projects in and around Malawi's protected wildlife areas", through its Clinical Projects in One Health. The Trust, although it includes amongst its partners the Department of National Parks and Wildlife and the Malawi Police, does not receive any funding from the Malawi Government [3,4]. There is no further evidence of such surveillance through the Ministries of Health or of Natural Resources, Energy and Mining, the Department of National Parks and Wildlife or the Public Health Institute. [5,6,7,8].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 December 2020.

[2] Ministry of Agriculture, Irrigation & Water Development. "Department of Animal Health and Industry". [<http://www.agriculture.gov.mw/index.php/2016-03-17-20-24-29/animal-health-and-industry>]. Accessed 25 December 2020.

[3] Lilongwe Wildlife Trust. "Clinical Projects in One Health". [<https://www.lilongwewildlife.org/clinical-project-one-health/>]. Accessed 25 December 2020.

[4] Lilongwe Wildlife Trust. "Donors". [<https://www.lilongwewildlife.org/about/donors/>]. Accessed 25 December 2020.

[5] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 25 December 2020.

[6] Ministry of Natural Resources, Energy and Mining.

[<https://www.mnrem.gov.mw/#:~:text=The%20Ministry%20of%20Natural%20Resources,growth%20and%20development%20of%20Malawi.>]. Accessed 25 December 2020.

[7] Republic of Malawi. Department of National Parks and Wildlife. [<http://wildlife.gov.mw/>]. Accessed 25 December 2020.

[8] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 25 December 2020.

1.2.3 International reporting of animal disease outbreaks

1.2.3a

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

Yes = 1 , No = 0

Current Year Score: 0

2019

OIE WAHIS database

1.2.4 Animal health workforce

1.2.4a

Number of veterinarians per 100,000 people

Input number

Current Year Score: 0.3

2018

OIE WAHIS database

1.2.4b

Number of veterinary para-professionals per 100,000 people

Input number

Current Year Score: 6.32

2018

OIE WAHIS database

1.2.5 Private sector and zoonotic

1.2.5a

Does the national plan on zoonotic disease or other legislation, regulations, or plans include mechanisms for working with the private sector in controlling or responding to zoonoses?

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available information that Malawi has a national plan on zoonotic disease, or other legislation, regulations, or plans that include mechanisms for working with the private sector in controlling or responding to zoonoses. The April 2020 national COVID-19 Preparedness and Response Plan includes the private sector in many aspects, but this plan is both disease and event specific. [1] No further information could be found through the 2019 Joint External Evaluation report (JEE), the Ministries of Health or of Agriculture, the Public Health Institute or the Health Reference Laboratory. [2,3,4,5,6]

[1] COVID-19 Preparedness and Response Plan, Republic of Malawi. 8 April 2020.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-

2020_Final-Version.pdf]. Accessed 25 December 2020.

[2] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 December 2020.

[3] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 25 December 2020.

[4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 25 December 2020.

[5] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 25 December 2020.

[6] Ministry of Health and Population (MOH). Health Reference Lab.

[<https://www.health.gov.mw/index.php/directorates/preventive-health/health-reference-lab>]. Accessed 25 December 2020.

1.3 BIOSECURITY

1.3.1 Whole-of- government biosecurity systems

1.3.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has in place a record, updated within the past 5 years, of the facilities in which especially dangerous pathogens and toxins are stored or processed, including details on inventories and inventory management systems of those facilities. The 2019 Joint External Evaluation report (JEE) notes, as an area that needs strengthening, that "there is no mechanism to monitor and develop an updated record and inventory of pathogens within facilities that store or process dangerous pathogens and toxins." [1] The April 2020 national COVID-19 Preparedness and Response Plan lists "Renovate Microbiology laboratory to Biosafety Level 3" and "Construct All Pathogen BSL3 laboratory" as priority tasks [2] There is no further evidence of such a record through the Ministries of Health or Agriculture, the Public Health Institute, the Health Reference Laboratory or the VERTIC database. [3,4,5,6,7]. The Ministry of National Defence does not have a website. Malawi has not submitted a Confidence Building Measure Return (CBM), a reporting mechanism set by the Biological Weapons Convention, to the United Nations Office at Geneva (UNOG) since 2016 [8].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 December 2020.

[2] COVID-19 Preparedness and Response Plan, Republic of Malawi. 8 April 2020.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 25 December 2020.

[3] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 25 December 2020.

[4] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 25 December 2020.

[5] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 25 December 2020.

[6] Ministry of Health and Population (MOH). Health Reference Lab.

[<https://www.health.gov.mw/index.php/directorates/preventive-health/health-reference-lab>]. Accessed 25 December 2020.

[7] VERTIC Biological Weapons Convention (BWC) Legislation Database. [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/>]. Accessed 25 December 2020.

[8] Confidence Building Measures. "Malawi". [<https://bwc-ecbm.unog.ch/state/Malawi>]. Accessed 25 December 2020.

1.3.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has legislation and/or regulations in place related to biosecurity which address requirements such as physical containment, operation practices, failure reporting systems and/or cybersecurity of facilities in which especially dangerous pathogens and toxins are stored or processed. The 2019 Joint External Evaluation report (JEE) states that although some public health laws either already exist or are in draft form, "there remain gaps in legislation in the areas of biosafety and biosecurity". Listed as a priority action is to "Develop a comprehensive national biosafety and biosecurity regulatory framework for human and animal public health programmes based on the list of pathogens in the country that would include but not be limited to pathogen control measures, operational handling and failure reporting systems". [1] There is no further evidence of such legislation through the Malawi Legal Information Institute, within the Public Health Act 1948, the Ministries of Health or Agriculture, the Public Health Institute, the Health Reference Laboratory or the VERTIC database. [2,3,4,5,6,7,8]. The Ministry of National Defence does not have a website. Malawi has not submitted a Confidence Building Measure Return (CBM), a reporting mechanism set by the Biological Weapons Convention, to the United Nations Office at Geneva (UNOG) since 2016 [9].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 December 2020.

[2] Malawi Legal Information Institute. [https://malawilii.org/consol_leglist/consolidated_legislation/laws-of-malawi]. Accessed 23 February 2019.

[3] Malawi Legal Information Institute. 1948. "Public Health Act". [https://malawilii.org/mw/consolidated_legislation/3401]. Accessed 25 December 2020.

[4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 25 December 2020.

[5] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 25 December 2020.

[6] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 25 December 2020.

[6]

[7] Ministry of Health and Population (MOH). Health Reference Lab.

[<https://www.health.gov.mw/index.php/directorates/preventive-health/health-reference-lab>]. Accessed 25 December 2020.

[8] VERTIC. [<http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/m/>]. Accessed 25 December 2020.

[9] Confidence Building Measures. "Malawi". [<https://bwc-ecbm.unog.ch/state/Malawi>]. Accessed 25 December 2020.

1.3.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has legislation and/or regulations in place related to biosecurity which address requirements such as physical containment, operation practices, failure reporting systems and/or cybersecurity of facilities in which especially dangerous pathogens and toxins are stored or processed, and thus it does not have an established agency for enforcing such legislation. The 2019 Joint External Evaluation report (JEE) states that "there is no comprehensive national biosafety and biosecurity regulatory framework or legislation." [1] There is no further evidence of such legislation through the Malawi Legal Information Institute, within the Public Health Act 1948, the Ministries of Health or Agriculture, the Public Health Institute, the Health Reference Laboratory or the VERTIC database. [2,3,4,5,6,7,8]. The Ministry of National Defence does not have a website. Malawi has not submitted a Confidence Building Measure Return (CBM), a reporting mechanism set by the Biological Weapons Convention, to the United Nations Office at Geneva (UNOG) since 2016 [9].

- [1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 December 2020.
- [2] Malawi Legal Information Institute. [https://malawilii.org/consol_leglist/consolidated_legislation/laws-of-malawi]. Accessed 23 February 2019.
- [3] Malawi Legal Information Institute. 1948. "Public Health Act". [https://malawilii.org/mw/consolidated_legislation/3401]. Accessed 25 December 2020.
- [4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 25 December 2020.
- [5] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 25 December 2020.
- [6] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 25 December 2020.
- [7] Ministry of Health and Population (MOH). Health Reference Lab. [<https://www.health.gov.mw/index.php/directorates/preventive-health/health-reference-lab>]. Accessed 25 December 2020.
- [8] VERTIC. [<http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/m/>]. Accessed 25 December 2020.
- [9] Confidence Building Measures. "Malawi". [<https://bwc-ecbm.unog.ch/state/Malawi>]. Accessed 25 December 2020.

1.3.1d

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has taken action to consolidate inventories of especially dangerous pathogens and toxins into a minimum number of facilities. The 2019 Joint External Evaluation report (JEE) states that "Dangerous pathogens are not consolidated into a minimum number of facilities." [1] There is no further evidence through the Ministries of Health or Agriculture, the Public Health Institute, the National Commission for Science and Technology, the Health Reference Laboratory or the VERTIC database. [2,3,4,5,6,7]. The Ministry of National Defence does not have a website. Malawi has not submitted a Confidence Building Measure Return (CBM), a reporting mechanism set by the Biological Weapons Convention, to the United Nations Office at Geneva (UNOG) since 2016 [8].

- [1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 December 2020.
- [2] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 25 December 2020.
- [3] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 25 December 2020.

- [4] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 25 December 2020.
- [5] National Commission for Science and Technology. "National Health Science Research Committee (NHSRC)". [https://www.ncst.mw/?page_id=366]. Accessed 25 December 2020.
- [6] Ministry of Health and Population (MOH). Health Reference Lab. [<https://www.health.gov.mw/index.php/directorates/preventive-health/health-reference-lab>]. Accessed 25 December 2020.
- [7] VERTIC. [<http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/m/>]. Accessed 25 December 2020.
- [8] Confidence Building Measures. "Malawi". [<https://bwc-ecbm.unog.ch/state/Malawi>]. Accessed 25 December 2020.

1.3.1e

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence to demonstrate that there is in-country capacity to conduct Polymerase Chain Reaction (PCR)-based diagnostic testing for anthrax or Ebola, which would preclude culturing a live pathogen. An updated general notice on Ebola from the Ministry of Health website states: "we have an effective surveillance system and we have the necessary facilities and equipment to safely quarantine any suspected cases, accurately test and then treat" but there are no details on what testing they could perform. [1] There was no further evidence of in-country PCR testing capacity in the 2019 Joint External Evaluation report (JEE), through the Ministries of Health or Agriculture, the Public Health Institute website or the Health Reference Laboratory. [2,3,4,5,6]. The Ministry of National Defence does not have a website.

[1] Ministry of Health & Population. "General Notice EBOLA". [<http://www.health.gov.mw/index.php/77-demo/201-ebola>]. Accessed 25 December 2020.

[2] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 December 2020.

[3] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 25 December 2020.

[4] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 25 December 2020.

[5] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 25 December 2020.

[6] Ministry of Health and Population (MOH). Health Reference Lab. [<https://www.health.gov.mw/index.php/directorates/preventive-health/health-reference-lab>]. Accessed 25 December 2020.

1.3.2 Biosecurity training and practices

1.3.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi requires biosecurity training, using a standardised, required approach, such as through a common curriculum or a train-the-trainer program, for personnel working in facilities housing or working

with especially dangerous pathogens, toxins, or biological materials with pandemic potential. The 2019 Joint External Evaluation report (JEE) notes, as areas needing strengthening, "A biosafety and biosecurity training needs assessment has not been conducted" and "There is a lack of funding to sustain a biosafety and biosecurity training programme." Under priority actions it lists "Develop a biosafety/biosecurity training programme for human and animal laboratory facilities that would include but not be limited to international best practices for safe, secure and responsible conduct, the gaps found in the needs assessment, frequency of training and sustained academic training." [1] According to the World Health Organisation, "the conduct of health-related research in Malawi has been characterised by a lack of organised structures and mechanisms for coordination and regulation. An assessment commissioned by the Department for International Development (United Kingdom), International Development Research Centre and the Wellcome Trust identified a number gaps and weaknesses" and the Ministry of Health's Health Sector Strategic Plan II 2017-2022 outlines that " the delivery of laboratory and medical imaging services has been affected by inadequate bio-safety and bio-security mechanisms for both laboratories and imaging services." [2,3]. There is no further evidence of such training on the websites of the Ministries of Health or Agriculture, the Public Health Institute website, the Pharmacy, Medicines and Poisons Board, the National Commission for Science and Technology website or the VERTIC database. [4,5,6,7,8,9]. The Ministry of National Defence does not have a website. Malawi has not submitted a Confidence Building Measure Return (CBM), a reporting mechanism set by the Biological Weapons Convention, to the United Nations Office at Geneva (UNOG) since 2016 [10].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 25 December 2020.

[2] African Health Observatory. "Health Research".

[http://www.who.int/afro/profiles/information/index.php/Malawi:Health_research]. Accessed 25 December 2020.

[3] Ministry of Health & Population. "Health Sector Strategic Plan 2017 - 2022".

[<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 25 December 2020.

[4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 25 December 2020.

[5] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 25 December 2020.

[6] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 25 December 2020.

[7] Pharmacy, Medicines and Poisons Board (PMPB). [<http://www.reforms.gov.mw/psrmu/pharmacy-medicines-and-poisons-board#:~:text=The%20Pharmacy%2C%20Medicines%20and%20Poisons,provisions%20in%20the%20country's%20legislation>]. Accessed 25 December 2020.

[8] National Commission for Science and Technology. "National Health Science Research Committee (NHSRC)".

[https://www.ncst.mw/?page_id=366]. Accessed 23 February 2019.

[9] VERTIC. [<http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/m/>]. Accessed 25 December 2020.

[10] Confidence Building Measures. "Malawi". [<https://bwc-ecbm.unog.ch/state/Malawi>]. Accessed 25 December 2020.

1.3.3 Personnel vetting: regulating access to sensitive locations

1.3.3a

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

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

Current Year Score: 0

There is no publicly available evidence that Malawi has regulations or licensing conditions that specify that security and other personnel with access to especially dangerous pathogens, toxins, or biological materials with pandemic potential are subject to drug testing, background checks or psychological or mental fitness checks. There is no evidence of such regulations or conditions on the 2019 Joint External Evaluation report (JEE), through the Ministries of Health or Agriculture, the Public Health Institute, the National Commission for Science and Technology or the VERTIC database. [1,2,3,4,5,6]. The Ministry of Defence does not have a website. According to the World Health Organisation, "the conduct of health-related research in Malawi has been characterised by a lack of organised structures and mechanisms for coordination and regulation. An assessment commissioned by the Department for International Development (United Kingdom), International Development Research Centre and the Wellcome Trust identified a number gaps and weaknesses" [7]. Malawi has not submitted a Confidence Building Measure Return (CBN), a reporting mechanism set by the Biological Weapons Convention, to the United Nations Office at Geneva (UNOG) since 2016 [8].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 December 2020.

[2] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 26 December 2020.

[3] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 26 December 2020.

[4] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 26 December 2020.

[5] National Commission for Science and Technology. "National Health Science Research Committee (NHSRC). [https://www.ncst.mw/?page_id=366]. Accessed 26 December 2020.

[6] VERTIC. [<http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/m/>]. Accessed 26 December 2020.

[7] African Health Observatory. "Health Research".

[http://www.who.int/profiles_information/index.php/Malawi:Health_research]. Accessed 26 December 2020.

[8] Confidence Building Measures. "Malawi". [<https://bwc-ecbm.unog.ch/state/Malawi>]. Accessed 26 December 2020.

1.3.4 Transportation security

1.3.4a

Does the country have publicly available information on national regulations on the safe and secure transport of infectious substances (specifically including Categories A and B)?

Yes = 1 , No = 0

Current Year Score: 1

There is publicly available evidence that Malawi has national regulations on the safe and secure transport of infectious substances (Categories A and B). The 2019 Joint External Evaluation report (JEE) states that "National legislation covers the transport of infectious substances in Categories A and B". [1] The Pharmacy, Medicines and Poisons Board has published the "Regulatory Requirements on Storage and Export of Samples/Specimens Collected from Participants/Clinical Trial Subjects during Clinical Trials for Testing" which comprehensively outlines the requirements for packing, marking, labelling, refrigeration and transportation of infectious substances, including Categories A and B. [2,3]. The document includes specific guidelines for packaging, labelling and documentation requirements for infectious substances in both Category A and B. [3]. There is no further information available through VERTIC [4].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 December 2020.

[2] National Institute of Allergy and Infectious Diseases. ClinRegs (NIAIDClinRegs). Malawi.

[https://clinregs.niaid.nih.gov/country/malawi#_top]. Accessed 26 December 2020.

[3] NIAIDClinRegs. (Malawi) Pharmacy, Medicines and Poisons Board. "Regulatory Requirements on Storage and Export of Samples/Specimens Collected from Participants/Clinical Trial Subjects during Clinical Trials for Testing".

[<https://clinregs.niaid.nih.gov/sites/default/files/documents/malawi/G-StorExptSpecimens.pdf>]. Accessed 26 December 2020.

[4] VERTIC. [<http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/m/>]. Accessed 26 December 2020.

1.3.5 Cross-border transfer and end-user screening

1.3.5a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has national regulations in place to oversee the cross-border transfer and end-user screening of especially dangerous pathogens with pandemic potential. The USA's National Institute of Allergy and Infectious Diseases (NIAID) states that (in Malawi) sponsors must obtain approval from the Pharmacy, Medicines and Poisons Board (PMPB) for import or export of biological specimens in or out of the country "as delineated in the Procedures for Review/Evaluation of Clinical Trial Applications for Vaccines and Biologicals." [1] There is, also, the "Regulatory Requirements on Storage and Export of Samples/Specimens Collected from Participants/Clinical Trial Subjects during Clinical Trials for Testing" which specifies that the sponsor is responsible for preparing all required documentation and for ensuring that the samples are sent through the appropriate carrier to their destination. Transport of specimens is subject to regulation by the International Air Transport Association. The guidelines indicate that the receiver or consignee is responsible for obtaining the necessary authorisation for the importation of the material, and then providing the sender with the required documents. It is also the duty of the receiver/consignee to arrange for the most timely and efficient collection on arrival, acknowledge receipt to the sender, and to keep records of all samples received. [2] There is, however, no mention of end-user screening in either of the procedure or the regulation documents. Malawi has not submitted a Confidence Building Measure Return (CBM), a reporting mechanism set by the Biological Weapons Convention, to the United Nations Office at Geneva (UNOG) since 2016. [3] The 2019 Joint External Evaluation report (JEE) states that, although the human sector's transport system is well developed, "transportation of animal specimens should be improved, designated Points of Entry (PoE) strengthened to carry out basic IHR functions." [4] There is no further information available through the VERTIC database, the Ministries of Health or Agriculture or the Public Health Institute of Malawi [5,6,7,8]. Neither of the Ministries of Defence or Trade has a website.

[1] National Institute of Allergy and Infectious Diseases. "Malawi". [https://clinregs.niaid.nih.gov/country/malawi#_top]. Accessed 26 December 2020.

[2] Pharmacy, Medicines and Poisons Board. "Regulatory Requirements on Storage and Export of Samples/Specimens Collected from Participants/Clinical Trial Subjects during Clinical Trials for Testing". [<https://clinregs.niaid.nih.gov/sites/default/files/documents/malawi/G-StorExptSpecimens.pdf>]. Accessed 26 December 2020.

[3] Confidence Building Measures. "Malawi". [<https://bwc-ecbm.unog.ch/state/Malawi>]. Accessed 26 December 2020.

[4] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 December 2020.

[5] VERTIC. [<http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/m/>]. Accessed 26 December 2020.

[6] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 26 December 2020.

[7] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 26 December 2020.

[8] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 26 December 2020.

1.4 BIOSAFETY

1.4.1 Whole-of-government biosafety systems

1.4.1a

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

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has national biosafety legislation or regulations in place. The 2019 Joint External Evaluation report (JEE) states that "a number of public health laws either already exist or are in draft form but there remain gaps in legislation in the areas of biosafety and biosecurity" and "There is no comprehensive national biosafety and biosecurity regulatory framework or legislation". [1] Malawi has a Biosafety Act (2002), but it is specific to genetically modified organisms (GMOs), as is the biosafety referred to by the National Commission for Science and Technology. [2,3] The Ministry of Health's 'Health Sector Strategic Plan II 2017-2022' states that "the delivery of laboratory and medical imaging services has been affected by inadequate bio-safety and bio-security mechanisms for both laboratories and imaging services". [4] There is no other evidence of biosafety legislation within the Public Health Act 1948, or through the Ministries of Health or Agriculture, the Public Health Institute of Malawi (PHIM) or the VERTIC database. [5,6,7,8,9]. Neither of the Ministry of Defence or the Pharmacy, Medicine and Poisons Board (PMPB) have active websites. Malawi has not submitted a Confidence Building Measure Return (CBN), a reporting mechanism set by the Biological Weapons Convention, to the United Nations Office at Geneva (UNOG) since 2016 [10].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 December 2020.

[2] Malawi Legal Information Institute. 2002. "Biosafety Act". [https://malawilii.org/mw/consolidated_legislation/6003]. Accessed 26 December 2020.

[3] National Commission for Science and Technology. [<https://www.ncst.mw/>]. Accessed 26 December 2020. 4] Ministry of Health & Population. "Health Sector Strategic Plan 2017 - 2022". [<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 26 December 2020.

[5] Malawi Legal Information Institute. 1948. "Public Health Act". [https://malawilii.org/mw/consolidated_legislation/3401]. Accessed 26 December 2020.

[6] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 26 December 2020.

[7] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 26 December 2020.

[8] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 26 December 2020.

[9] VERTIC Biological Weapons Convention (BWC) Legislation Database. [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/m/>]. Accessed 23 January 2021.

[10] Confidence Building Measures. "Malawi". [<https://bwc-ecbm.unog.ch/state/Malawi>]. Accessed 26 December 2020.

1.4.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has an established agency responsible for the enforcement of biosafety legislation and regulations, since there is no evidence that such legislation or regulations are in place. The 2019 Joint External Evaluation report (JEE) states that "a number of public health laws either already exist or are in draft form but there remain gaps in legislation in the areas of biosafety and biosecurity" and "There is no comprehensive national biosafety and biosecurity regulatory framework or legislation". [1] Malawi has a Biosafety Act (2002), but it is specific to genetically modified organisms (GMOs), [2] as is the Biosafety Regulatory Committee referred to by the National Commission for Science and Technology. [3] The Ministry of Health's 'Health Sector Strategic Plan II 2017-2022' states that "the delivery of laboratory and medical imaging services has been affected by inadequate bio-safety and bio-security mechanisms for both laboratories and imaging services". [4] There is no other evidence of biosafety legislation within the Public Health Act 1948, or through the Ministries of Health or Agriculture, the Public Health Institute of Malawi (PHIM) or the VERTIC database. [5,6,7,8,9]. Neither of the Ministry of Defence or the Pharmacy, Medicine and Poisons Board (PMPB) have active websites. Malawi has not submitted a Confidence Building Measure Return (CBN), a reporting mechanism set by the Biological Weapons Convention, to the United Nations Office at Geneva (UNOG) since 2016 [10].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 December 2020.

[2] Malawi Legal Information Institute. 2002. "Biosafety Act". [https://malawilii.org/mw/consolidated_legislation/6003]. Accessed 26 December 2020.

[3] National Commission for Science and Technology. [<https://www.ncst.mw/>]. Accessed 26 December 2020.

[4] Ministry of Health & Population. "Health Sector Strategic Plan 2017 - 2022".

[<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 26 December 2020.

[5] Malawi Legal Information Institute. 1948. "Public Health Act". [https://malawilii.org/mw/consolidated_legislation/3401]. Accessed 26 December 2020.

[6] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 26 December 2020.

[7] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 26 December 2020.

[8] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 26 December 2020.

[9] VERTIC Biological Weapons Convention (BWC) Legislation Database. [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/m/>]. Accessed 23 January 2021.

[10] Confidence Building Measures. "Malawi". [<https://bwc-ecbm.unog.ch/state/Malawi>]. Accessed 26 December 2020.

1.4.2 Biosafety training and practices

1.4.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi requires biosafety training, using a standardized, required approach, such as through a common curriculum or a train-the-trainer program, for personnel working in facilities housing or working with especially dangerous pathogens, toxins, or biological materials with pandemic potential. The 2019 Joint External Evaluation report (JEE) states that although training programmes are in place at all biosafety facilities, the frequency of this training is not defined. A recommended priority action is to develop "a biosafety/biosecurity training programme for human and animal laboratory facilities that would include but not be limited to international best practices for safe, secure and responsible conduct, the gaps found in the needs assessment, frequency of training and sustained academic training." [1] There is no further information through the National Commission for Science and Technology, the Ministry of Health's 'Health Sector Strategic Plan II 2017-2022', the Ministry of Agriculture, the Public Health Institute of Malawi (PHIM) or the VERTIC database. [2,3,4,5,6]

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 December 2020.

[2] National Commission for Science and Technology. [<https://www.ncst.mw/>]. Accessed 26 December 2020.

[3] Ministry of Health & Population. "Health Sector Strategic Plan 2017 - 2022". [<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 26 December 2020.

[4] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 26 December 2020.

[5] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 26 December 2020.

[6] VERTIC Biological Weapons Convention (BWC) Legislation Database. [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/m/>]. Accessed 23 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 Malawi has conducted an assessment to determine whether ongoing research is occurring on especially dangerous pathogens, toxins, pathogens with pandemic potential or other dual use research. There is no information of such an assessment through the 2019 Joint External Evaluation report (JEE), the Ministries of Health or Agriculture, the National Commission for Science and Technology, the Public Health Institute of Malawi (PHIM), including the page for the National Public Health Laboratory, or the VERTIC database. [1,2,3,4,5,6]. Neither the Ministry of Defence or the Pharmacy, Medicines and Poisons Board have active websites. Malawi has not submitted a Confidence Building Measure Return (CBM), a reporting mechanism set by the Biological Weapons Convention, to the United Nations Office at Geneva (UNOG) since 2016 [7].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 December 2020.

[2] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 26 December 2020.

- [3] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 26 December 2020.
- [4] National Commission for Science and Technology. [<https://www.ncst.mw/>]. Accessed 26 December 2020.
- [5] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 26 December 2020.
- [6] VERTIC. [<http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/m/>]. Accessed 26 December 2020.
- [7] Confidence Building Measures. "Malawi". <https://bwc-ecbm.unog.ch/state/malawi>. Accessed 26 December 2020.

1.5.1b

Is there legislation and/or regulation requiring oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research?

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence of legislation and/or regulation requiring oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research. The 2019 Joint External Evaluation report (JEE) states that there is "inadequate funding to support biosafety and biosecurity programmes and initiatives and their oversight and enforcement at the ministry level." [1] There is no further evidence of such of legislation/regulation through the Ministries of Health or Agriculture, the Public Health Institute of Malawi (PHIM), including the page for the National Public Health Laboratory, the National Commission for Science and Technology, the USA's National Institute of Allergy and Infectious Disease, which contains information on clinical research regulations in Malawi, or the VERTIC database. [2,3,4,5,6,7] Neither the Ministry of Defence or the Pharmacy, Medicines and Poisons Board have active websites. Malawi has not submitted a Confidence Building Measure Return (CBN), a reporting mechanism set by the Biological Weapons Convention, to the United Nations Office at Geneva (UNOG) since 2016. [8]

- [1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 December 2020.
- [2] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 26 December 2020.
- [3] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 26 December 2020.
- [4] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 26 December 2020.
- [5] National Commission for Science and Technology. [<https://www.ncst.mw/>]. Accessed 26 December 2020.
- [6] National Institute of Allergy and Infectious Diseases. "Malawi". [https://clinregs.niaid.nih.gov/country/malawi#_top]. Accessed 26 December 2020.
- [7] VERTIC Biological Weapons Convention (BWC) Legislation Database. [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/m/>]. Accessed 23 January 2021.
- [8] Confidence Building Measures. "Malawi". [<https://bwc-ecbm.unog.ch/state/Malawi>]. Accessed 23 January 2021.

1.5.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has an agency responsible for the oversight of research with especially dangerous pathogens, pathogens with pandemic potential or other dual use research. There is no information of such an

agency through the 2019 Joint External Evaluation report (JEE), the Ministries of Health or Agriculture, the Public Health Institute of Malawi (PHIM), including the page for the National Public Health Laboratory, the National Commission for Science and Technology, the VERTIC database or the USA's National Institute of Allergy and Infectious Disease, which contains information on clinical research regulations in Malawi. [2,3,4,5,6],7 Neither the Ministry of Defence or the Pharmacy, Medicines and Poisons Board have active websites. Malawi has not submitted a Confidence Building Measure Return (CBM), a reporting mechanism set by the Biological Weapons Convention, to the United Nations Office at Geneva (UNOG) since 2016. [8]

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 December 2020.

[2] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 26 December 2020.

[3] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 26 December 2020.

[4] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 26 December 2020.

[5] National Commission for Science and Technology. [<https://www.ncst.mw/>]. Accessed 26 December 2020.

[6] VERTIC. [<http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/m/>]. Accessed 26 December 2020.

[7] National Institute of Allergy and Infectious Diseases. "Malawi". [https://clinregs.niaid.nih.gov/country/malawi#_top]. Accessed 26 December 2020.

[8] Confidence Building Measures. "Malawi". [<https://bwc-ecbm.unog.ch/state/Malawi>]. Accessed 26 December 2020.

1.5.2 Screening guidance for providers of genetic material

1.5.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of legislation and/or regulation requiring the screening of synthesized DNA (deoxyribonucleic acid) against lists of known pathogens and toxins before it is sold. Although there is evidence of legislation requiring the screening of synthesised DNA before it is sold, there is no evidence of a requirement that code passes through a screener which looks for dangerous sequences before sale is authorised. The Biosafety Act, adopted in 2007, provides "for the safe management of biotechnological activities and to provide for matters connected therewith and incidental thereto" where "biotechnology" refers to "any technique that uses living organisms or parts of organisms to— (a) make or modify products; (b) improve plants or animals: or (c) develop micro-organisms for specific purposes". The Act states that "subject to the provisions of this Act and except in accordance with a licence granted under this section (hereinafter referred to as a "product licence"), no person shall, in the course of business earned on by him— (a) sell, supply, export or import genetically modified organisms or products thereof; (b) procure for sale, supply or exportation of genetically modified organisms or products thereof; and (c) procure the manufacture of genetically modified organisms or products thereof for sale, supply or export", however, there is no indication that code passes through a screener or code reader which looks for dangerous sequences before sale is authorised [1]. There is no further evidence of screening available through the 2019 Joint External Evaluation report (JEE), the Public Health Act 1948 (as amended), the Ministries of Health or Agriculture, the Public Health Institute of Malawi (PHIM), the National Commission for Science and Technology or the VERTIC database. [2,3,4,5,6,7,8]. The Ministries of Defence and of Transport do not have active websites. Malawi has not submitted a Confidence Building Measure Return (CBM), a reporting mechanism set by the Biological Weapons Convention, to the United Nations Office at Geneva (UNOG)

since 2016 [9].

- [1] Malawi Legal Information Institute. August 2007. "Biosafety Act". [https://malawilii.org/mw/consolidated_legislation/6003]. Accessed 26 December 2020.
- [2] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y]. Accessed 26 December 2020.
- [3] Malawi Legal Information Institute. 1948. "Public Health Act". [https://malawilii.org/mw/consolidated_legislation/3401]. Accessed 26 December 2020.
- [4] Ministry of Health & Population. [http://www.health.gov.mw/]. Accessed 26 December 2020.
- [5] Ministry of Agriculture, Irrigation & Water Development. [http://www.agriculture.gov.mw/]. Accessed 26 December 2020.
- [6] Public Health Institute of Malawi (PHIM). [http://malawipublichealth.org]. Accessed 26 December 2020.
- [7] National Commission for Science and Technology. [https://www.ncst.mw/]. Accessed 26 December 2020.
- [8] VERTIC. [http://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/m/]. Accessed 26 December 2020.
- [9] Confidence Building Measures. "Malawi". [https://bwc-ecbm.unog.ch/state/Malawi]. Accessed 26 December 2020.

1.6 IMMUNIZATION

1.6.1 Vaccination rates

1.6.1a

Immunization rate (measles/MCV2)

Immunization rate (measles/MCV2), 95% or greater = 2, 80-94.9% = 1, Less than 80%, or no data = 0

Current Year Score: 0

2019

World Health Organization

1.6.1b

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

Yes = 1, No = 0

Current Year Score: 1

2020

OIE WAHIS database

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

2.1 LABORATORY SYSTEMS STRENGTH AND QUALITY

2.1.1 Laboratory testing for detection of priority diseases

2.1.1a

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

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

Current Year Score: 0

There is insufficient publicly available evidence to confirm that Malawi's national laboratory system has the capacity to conduct diagnostic tests for at least 5 of the 10 WHO-defined core tests. According to the Ministry of Health, the "Diagnostic Services Unit is responsible for ensuring provision of quality diagnostic, monitoring drug efficacy, and patient management services." There is no mention of which diagnostic tests can be conducted [1]. The University of North Carolina Project-Malawi (UNC Project) is a collaboration between the University and the Malawi Ministry of Health. The UNC Project Laboratory "is a state-of-the-art clinical and research laboratory" which offers a range of services. "The laboratory has one of the most extensive diagnostic menus in Malawi". Although the UNC has been doing research in infectious diseases and vaccine trials, there is no mention of which diagnostic tests can be conducted [2]. The 2019 Joint External Evaluation report (JEE) recommends, as a priority action, "Develop one list of priority diseases and core tests that is agreed jointly by the human and animal sectors." [3] Academic papers from the Malawi Medical Journal suggest that rapid diagnostic testing can be conducted for HIV but there are no other articles describing the diagnostic testing capabilities of Malawian laboratories [4]. There is no further evidence available on the websites of the Ministry of Health or the Public Health Institute. Malawi has not yet publicly defined the four country-specific tests [5,6].

[1] Ministry of Health & Population. "Diagnostics". [<http://www.health.gov.mw/index.php/directorates/health-technical-services/diagnostics>]. Accessed 26 December 2020.

[2] UNC School of Medicine. UNC Project Malawi. "Research Lab". <https://www.med.unc.edu/infdis/malawi/research/research-lab/>. Accessed 26 December 2020.

[3] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 December 2020.

[4] Malawi Medical Journal. 2017. "Rapid Diagnostic Testing of Hospitalized Malawian Children Reveals Opportunities for Improved HIV Diagnosis and Treatment". [<https://www.ncbi.nlm.nih.gov/pubmed/29141709>]. Accessed 26 December 2020.

[4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 26 December 2020.

[5] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 26 December 2020.

2.1.1b

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

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

Current Year Score: 0

There is no publicly available evidence that Malawi has a national plan, strategy or similar document for conducting testing during a public health emergency, which includes considerations for testing for novel pathogens, scaling capacity, and defining goals for testing. No information on these was found through the 2020 COVID-19 Preparedness and Response Plan, the 2019 Joint External Evaluation report (JEE), the Health Sector Strategic Plan 2017-2022, the Ministries of Health or Agriculture, the Public Health Institute of Malawi (PHIM) or the National Commission for Science and Technology.

[1,2,3,4,5,6,7]

[1] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 14 April 2021.

[2] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi.

[<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 December 2020.

[3] Health Sector Strategic Plan II. 2017-2022.

[https://extranet.who.int/countryplanningcycles/sites/default/files/planning_cycle_repository/malawi/health_sector_strategic_plan_ii_030417_smt_dps.pdf]. Accessed 26 December 2020.

[4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 26 December 2020.

[5] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 26 December 2020.

[6] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 26 December 2020.

[7] National Commission for Science and Technology. [<https://www.ncst.mw/>]. Accessed 26 December 2020.

2.1.2 Laboratory quality systems

2.1.2a

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

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has a national plan, strategy or similar document for conducting testing during a public health emergency, which includes considerations for testing for novel pathogens, scaling capacity, and defining goals for testing. No information on these was found through the 2020 COVID-19 Preparedness and Response Plan, the 2019 Joint External Evaluation report (JEE), the Health Sector Strategic Plan 2017-2022, the Ministries of Health or Agriculture, the Public Health Institute of Malawi (PHIM) or the National Commission for Science and Technology.

[1,2,3,4,5,6,7]

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi.

[<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 December 2020.

[2] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 26 December 2020.

[3] Public Health Institute of Malawi (PHIM). "National Public Health Reference Laboratory".

[<http://malawipublichealth.org/index.php/departments/national-public-health-reference-laboratory>]. Accessed 26 December 2020.

[4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 26 December 2020.

[5] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 26 December 2020.

[6] International Federation of Clinical Chemistry and Laboratory Medicine (IFCC). March 2018. "Developing Quality Competence in Medical Laboratories (DQCML)". [http://www.ifcc.org/media/477224/dqcml-visit-to-malawi-report-amann_beastall_thomas_26032018.pdf]. Accessed 26 December 2020.

2.1.2b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has a national laboratory that serves as a reference facility which is subject to external quality assurance review. Malawi's National Public Health Reference Laboratory (PHL) does not have its own website and there is no evidence that this laboratory is accredited through the 2019 Joint External Evaluation report (JEE), the Public Health Institute website or the Ministries of Health or Agriculture that the PHL is accredited [1,2,3,4,5]. The International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) visited Malawi between 26 February and 1 March 2018 as part of their "Developing Quality Competence in Medical Laboratories (DQCML)" programme. The report confirms that EQA schemes are sporadic and that there is "no real interest and push for EQA from government" [6].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 December 2020.

[2] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 26 December 2020.

[3] Public Health Institute of Malawi (PHIM). "National Public Health Reference Laboratory".

[<http://malawipublichealth.org/index.php/departments/national-public-health-reference-laboratory>]. Accessed 26 December 2020.

[4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 26 December 2020.

[5] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 26 December 2020.

[6] International Federation of Clinical Chemistry and Laboratory Medicine (IFCC). March 2018. "Developing Quality Competence in Medical Laboratories (DQCML)". [http://www.ifcc.org/media/477224/dqcml-visit-to-malawi-report-amann_beastall_thomas_26032018.pdf]. Accessed 26 December 2020.

2.2 LABORATORY SUPPLY CHAINS

2.2.1 Specimen referral and transport system

2.2.1a

Is there a nationwide specimen transport system?

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has a nationwide specimen transport system. Plos One, an open access scientific journal published by the Public Library of Science (PLOS), ran an article, in February 2017, on HIV specimens in

Malawi which stated that viral load (VL) monitoring is "susceptible to inconsistent specimen transport networks, staff shortages, weather, holidays, reagent stock-outs, equipment problems and administrative delays" [1]. According to the Ministry of Health's, the Expanded Programme on Immunisation (EPI) currently focuses on Polio, Measles and Neonatal Tetanus (NNT). Surveillance at community level is strengthened by Health Surveillance Assistants (HSAs). Case detection and reporting is done at community, health centre, district hospital and central hospital levels" and "transport is arranged at either district or regional level to collect specimens and deliver them to the EPI Unit that in turn sends acute flaccid paralysis (AFP) stool specimens to WHO accredited laboratory in Harare, Zimbabwe and Measles blood specimens to Kamuzu Central Hospital Measles laboratory" [2]. In the 2019 Joint External Evaluation report (JEE) strengths include that the human sector's transport system is well developed and can transport specimens to and from all laboratories and to other countries, but areas that need strengthening include "Timely transport to and from all districts is not available in the animal sector" and "The animal and human sectors do not share a transport system." [3] There is no evidence of a public or private nationwide specimen transport system on the websites of the Ministries of Health or Agriculture or the Public Health Institute [4,5,6].

[1] Plos One. 24 February 2017. "Specimen origin, type and testing laboratory are linked to longer turnaround times for HIV viral load testing in Malawi". [<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0173009>]. Accessed 26 December 2020.

[2] Ministry of Health & Population. "Expanded Programme on Immunisation". [<http://www.health.gov.mw/index.php/expanded-programme-on-immunization>]. Accessed 26 December 2020.

[3] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 December 2020.

[4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 26 December 2020.

[5] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 26 December 2020.

[6] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 26 December 2020.

2.2.2 Laboratory cooperation and coordination

2.2.2a

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

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

Current Year Score: 0

There is no publicly available evidence of a plan in place, in Malawi, to rapidly authorize or license laboratories to supplement the capacity of the national public health laboratory system to scale-up testing during an outbreak. The 2019 Joint External Evaluation report (JEE) states that the country has no regulatory body for licensing laboratories [1] There is no further evidence of such a plan through the Public Health Institute of Malawi (PHIM) or the Ministries of Health or Agriculture. [2,3,4]

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 26 December 2020.

[2] Public Health Institute of Malawi (PHIM). "National Public Health Reference Laboratory". [<http://malawipublichealth.org/index.php/departments/national-public-health-reference-laboratory>]. Accessed 26 December 2020.

[3] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 26 December 2020.

[4] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 26 December 2020.

2.3 REAL-TIME SURVEILLANCE AND REPORTING

2.3.1 Indicator and event-based surveillance and reporting systems

2.3.1a

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

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

Current Year Score: 0

There is no publicly available evidence that Malawi is conducting ongoing event-based surveillance (EBS) and analysis for infectious disease. The 2019 Joint External Evaluation report (JEE) states that "elements of an events-based surveillance (EBS) system exist but data capture is not systematic." and "Rumours received from the community or media are not collected formally but a community health information system is being developed." [1] One of the objectives of the Ministry of Health's Health Sector Strategic Plan 2017-2022 is "to implement syndrome or event based surveillance systems through the IDSR framework and guidelines" [2]. There is no evidence of EBS for infectious disease through the Ministry of Health, including the page for the Epidemiology Unit, or the Public Health Institute, including the page for the Disease Surveillance, Prevention, Response and Control Division, or the Ministry of Agriculture or the Department for Disaster Management Affairs [3,4,5,6]. Malawi has not published a public health emergency plan.

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 28 December 2020.

[2] Ministry of Health & Population. Health Sector Strategic Plan II 2017-2020. [<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 28 December 2020.

[3] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 28 December 2020.

[4] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 28 December 2020.

[5] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 8 March 2019.

[6] Republic of Malawi. Office of the Vice President. [<http://www.ovp.gov.mw/index.php/2018-05-19-15-56-08/disaster-docs>]. Accessed 28 December 2020.

2.3.1b

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

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi reported a potential public health emergency of international concern (PHEIC) to the WHO within the last two years. Although Malawi reported COVID-19 to the World Health Organisation (WHO), this was subsequent to the WHO's own declaration. The Malawi President declared to the United Nations, on 20 March 2020, that "Due to the threat of coronavirus and the urgent need to seriously manage it, I have decided to declare 'State of Disaster' in the country." [1,2] The last report for Malawi in the WHO Weekly Bulletin on Outbreaks and Other Emergencies

for the Regional Office for Africa is for a cholera event in June 2018, [3] There is no other evidence of Malawi reporting other potential PHEIC to the WHO, in the last two years, on the WHO Disease Outbreak News, the WHO country page, the regional page, or the websites of the Ministry of Health or the Public Health Institute of Malawi [4,5,6,7,8].

[1] United Nations - Malawi. 20 March 2020. "Declaration of State of Disaster by Malawi President Peter Mutharika".

[<https://malawi.un.org/en/46778-declaration-state-disaster-malawi-president-peter-mutharika>]. Accessed 28 December 2020.

[2] WHO News. "Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV)". [[https://www.who.int/news/item/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-\(2005\)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-\(2019-ncov\)](https://www.who.int/news/item/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov))]. Accessed 23 January 2021.

[3] World Health Organisation (WHO). June 2018. "Weekly Bulletin on Outbreaks and Other Emergencies."

[<https://reliefweb.int/sites/reliefweb.int/files/resources/OEW26-2329062018.pdf>]. Accessed 28 December 2020.

[4] World Health Organisation (WHO). Disease Outbreak News. "Malawi".

[<https://www.who.int/csr/don/archive/country/mwi/en/>]. Accessed 28 December 2020.

[5] World Health Organisation (WHO). "Malawi" [<https://www.who.int/countries/mwi/en/>]. Accessed 28 December 2020.

[6] World Health Organisation (WHO). "Africa - Malawi". [<https://www.afro.who.int/countries/Malawi>]. Accessed 28 December 2020.

[7] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 28 December 2020.

[8] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 28 December 2020.

2.3.2 Interoperable, interconnected, electronic real-time reporting systems

2.3.2a

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

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available evidence that the Malawi government operates an electronic reporting surveillance system at national or sub-national level. The 2019 Joint External Evaluation report (JEE) states that "A cost-effective electronic reporting tool for zoonotic diseases needs to be identified and rolled out to improve timely data collection, analysis and reporting. This should be interoperable with the public health system." [1] One of the objectives of the Ministry of Health's Health Sector Strategic Plan II 2017-2022 is to "develop standardised electronic surveillance system to transmit surveillance data at all levels". [2] According to the Public Health Institute (PHIM), the Epidemiology Unit, of the Disease Surveillance, Prevention, Response and Control Division, conducts "disease surveillance and International Health Regulations (IHR) activities using the Integrated Disease Surveillance and Response (IDSR) strategy, outbreak investigation and response in collaboration with the public health reference laboratory" but there is no mention of an electronic reporting system. [3] There is no further evidence of an electronic reporting surveillance system on the websites of the Ministries of Health or Agriculture, or in the Malawi eHealth Strategy 2011-2016 [4,5,6].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi.

[<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 28 December 2020.

[2] Ministry of Health & Population. Health Sector Strategic Plan II 2017-2022.

[<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 28 December 2020.

[3] Public Health Institute of Malawi (PHIM). "The Disease Surveillance Prevention Response and Control Division".

[<http://malawipublichealth.org/index.php/departments/the-disease-surveillance-prevention-response-and-control-division>]. Accessed 28 December 2020.

[4] Republic of Malawi. Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 28 December 2020.

[5] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 28 December 2020.

[6] World Health Organisation (WHO). April 2014. "Malawi eHealth Strategy 2011-2016.

[https://www.who.int/goe/policies/malawi_ehealth_strategy2011_2016.pdf]. Accessed 28 December 2020.

2.3.2b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that an electronic reporting surveillance system collects ongoing or real-time laboratory data, because there is no evidence that the Malawi government operates an electronic reporting surveillance system at national or sub-national level. The 2019 Joint External Evaluation report (JEE) states that "A cost-effective electronic reporting tool for zoonotic diseases needs to be identified and rolled out to improve timely data collection, analysis and reporting. This should be interoperable with the public health system." [1] One of the objectives of the Ministry of Health's Health Sector Strategic Plan II 2017-2022 is to "develop standardised electronic surveillance system to transmit surveillance data at all levels". [2] According to the Public Health Institute (PHIM), the Epidemiology Unit, of the Disease Surveillance, Prevention, Response and Control Division, conducts "disease surveillance and International Health Regulations (IHR) activities using the Integrated Disease Surveillance and Response (IDSR) strategy, outbreak investigation and response in collaboration with the public health reference laboratory" but there is no mention of an electronic reporting system. [3] There is no further evidence of an electronic reporting surveillance system on the websites of the Ministries of Health or Agriculture, or in the Malawi eHealth Strategy 2011-2016 [4,5,6].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 28 December 2020.

[2] Ministry of Health & Population. Health Sector Strategic Plan II 2017-2022. [<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 28 December 2020.

[3] Public Health Institute of Malawi (PHIM). "The Disease Surveillance Prevention Response and Control Division". [<http://malawipublichealth.org/index.php/departments/the-disease-surveillance-prevention-response-and-control-division>]. Accessed 28 December 2020.

[4] Republic of Malawi. Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 28 December 2020.

[5] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 28 December 2020.

[6] World Health Organisation (WHO). April 2014. "Malawi eHealth Strategy 2011-2016.

[https://www.who.int/goe/policies/malawi_ehealth_strategy2011_2016.pdf]. Accessed 28 December 2020.

2.4 SURVEILLANCE DATA ACCESSIBILITY AND TRANSPARENCY

2.4.1 Coverage and use of electronic health records

2.4.1a

Are electronic health records commonly in use?

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

Current Year Score: 1

There is publicly available evidence that Malawi has an electronic health record system in place, but insufficient evidence that they are commonly in use. The National eHealth Strategy 2011-2016 has as a strategy to "Adopt an incremental and distributed approach to development of national individual electronic health records for tertiary hospitals and selected health programs". [1] Malawi has a national EHR system, however, according to the World Health Organisation's Atlas of eHealth Country Profiles (EHR), published in 2015, less than 25% of primary care facilities, secondary care facilities and tertiary care facilities use EHR. [2] An Ambit project report, dated November 2020, states that in three selected districts, chosen because they generally have good electronic medical record (EMR) coverage, only 39% of the anti-retroviral (ART) facilities use the national EMR. [3] In an African Online Information Systems (AOSIS) article, dated 14 January 2018, it states "Both Malawi and Ghana have made attempts to implement a national EHR system, but challenges such as a lack of government support and necessary infrastructure, unavailability of a continuous electricity supply and resistance from health care workers caused these projects to be unsuccessful." [4] There is no evidence of an EHR system through the 2019 Joint External Evaluation report (JEE), the Ministry of Health or the Public Health Institute. [5,6,7]

[1] National eHealth Strategy 2011-2016. [https://www.who.int/goe/policies/malawi_ehealth_strategy2011_2016.pdf]. Accessed 28 December 2020.

[2] World Health Organisation (WHO). 2015. "Atlas of eHealth country profiles". [https://apps.who.int/iris/bitstream/handle/10665/204523/9789241565219_eng.pdf?sequence=1]. Accessed 28 December 2020.

[3] Ambit project report. November 2020. 'Differentiated service delivery models for HIV treatment in Malawi'. [<https://differentiatedservicedelivery.org/Portals/0/adam/Content/v79nnRLZvEisKX2P2a2IaG/URL/Malawi%20sentinel%20site%20assessment%20report%202020%2011%2004.pdf>]. Accessed 23 January 2021.

[4] African Online Information Systems (AOSIS). 14 January 2018. 'Electronic health record system in the public health care sector of South Africa: A systematic literature review'. [<http://www.scielo.org.za/pdf/phcfm/v10n1/81.pdf>]. Accessed 23 January 2021.

[5] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 28 December 2020.

[6] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 28 December 2020.

[7] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 28 December 2020.

2.4.1b

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

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi's national public health system has access to electronic health records of individuals. The National eHealth Strategy of 2011-2016 has, as one of its required national actions, the implementation of ehealth solutions, including individual electronic health records. [1] The Ministry of Health's Malawi National Health Information System Policy, published in September 2015, states that "The ownership of any health related data shall rest with the Ministry of Health." and that there are individual patient records kept in facilities, but the policy does not specifically address EHRs. [2] An article in the Malawi Medical Journal published in September 2017 outlines that "despite the introduction of electronic medical record (EMR) systems in 2001, paper-based records continue to be in use" [3]. There is no

evidence of the EHR system on the websites of either the Ministry of Health or the Public Health Institute. [4,5]

[1] National eHealth Strategy 2011-2016. [https://www.who.int/goe/policies/malawi_ehealth_strategy2011_2016.pdf]. Accessed 28 December 2020.

[2] Health Data Collaborative. September 2015. "Malawi National Health Information System Policy". [https://www.healthdatacollaborative.org/fileadmin/uploads/hdc/Documents/Country_documents/September_2015_Malawi_National_Health_Information_System_Policy.pdf]. Accessed 28 December 2020.

[3] Malawi Medical Journal. September 2017. "Factors affecting the utilisation of electronic medical records system in Malawian central hospital". [<http://www.mmj.mw/?p=6287>]. Accessed 28 December 2020.

[4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 28 December 2020.

[5] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 28 December 2020.

2.4.1c

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

Yes = 1, No = 0

Current Year Score: 0

There is insufficient publicly available evidence that there are data standards to ensure Malawi's Electronic Health Record (EHR) data is comparable. A paper on e-Health Initiatives in Malawi, written in 2014, indicated that Malawi's e-Health data was not comparable. [1] The Situational Analysis section of the Malawi National eHealth Strategy 2011 - 2016, published in April 2014, outlines that there are "no standards for integration and interoperability" within ICT in the health sector [2]. The Ministry of Health's Health Sector Strategic Plan II 2017-2022 outlines that "although some systems have been computerised there is no interoperability in their current state" [3]. The Malawi National Health Information System Policy, published in September 2015, states that "in order to ensure interoperability and data integrity, all systems used for data collection and/or management (electronic- and paper-based) including Electronic Medical Records Systems (EMRS) shall be designed and managed in compliance with approved national standards and guidelines on health data management" but there is no further information on what the national standards are [4]. There is no mention of the EHR system, ISO standards or other data standards in the 2019 Joint External Evaluation report (JEE), or on the websites of the Ministry of Health or the Public Health Institute. [5,6,7]

[1] Mwakilama, S. 2014. "Interoperability, Integration and Standardization of e-Health Initiatives in Malawi: Current Efforts and Prospects."

[<https://repository.ubuntunet.net/bitstream/handle/10.20374/163/mwakilamas.pdf?sequence=1&isAllowed=y>]. Accessed 28 December 2020.

[2] World Health Organisation. April 2016. "Malawi eHealth Strategy 2011-2016."

[https://www.who.int/goe/policies/malawi_ehealth_strategy2011_2016.pdf]. Accessed 28 December 2020.

[3] Ministry of Health & Population. Health Sector Strategic Plan II 2017-2022.

[<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 28 December 2020.

[4] Health Data Collaborative. September 2015. "Malawi National Health Information System Policy".

[https://www.healthdatacollaborative.org/fileadmin/uploads/hdc/Documents/Country_documents/September_2015_Malawi_National_Health_Information_System_Policy.pdf]. Accessed 28 December 2020.

[5] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi.

[<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 28 December 2020.

[6] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 28 December 2020.

[7] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 28 December 2020.

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

2.4.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has established mechanisms at the relevant ministries to share surveillance data. The 2019 Joint External Evaluation report (JEE) has amongst its recommendations for priority action; developing an MOU between the human and animal sectors that would include sharing of epidemiological data, the development of SOPs for data sharing and developing guidelines/MOUs for sharing information between government sectors. [1] The Ministry of Health's Health Sector Strategic Plan II 2017-2022 outlines that the ministry's objective is to "collaborate with the Ministry of Agriculture's Animal Health Department on surveillance and response of zoonotic diseases" and to "establish One Health Committees with legislative support and cooperation between Ministries of Health and Agriculture" but there is no evidence of these objectives having become functional [2]. There is no further evidence of such a mechanism through the Ministry of Agriculture, the Public Health Institute or the Environmental Affairs Department. [3,4,5].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 28 December 2020.

[2] Health Data Collaborative. September 2015. "Malawi National Health Information System Policy". [https://www.healthdatacollaborative.org/fileadmin/uploads/hdc/Documents/Country_documents/September_2015_Malawi_National_Health_Information_System_Policy.pdf]. Accessed 28 December 2020.

[3] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 28 December 2020.

[4] Public Health Institute of Malawi (PHIM). <http://malawipublichealth.org>. Accessed 28 December 2020.

[4] Environmental Affairs Department. [<http://www.ead.gov.mw/>]. Accessed 28 December 2020.

2.4.3 Transparency of surveillance data

2.4.3a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi makes de-identified health surveillance data on disease outbreaks publicly available via reports or other format on government websites. The Ministry of Health and Population does issue reports on the current COVID-19 pandemic, but these are both disease and event specific. [1] The Ministry of Health and the Public Health Institute outline that the Epidemiology Unit is responsible for the "implementation of Integrated disease surveillance and response (IDSR) which monitors 15 diseases or conditions" but neither website includes reports or a database. [2,3] The Ministry of Agriculture website outlines that the Animal Health and Industry Department is responsible for disease surveillance, but it does not include reports or a database. [4] There is no other evidence of such reports through the

Ministries of Health or Agriculture, or the Public Health Institute. [5,6,7]

[1] Ministry of Health and Population. [<https://www.health.gov.mw/index.php/downloads/category/7-covid19-information>]. Accessed 28 December 2020.

[2] Ministry of Health & Population. "Epidemiology Unit". [<http://www.health.gov.mw/index.php/directorates/preventive-health/epidemiology-unit>]. Accessed 28 December 2020.

[3] Public Health Institute of Malawi (PHIM). "The Disease Surveillance Prevention Response and Control Division". [<http://malawipublichealth.org/index.php/departments/the-disease-surveillance-prevention-response-and-control-division>]. Accessed 28 December 2020.

[4] Ministry of Agriculture, Irrigation & Water Development. "Animal Health and Industry". [<http://www.agriculture.gov.mw/index.php/2016-03-17-20-24-29/animal-health-and-industry>]. Accessed 28 December 2020.

[5] Ministry of Health & Population. <http://www.health.gov.mw/>. Accessed 28 December 2020.

[6] Ministry of Agriculture, Irrigation & Water Development. <http://www.agriculture.gov.mw/>. Accessed 28 December 2020.

[7] Public Health Institute of Malawi (PHIM). <http://malawipublichealth.org>. Accessed 28 December 2020.

2.4.3b

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

Yes = 1 , No = 0

Current Year Score: 0

Malawi does make de-identified health surveillance data on COVID-19 publicly available on government websites, but these reports are not made daily. The Ministry of Health and Population issues reports on the current COVID-19 pandemic, and there is also a United Nations Children's Fund (UNICEF) page on the website, but neither of them are updated daily. [1,2]

[1] Ministry of Health and Population. [<https://www.health.gov.mw/index.php/downloads/category/7-covid19-information>]. Accessed 28 December 2020.

[2] Ministry of Health and Population. COVID-19 UNICEF Malawi. "Coronavirus disease (COVID-19) How UNICEF and partners are helping in Malawi". [<https://www.unicef.org/malawi/coronavirus-disease-covid-19>]. Accessed 23 January 2021.

2.4.4 Ethical considerations during surveillance

2.4.4a

Is there legislation and/or regulations that safeguard the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities?

Yes = 1 , No = 0

Current Year Score: 1

There is evidence that Malawi has guidelines that safeguard the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities. The Ministry of Health's Malawi National Health Information System Policy, published in September 2015, states that "in all Health Information Systems (HIS) operations, efforts shall be exercised to protect the clients' rights in line with prevailing data privacy and confidentiality policy, without compromising safety and knowledge sharing". It states that "health workers and other staff that have privileged access to patient's records and other information shall be accountable for maintaining the highest level of confidentiality and ensure that shared confidentiality is practiced in the interest of the patient and in accordance with the law. Violation of

confidentiality shall be punishable by law". Each facility is obliged to maintain adequate physical security of patient records and secure access to storage areas [1]. The Integrated Disease Surveillance and Response (IDSR) system, which monitors 15 diseases, is included as an HIS [1, 2]. The Ministry of Health also acts in accordance with the Electronic Transactions and Cyber Security Act, effective since October 2016. While the Act does not explicitly mention personal health information, the rights of the individual are so comprehensively covered that it is clear this information falls within the ambit of the Act. [3]

[1] Health Data Collaborative. September 2015. "Malawi National Health Information System Policy".

[https://www.healthdatacollaborative.org/fileadmin/uploads/hdc/Documents/Country_documents/September_2015_Malawi_National_Health_Information_System_Policy.pdf]. Accessed 28 December 2020.

[2] Republic of Malawi. Ministry of Health & Population. "Epidemiology Unit".

[<http://www.health.gov.mw/index.php/directorates/preventive-health/epidemiology-unit>]. Accessed 28 December 2020.

[3] Malawi Legal Information Institute. October 2016. "Electronic Transactions and Cyber Security Act".

[<https://malawilii.org/mw/legislation/act/2016/33>]. Accessed 28 December 2020.

2.4.4b

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

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient publicly available evidence that the laws that safeguard the confidentiality of identifiable health information for individuals includes mention of protections from cyber attacks. The Electronic Transactions and Cyber Security Act, effective since October 2016, states that "A data controller shall implement technical and organisational measures enabling to protect personal data against accidental or unlawful destruction or accidental loss, alteration, unauthorised disclosure or access, in particular where the processing involves the transmission of data over a network, and against all other unlawful forms of processing" and "Having regard to the state of the art and the cost of their implementation, such measures shall ensure a level of security appropriate to the risks represented by the processing and the nature of the data to be protected". [1] There is no further information on protections from cyber attacks or ransomware through the 2019 Joint External Evaluation report (JEE), the Ministry of Health, the Public Health Institute of Malawi (PHIM) or the 2015 National Health Information System Policy. [2,3,4,5]

[1] Malawi Legal Information Institute. October 2016. "Electronic Transactions and Cyber Security Act".

[<https://malawilii.org/mw/legislation/act/2016/33>]. Accessed 3 March 2019.

[2] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi.

[<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>].

Accessed 28 December 2020.

[3] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 28 December 2020.

[4] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 28 December 2020.

[5] Health Data Collaborative. September 2015. "Malawi National Health Information System Policy".

[https://www.healthdatacollaborative.org/fileadmin/uploads/hdc/Documents/Country_documents/September_2015_Malawi_National_Health_Information_System_Policy.pdf]. Accessed 28 December 2020.

2.4.5 International data sharing

2.4.5a

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

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

Current Year Score: 0

There is no publicly available evidence that Malawi has made a commitment to share surveillance data for one or more diseases during a public health emergency with other countries in the region. There is no evidence of such a commitment through the 2019 Joint External Evaluation report (JEE), the Ministries of Health or Agriculture, the Public Health Institute or the World Health Organisation (WHO) country or regional websites. [1,2,3,4,5,6]. Malawi is not a member of the East African Integrated Disease Surveillance Network [7].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 28 December 2020.

[2] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 28 December 2020.

[3] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 28 December 2020.

[4] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 28 December 2020.

[5] World Health Organisation (WHO). "Malawi" [<https://www.who.int/countries/mwi/en/>]. Accessed 28 December 2020.

[6] World Health Organisation (WHO). "Africa - Malawi". [<https://www.afro.who.int/countries/Malawi>]. Accessed 28 December 2020.

[7] East Africa Community. "East African Integrated Disease Surveillance Network". [<https://www.eac.int/health/disease-prevention/east-african-integrated-disease-surveillance-network>]. Accessed 28 December 2020.

2.5 CASE-BASED INVESTIGATION

2.5.1 Case investigation and contact tracing

2.5.1a

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

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

Current Year Score: 0

There is no publicly available evidence that Malawi has a national system in place to provide support at the sub-national level (e.g. training, metrics standardization and/or financial resources) to conduct contact tracing in the event of a public health emergency. While contact tracing is included in the National COVID-19 Preparedness and Response Plan, this is both disease and event specific. [1] There is no further information on contact tracing through the Health Sector Strategic Plan (2017-2022), the 2019 Joint External Evaluation report (JEE), the Ministry of Health or the Public Health Institute of Malawi (PHIM). [2,3,4,5]

[1] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 28 December 2020.

[2] Health Sector Strategic Plan II. 2017-2022.

[https://extranet.who.int/countryplanningcycles/sites/default/files/planning_cycle_repository/malawi/health_sector_strategic_plan_ii_030417_smt_dps.pdf]. Accessed 28 December 2020.

[3] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi.

[<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 28 December 2020.

[4] Ministry of Health and Population (MOH). [<http://www.health.gov.mw/>]. Accessed 28 December 2020.

[5] Public Health Institute of Malawi (PHIM). [<https://malawipublichealth.org/>]. Accessed 28 December 2020.

2.5.1b

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

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

Current Year Score: 0

There is no publicly available evidence that Malawi 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. There is no information on these in any of; the President's 20 March 2020 State of Emergency declaration, the National COVID-19 Preparedness and Response Plan, the Health Sector Strategic Plan (2017-2022), the 2019 Joint External Evaluation report (JEE), the Ministry of Health or the Public Health Institute of Malawi (PHIM). [1,2,3,4,5,6]

[1] United Nations - Malawi. 20 March 2020. "Declaration of State of Disaster by Malawi President Peter Mutharika".

[<https://malawi.un.org/en/46778-declaration-state-disaster-malawi-president-peter-mutharika>]. Accessed 28 December 2020.

[2] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 28 December 2020.

[3] Health Sector Strategic Plan II. 2017-2022.

[https://extranet.who.int/countryplanningcycles/sites/default/files/planning_cycle_repository/malawi/health_sector_strategic_plan_ii_030417_smt_dps.pdf]. Accessed 28 December 2020.

[4] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi.

[<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 28 December 2020.

[5] Ministry of Health and Population (MOH). [<http://www.health.gov.mw/>]. Accessed 28 December 2020.

[6] Public Health Institute of Malawi (PHIM). [<https://malawipublichealth.org/>]. Accessed 28 December 2020.

2.5.1c

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

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi makes de-identified data on contact tracing efforts for COVID-19 (including the percentage of new cases from identified contacts) available via daily reports (or other format) on government websites (such as the Ministry of Health, or similar). The Ministry of Health 'COVID-19 National Information Dashboard' does not contain any contact tracing details. [1] There is no further information on this through the Public Health Institute. [2]

[1] Ministry of Health - Malawi. COVID-19 National Information Dashboard. [<https://covid19.health.gov.mw/>]. Accessed 28 December 2020.

[2] Public Health Institute of Malawi (PHIM). [<https://malawipublichealth.org/>]. Accessed 28 December 2020.

2.5.2 Point of entry management

2.5.2a

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

Yes, plan(s)/agreement(s) are in place to prepare for future public health emergencies = 2, Yes, but plan(s)/agreement(s) are in place only in response to active public health emergencies = 1, No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has a joint plan or cooperative agreement between the public health system and border control authorities to monitor suspected and potential cases for international travellers in the event of a possible future or active public health emergency. The 2019 Joint External Evaluation report (JEE) states that the Malawi Immigration Department, Defence Force, fire brigades and the police service all support cross-border and internal public health and security management and facilitate screening and emergency management at points of entry (PoE). However, the report also recommends as priority actions "Establish a national policy identifying sectors, roles, responsibilities and high-level areas of work that ensure collaboration and coordination between public health and security personnel, including a formal list of points of contact and triggers for sharing information between the relevant sectors."; "Develop and conduct training for national and district level public health and law enforcement entities in joint investigations, information sharing and emergency response."; "Develop and distribute a multisectoral contingency plan to respond to public health emergencies at the border linked to the national emergency plan." [1] The COVID-19 Preparedness and Response Plan was developed as a collaborative effort and consultative process under the guidance of the Ministry of Disaster Management Affairs and Public Events, and Ministry of Health through the national cluster system. There is no information, however, on plans or cooperative agreements between the public health system and border control authorities, and the plan mentions, as a challenge, that there is inadequate cross border coordination at both national and district level. [2] The President, in his declaration of National Emergency speech of 20 March 2020, said the "Ministry of Health and Population is redeploying health personnel in all border posts and continue screening and surveillance of people in all entry points." But there is no mention of plans or cooperative agreements with border control authorities. [3] There is no further information on this through the Department of Immigration, the Ministry of Health or the Public Health Institute of Malawi (PHIM). [4,5,6]

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 28 December 2020.

[2] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-

2020_Final-Version.pdf]. Accessed 28 December 2020.

[3] United Nations - Malawi. 20 March 2020. "Declaration of State of Disaster by Malawi President Peter Mutharika". [https://malawi.un.org/en/46778-declaration-state-disaster-malawi-president-peter-mutharika]. Accessed 28 December 2020.

[4] Department of Immigration and Citizenship Services [https://www.immigration.gov.mw/]. Accessed 28 December 2020.

[5] Ministry of Health. [http://www.health.gov.mw/]. Accessed 28 December 2020.

[6] Public Health Institute of Malawi (PHIM). [http://malawipublichealth.org]. Accessed 28 December 2020.

2.6 EPIDEMIOLOGY WORKFORCE

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

2.6.1a

Does the country meet one of the following criteria?

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

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

Current Year Score: 1

There is evidence that Malawi has an in-country epidemiology training program and that citizens participate in applied epidemiology training programs in other countries. The Public Health Institute of Malawi (PHIM) launched the Frontline Field Epidemiology Training Programme (FETP-Frontline) in April 2016. The programme supports the Ministries of Health and Agriculture (Department of Animal Health and Livestock Development) in advancing epidemiological capacity by training health professionals in basic field epidemiology. [1]. The 2019 Joint External Evaluation report (JEE) does add, however, that the effectiveness of field epidemiology training and its impact on IHR capacity need to be monitored and evaluated. [2] PHIM states that, in January 2018, a Malawian joined the "12th cohort of the South Africa Field Epidemiology Training Program (SAFETP). His participation in the SAFETP was supported by "the Norwegian Institute of Public Health (NIPH) and Norwegian Church Aid (NCA)." [3] The JEE states that "There is one person attending the advanced FETP outside the country with plans for two more people to be trained." [2]

[1] Public Health Institute of Malawi (PHIM). "Frontline Field Epidemiology Training programme". [http://malawipublichealth.org/index.php/departments/the-disease-surveillance-prevention-response-and-control-division/frontline-field-epidemiology-training-programme]. Accessed 28 December 2020.

[2] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y]. Accessed 28 December 2020.

[3] Public Health Institute of Malawi (PHIM). 2019. "Malawian participates in the South Africa Field Epidemiology Training Programme". http://malawipublichealth.org/index.php/news-and-events/19-malawian-paticipates-in-the-south-africa-field-epidemiology-training-programme. Accessed 28 December 2020.

2.6.1b

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

Yes = 1, No = 0

Current Year Score: 1

Malawi has a field epidemiology training program which is inclusive of animal health professionals but does not have a specific animal health field epidemiology training program. The Public Health Institute of Malawi (PHIM) notes that a Frontline Field Epidemiology Training Programme (FETP-Frontline) was launched in April 2016. The programme supports the Ministry of Agriculture, Irrigation and Water Development (Department of Animal Health and Livestock Development) by training health professionals in basic field epidemiology. [1] TEPHINET outlines that all cohorts enrolled for the Malawi FETP-Frontline course have included "at least one trainee from the Department of Animal Health to embrace the One Health approach". One of the program's areas of work is veterinary medicine [2]. There is no mention of a specific animal health field epidemiology training program, such as FETPV, through the 2019 Joint External Evaluation report (JEE) or Ministries of Health or Agriculture. [3,4,5].

[1] Public Health Institute of Malawi (PHIM). "Frontline Field Epidemiology Training programme".

<http://malawipublichealth.org/index.php/departments/the-disease-surveillance-prevention-response-and-control-division/frontline-field-epidemiology-training-programme>. Accessed 28 December 2020.

[2] TEPHINET. "Malawi Field Epidemiology Training Program". <https://www.tephinet.org/training-programs/malawi-field-epidemiology-training-program>. Accessed 28 December 2020.

[3] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 28 December 2020.

[4] Republic of Malawi. Ministry of Health & Population. <http://www.health.gov.mw/>. Accessed 28 December 2020.

[5] Republic of Malawi. Ministry of Agriculture, Irrigation & Water Development. <http://www.agriculture.gov.mw/>. Accessed 28 December 2020.

2.6.2 Epidemiology workforce capacity

2.6.2a

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

Yes = 1, No = 0

Current Year Score: 0

2020

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

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

3.1 EMERGENCY PREPAREDNESS AND RESPONSE PLANNING

3.1.1 National public health emergency preparedness and response plan

3.1.1a

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

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

Current Year Score: 1

There is no publicly available evidence that Malawi has a national public health emergency response plan which addresses planning for multiple communicable diseases or an emergency preparedness plan. The national 2020 COVID-19 Preparedness and Response Plan is both disease and event specific. The plans' main objective is to "prevent, rapidly detect and effectively respond to any COVID-19 outbreak thereby reducing morbidity and mortality in the country." To effect this, 9 areas, called 'Clusters', have been isolated and tasked with missions. The stakeholders involved include many government ministries, the Malawi Police and Defence Forces, a number of UN agencies, NGOs and even employers and workers. [1] The Ministry of Health has published a document on Tuberculosis. It includes guidelines on preventive and control measures to reduce the risk of TB infection. It is aimed at healthcare workers treating patients with TB, HIV or AIDS. [2] Malawi's National Progress Report on the Implementation of the Hyogo Framework for Action (2013-2015), published in 2015, outlines that the Ministry of Health does have "mechanisms in place which ensure continued delivery of health services in times of disaster (Mobile clinics)" but this cannot qualify as an emergency response plan which addresses multiple communicable diseases. [3] The 2019 Joint External Evaluation report (JEE) recommends, as a priority action, "Develop multi-hazard public health emergency preparedness and response plans taking into account findings from the risk assessment. [4] There is no further evidence of emergency response plans through the Disaster Preparedness and Relief Act of 1991, the Ministry of Health, the Public Health Institute or the Department of Disaster Management Affairs (DoDMA). [5,6,7,8].

[1] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 28 December 2020.

[2] Med Box. July 2008. "Guidelines for Infection and Prevention and Control for TB". [<https://www.medbox.org/malawi-guidelines-for-infection-prevention-and-control-for-tb/download.pdf>]. Accessed 28 December 2020.

[3] Prevention Web. 2015. "Malawi's National Progress Report on the Implementation of the Hyogo Framework for Action (2013-2015)". [<https://www.preventionweb.net/english/professional/policies/v.php?id=41874>]. Accessed 28 December 2020.

[4] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 28 December 2020.

[5] Malawi Legal Information Institute. 1991. "Disaster Preparedness and Relief Act".

[https://malawilii.org/system/files/consolidatedlegislation/3305/disaster_preparedness_relief_act_pdf_17349.pdf]. Accessed 28 December 2020.

[6] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 28 December 2020.

[7] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 28 December 2020.

[8] Department of Disaster Management Affairs (DODMA). [www.dodma.gov.mw]. Accessed 28 December 2020.

3.1.1b

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

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

Current Year Score: 0

There is no publicly available evidence that Malawi has an overarching national public health emergency response plan, therefore there have been no updates in the last 3 years. The national 2020 COVID-19 Preparedness and Response Plan is both disease and event specific. [1] The Ministry of Health has published a document on Tuberculosis. It includes guidelines on preventive and control measures to reduce the risk of TB infection. It is aimed at healthcare workers treating patients with TB, HIV or AIDS. [2] Malawi's National Progress Report on the Implementation of the Hyogo Framework for Action (2013-2015), published in 2015, states that the Ministry of Health does have "mechanisms in place which ensure continued delivery of health services in times of disaster (Mobile clinics)" but this cannot qualify as an emergency response plan which addresses multiple communicable diseases. [3] The 2019 Joint External Evaluation report (JEE) recommends, as a priority action, "Develop multi-hazard public health emergency preparedness and response plans taking into account findings from the risk assessment. [4] There is no further evidence of emergency response plans through the Disaster Preparedness and Relief Act of 1991, the Ministry of Health, the Public Health Institute or the Department of Disaster Management Affairs (DoDMA). [5,6,7,8].

[1] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 28 December 2020.

[2] Med Box. July 2008. "Guidelines for Infection and Prevention and Control for TB". [https://www.medbox.org/malawi-guidelines-for-infection-prevention-and-control-for-tb/download.pdf]. Accessed 28 December 2020.

[3] Prevention Web. 2015. "Malawi's National Progress Report on the Implementation of the Hyogo Framework for Action (2013-2015)" [https://www.preventionweb.net/english/professional/policies/v.php?id=41874]. Accessed 28 December 2020.

[4] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y]. Accessed 28 December 2020.

[5] Malawi Legal Information Institute. 1991. "Disaster Preparedness and Relief Act".

[https://malawilii.org/system/files/consolidatedlegislation/3305/disaster_preparedness_relief_act_pdf_17349.pdf]. Accessed 28 December 2020.

[6] Ministry of Health & Population. [http://www.health.gov.mw/]. Accessed 28 December 2020.

[7] Public Health Institute of Malawi (PHIM). [http://malawipublichealth.org]. Accessed 28 December 2020.

[8] Department of Disaster Management Affairs (DODMA). [www.dodma.gov.mw]. Accessed 28 December 2020.

3.1.1c

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

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

Current Year Score: 0

There is no publicly available evidence that Malawi has an overarching national public health emergency response plan, therefore there are no considerations for paediatric and/or other vulnerable populations. The national 2020 COVID-19 Preparedness and Response Plan, although both disease and event specific, contains frequent reference to and inclusion of

vulnerable groups. [1] Malawi's National Progress Report on the Implementation of the Hyogo Framework for Action (2013-2015), published in 2015, states that the Ministry of Health does have "mechanisms in place which ensure continued delivery of health services in times of disaster (Mobile clinics)" but this cannot qualify as an emergency response plan which addresses multiple communicable diseases. [2] The 2019 Joint External Evaluation report (JEE) recommends, as a priority action, "Develop multi-hazard public health emergency preparedness and response plans taking into account findings from the risk assessment. [3] There is no further evidence of emergency response plans through the Disaster Preparedness and Relief Act of 1991, the Ministry of Health, the Public Health Institute or the Department of Disaster Management Affairs (DoDMA). [4,5,6,7].

[1] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 28 December 2020.

[2] Prevention Web. 2015. "Malawi's National Progress Report on the Implementation of the Hyogo Framework for Action (2013-2015)". [<https://www.preventionweb.net/english/professional/policies/v.php?id=41874>]. Accessed 28 December 2020.

[3] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 28 December 2020.

[4] Malawi Legal Information Institute. 1991. "Disaster Preparedness and Relief Act".

[https://malawilii.org/system/files/consolidatedlegislation/3305/disaster_preparedness_relief_act_pdf_17349.pdf]. Accessed 28 December 2020.

[5] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 28 December 2020.

[6] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 28 December 2020.

[7] Department of Disaster Management Affairs (DODMA). [www.dodma.gov.mw]. Accessed 28 December 2020.

3.1.1d

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

Yes = 1 , No = 0

Current Year Score: 0

2020

WHO Strategic Partnership for IHR and Health Security (SPH)

3.1.2 Private sector involvement in response planning

3.1.2a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has specific mechanisms for engaging with the private sector to assist with outbreak emergency preparedness and response. The private sector is included in many aspects of the national COVID-19 Preparedness and Response Plan, but this plan is both disease and event specific. [1] The Department of Disaster

Management Affairs (DoDMA) mentions collaborating with the private sector in its Disaster Risk Management Policy. The policy states that the private sector is included in the National Disaster Risk Management Technical Committee. Also stated is that "disasters affect the public and private sector alike and partnerships between government and the private sector can contribute measurably to reducing disaster losses through the sharing of skills and resources and engaging in joint developmental initiatives that build resilience". There is, however, no mention of specific mechanisms for engaging the sector. [2] There is no further evidence of such mechanisms through any of; the Ministry of Health, the Public Health Institute, the Health Sector Strategic Plan 2017-2022, the Public Health Act (1948) or the 2019 Joint External Evaluation report (JEE). [3,4,5,6,7]

[1] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 29 December 2020.

[2] Republic of Malawi. Office of the Vice President. "Disaster Reports". [<http://www.ovp.gov.mw/index.php/2018-05-19-15-56-08/disaster-docs>]. Accessed 29 December 2020.

[3] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 29 December 2020.

[4] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 29 December 2020.

[5] Ministry of Health & Population. "Health Sector Strategic Plan 2017 - 2022".

[<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 29 December 2020.

[6] Malawi Legal Information Institute. "Public Health Act". [https://malawilii.org/mw/consolidated_legislation/3401]. Accessed 29 December 2020.

[7] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi.

[<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 28 December 2020.

3.1.3 Non-pharmaceutical interventions planning

3.1.3a

Does the country have a policy, plan and/or guidelines in place to implement non-pharmaceutical interventions (NPIs) during an epidemic or pandemic?

Yes, a policy, plan and/or guidelines are in place for more than one disease= 2, Yes, but the policy, plan and/or guidelines exist only for one disease = 1, No = 0

Current Year Score: 1

There is evidence that Malawi has guidelines in place to implement non-pharmaceutical interventions (NPIs) during an epidemic or pandemic, but these exist only for one disease. Frequent mention is made to interventions (of a non-pharmaceutical kind, but not titled 'NPI') in the national COVID-19 Preparedness and Response Plan, including hand washing, decongestion in public places such as markets, churches and schools, and disinfection practices. [1] There is no further information on NPIs during an epidemic or pandemic through any of the Department of Disaster Management Affairs (DoDMA), the Ministry of Health, the Public Health Institute, the Health Sector Strategic Plan 2017-2022, the Public Health Act (1948) or the 2019 Joint External Evaluation report (JEE). [2,3,4,5,6,7]

[1] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 29 December 2020.

[2] Department of Disaster Management Affairs (DODMA). [www.dodma.gov.mw]. Accessed 29 December 2020.

[3] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 29 December 2020.

[4] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 29 December 2020.

[5] Ministry of Health & Population. "Health Sector Strategic Plan 2017 - 2022".

[<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 29 December 2020.

[6] Malawi Legal Information Institute. "Public Health Act". [https://malawilii.org/mw/consolidated_legislation/3401].

Accessed 29 December 2020.

[7] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi.

[<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>].

Accessed 29 December 2020.

3.2 EXERCISING RESPONSE PLANS

3.2.1 Activating response plans

3.2.1a

Does the country meet one of the following criteria?

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

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

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

Current Year Score: 1

There is publicly available evidence that Malawi has activated a national emergency response plan for an infectious disease outbreak in the past year. The last national-level biological threat-focused exercise (either with WHO or separately) was over a year ago, however. The President declared a state of National Emergency on 20 March 2020, due to the global COVID-19 pandemic, and initiated the national COVID-19 Preparedness and Response Plan, this was a new plan developed after the outbreak of the disease. [1,2] The World Health Organisation (WHO) 'Simulation exercise' website shows that Malawi conducted a drill in November 2019. The drill was for an Ebola Public Health Emergency. [3]

[1] United Nations - Malawi. 20 March 2020. "Declaration of State of Disaster by Malawi President Peter Mutharika".

[<https://malawi.un.org/en/46778-declaration-state-disaster-malawi-president-peter-mutharika>]. Accessed 29 December 2020.

[2] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 29 December 2020.

[3] World Health Organisation (WHO). Strategic Partnership for International Health Regulations (2005) and Health Security (SPH). Simulation exercise. [<https://extranet.who.int/sph/simulation-exercise>]. Accessed 29 December 2020.

3.2.1b

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

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

Current Year Score: 0

There is no publicly available evidence that Malawi has undergone an exercise to identify a list of gaps and best practices through either an after action review (post emergency response) or a biological threat-focused IHR exercise with the World Health Organisation (WHO) in the past year. Although the Malawi President declared a state of National Emergency on 20 March 2020, due to the global COVID-19 pandemic, and initiated the national COVID-19 Preparedness and Response Plan, [1,2] the pandemic is ongoing so no after action review can be completed yet. The WHO 'Simulation exercise' page shows that Malawi conducted a drill in November 2019, but there is no evidence that gaps and best practices were subsequently identified. [3] An activity outlined in the Health Sector Strategic Plan II 2017-2022 is "conduct trainings and simulation exercises on selected IHR core capacities or Global Health Security Agenda Action Packages." but there is no mention of identifying gaps and best practices. [4] The 2019 Joint External Evaluation report (JEE) notes, as areas that need strengthening, that "The few simulation exercises conducted by DODMA are ad hoc and fragmented, with little involvement of other relevant sectors." and "No MOUs exist, and no joint investigations or simulation exercises have been conducted." [5] There is no evidence of identifying a list of gaps and best practices through the WHO IHR strategic partnership portal, the WHO country and regional pages for Malawi, the WHO After Action Reviews, the websites of the Ministries of Health or Agriculture or the Public Health Institute. [6,7,8,9,10,11,12].

[1] United Nations - Malawi. 20 March 2020. "Declaration of State of Disaster by Malawi President Peter Mutharika".

[https://malawi.un.org/en/46778-declaration-state-disaster-malawi-president-peter-mutharika]. Accessed 30 December 2020.

[2] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 30 December 2020.

[3] World Health Organisation (WHO). Strategic Partnership for International Health Regulations (2005) and Health Security (SPH). Simulation exercise. [https://extranet.who.int/sph/simulation-exercise]. Accessed 30 December 2020.

[4] Ministry of Health & Population. "Health Sector Strategic Plan 2017 - 2022".

[http://www.health.gov.mw/index.php/policies-strategies]. Accessed 30 December 2020.

[5] WHO. 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi.

[https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y]. Accessed 30 December 2020.

[6] WHO. "Strategic Partnership Portal for International Health Regulations (2005) and Health Security (SPH)".

[https://extranet.who.int/sph/country/1280]. Accessed 30 December 2020.

[7] WHO. "Malawi". [https://www.who.int/countries/mwi/en/]. Accessed 30 December 2020.

[8] WHO. "Africa - Malawi". [https://www.afro.who.int/countries/Malawi]. Accessed 30 December 2020.

[9] WHO. After Action Review page. [https://extranet.who.int/sph/after-action-review]. Accessed 23 January 2021.

[10] Ministry of Health & Population. [http://www.health.gov.mw/]. Accessed 30 December 2020.

[11] Public Health Institute of Malawi (PHIM). [http://malawipublichealth.org]. Accessed 30 December 2020.

[12] Ministry of Agriculture, Irrigation & Water Development. [http://www.agriculture.gov.mw/]. Accessed 30 December 2020.

3.2.2 Private sector engagement in exercises

3.2.2a

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

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available evidence that the country has, in the past year, undergone a national-level biological threat-focused exercise that has included private sector representatives. Although the World Health Organisation (WHO) 'Simulation exercise' website page shows that Malawi conducted a drill in November 2019, there are no details of whether the private sector was involved. [1] There is no further evidence of private sector inclusion in biological threat-focused exercises through the 2019 Joint External Evaluation report (JEE), the WHO country and regional pages for Malawi, the websites of the Ministries of Health or Agriculture or the Public Health Institute. [2,3,4,5,6,7]. It should be noted that the private sector has been comprehensively included in the current COVID-19 pandemic. [8]

[1] World Health Organisation (WHO). Strategic Partnership for International Health Regulations (2005) and Health Security (SPH). Simulation exercise. [<https://extranet.who.int/sph/simulation-exercise>]. Accessed 30 December 2020.

[2] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 30 December 2020.

[3] World Health Organisation (WHO). "Malawi". [<https://www.who.int/countries/mwi/en/>]. Accessed 30 December 2020.

[4] World Health Organisation (WHO). "Africa - Malawi". [<https://www.afro.who.int/countries/Malawi>]. Accessed 30 December 2020.

[5] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 30 December 2020.

[6] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 30 December 2020.

[7] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 30 December 2020.

[8] COVID-19 Preparedness and Response Plan, Republic of Malawi. [https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 30 December 2020.

3.3 EMERGENCY RESPONSE OPERATION

3.3.1 Emergency response operation

3.3.1a

Does the country have in place an Emergency Operations Center (EOC)?

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence that Malawi does not have an Emergency Operations Center (EOC) in place, but this was set up after the President's 20 March 2020 declaration of a National Emergency as part of the National COVID-19 Preparedness and Response Plan and is both disease and event specific. There is no evidence suggesting that the EOC will remain operational once COVID19 is controlled. [1,2] According the 2019 Joint External Evaluation report (JEE) "Malawi has no fully functional emergency operations centre (EOC)." so recommended as a priority activity is to "Establish permanent national and district EOCs for activation, coordination and management of emergency response operations". It must be noted that the report also states that "Despite the absence of a fully functional EOC, capacity to respond to public health events have been tested through national coordination of operations in response to recent anthrax, cholera and typhoid outbreaks. " [3] Nothing further on existing EOCs could be found through the Ministry of Health, the Health Sector Strategic Plan II. 2017-2022 or the Department of Disaster Management Affairs (DODMA). [4,5,6]

- [1] COVID-19 Preparedness and Response Plan, Republic of Malawi.
[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 30 December 2020.
- [2] United Nations - Malawi. 20 March 2020. "Declaration of State of Disaster by Malawi President Peter Mutharika".
[<https://malawi.un.org/en/46778-declaration-state-disaster-malawi-president-peter-mutharika>]. Accessed 28 December 2020.
- [3] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi.
[<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 30 December 2020.
- [4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 30 December 2020.
- [5] Health Sector Strategic Plan II. 2017-2022.
[https://extranet.who.int/countryplanningcycles/sites/default/files/planning_cycle_repository/malawi/health_sector_strategic_plan_ii_030417_smt_dps.pdf]. Accessed 30 December 2020.
- [6] Department of Disaster Management Affairs (DODMA). [www.dodma.gov.mw]. Accessed 30 December 2020.

3.3.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that the Emergency Operations Center (EOC), set up specifically for the COVID-19 pandemic, will be permanent or is required to conduct a drill at least once per year. Since the pandemic has been going on for over a year, there has been no need for drills. The Malawi EOC was set up after the President's 20 March 2020 declaration of a National Emergency as part of the National COVID-19 Preparedness and Response Plan, and is both disease and event specific. [1,2] According the 2019 Joint External Evaluation report (JEE) "Malawi has no fully functional emergency operations centre (EOC)." so recommended as a priority activity is to "Establish permanent national and district EOCs for activation, coordination and management of emergency response operations". It must be noted that the report also states that "Despite the absence of a fully functional EOC, capacity to respond to public health events have been tested through national coordination of operations in response to recent anthrax, cholera and typhoid outbreaks. " [3] Nothing further on existing EOCs could be found through the Ministry of Health, the Health Sector Strategic Plan II. 2017-2022 or the Department of Disaster Management Affairs (DODMA). [4,5,6]

- [1] COVID-19 Preparedness and Response Plan, Republic of Malawi.
[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 30 December 2020.
- [2] United Nations - Malawi. 20 March 2020. "Declaration of State of Disaster by Malawi President Peter Mutharika".
[<https://malawi.un.org/en/46778-declaration-state-disaster-malawi-president-peter-mutharika>]. Accessed 28 December 2020.
- [3] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi.
[<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 30 December 2020.
- [4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 30 December 2020.
- [5] Health Sector Strategic Plan II. 2017-2022.
[https://extranet.who.int/countryplanningcycles/sites/default/files/planning_cycle_repository/malawi/health_sector_strategic_plan_ii_030417_smt_dps.pdf]. Accessed 30 December 2020.

[6] Department of Disaster Management Affairs (DODMA). [www.dodma.gov.mw]. Accessed 30 December 2020.

3.3.1c

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

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available evidence to show that the Emergency Operations Center (EOC) has conducted a coordinated emergency response or emergency response exercise activated within 120 minutes of the identification of the public health emergency/scenario within the last year. There is no information on this in the National COVID-19 Preparedness and Response Plan or in the Ministry of Health COVID-19 pages. [1,2] Evidence did not exist previously because there is no permanent EOC. According the 2019 Joint External Evaluation report (JEE) "Malawi has no fully functional emergency operations centre (EOC)." so recommended as a priority activity is to "Establish permanent national and district EOCs for activation, coordination and management of emergency response operations". It must be noted that the report also states that "Despite the absence of a fully functional EOC, capacity to respond to public health events have been tested through national coordination of operations in response to recent anthrax, cholera and typhoid outbreaks. " [3] Nothing further on existing EOCs could be found through the Ministry of Health, the Health Sector Strategic Plan II. 2017-2022 or the Department of Disaster Management Affairs (DODMA). [4,5,6]

[1] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 30 December 2020.

[2] Ministry of Health & Population. [https://covid19.health.gov.mw/]. Accessed 30 December 2020.

[3] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi.

[https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y]. Accessed 30 December 2020.

[4] Ministry of Health & Population. [http://www.health.gov.mw/]. Accessed 30 December 2020.

[5] Health Sector Strategic Plan II. 2017-2022.

[https://extranet.who.int/countryplanningcycles/sites/default/files/planning_cycle_repository/malawi/health_sector_strategic_plan_ii_030417_smt_dps.pdf]. Accessed 30 December 2020.

[6] Department of Disaster Management Affairs (DODMA). [www.dodma.gov.mw]. Accessed 30 December 2020.

3.4 LINKING PUBLIC HEALTH AND SECURITY AUTHORITIES

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

3.4.1a

Does the country meet one of the following criteria?

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

agreements between the public health and security authorities to respond to a potential deliberate biological event (i.e., bioterrorism attack)?

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

Current Year Score: 0

There is no publicly available evidence of Malawi's public health and national security authorities carrying out an exercise to respond to a potential deliberate biological event or that there are publicly available standard operating procedures between the public health and security authorities to respond to a potential deliberate biological event. The 2019 Joint External Evaluation report (JEE) states that "A proper coordination mechanism to detect and respond to deliberate or accidental events is absent." [1] There is no further evidence of such an agreement or exercise through the Ministries of Health or Justice, the Public Health Institute or the Department of Disaster Management Affairs [2,3,4,5].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 30 December 2020.

[2] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 30 December 2020.

[3] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 30 December 2020.

[3] Ministry of Justice. [<http://www.justice.gov.mw/>]. Accessed 30 December 2020.

[4] Department of Disaster Management Affairs (DODMA). [www.dodma.gov.mw]. Accessed 30 December 2020.

3.5 RISK COMMUNICATIONS

3.5.1 Public communication

3.5.1b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has in place, either in a national public health emergency response plan or in other legislation, regulation or strategy document, a section detailing a risk communication plan that is specifically intended for use during a public health emergency, so there are no outlines on how messages will reach populations and sectors with different communications needs. The Joint External Evaluation report (JEE) of 2019 states that "There is no comprehensive national risk communication multihazard plan." [1] The Department of Disaster Management Affairs (DoDMA) published a National Disaster Risk Management Communication Strategy 2014-2018 in August 2014 and it is currently under review. The current strategy addresses "disease outbreaks and pest infestations". It specifically refers to "Human disease (cholera, measles, typhoid)" and the plan covers key focus areas and guiding principles, target audiences and communication approaches, implementation arrangements via the National Disaster Preparedness and Relief Committee and monitoring and evaluation. However, the communication plan is specifically for risk management and educating Malawians about potential disasters and it does not outline a communication plan for use during emergencies [2]. There is no evidence of a national public health emergency plan or other legislation, regulation or document with a section detailing a risk communication plan on the website for the Ministry of Health, DoDMA or the Public Health Institute of Malawi [3,4,5].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 30 December 2020.

[2] Republic of Malawi. Office of the Vice President. Disaster Reports. "National Disaster Risk Management Communication Strategy 2014-2018". [<http://www.ovp.gov.mw/index.php/2018-05-19-15-56-08/disaster-docs>]. Accessed 30 December 2020.

[3] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 30 December 2020.

[4] Office of the Vice President. Department of Disaster Management Affairs. [<http://www.ovp.gov.mw/index.php/>]. Accessed 30 December 2020.

[5] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 30 December 2020.

3.5.1 Risk communication planning

3.5.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that Malawi has in place, either in a national public health emergency response plan or in other legislation, regulation or strategy document, a section detailing a risk communication plan that is specifically intended for use during a public health emergency. The Joint External Evaluation report (JEE) of 2019 states that "There is no comprehensive national risk communication multihazard plan." [1] The Department of Disaster Management Affairs (DoDMA) published a National Disaster Risk Management Communication Strategy 2014-2018 in August 2014 and it is currently under review. The current strategy addresses "disease outbreaks and pest infestations". It specifically refers to "Human disease (cholera, measles, typhoid)" and the plan covers key focus areas and guiding principles, target audiences and communication approaches, implementation arrangements via the National Disaster Preparedness and Relief Committee and monitoring and evaluation. However, the communication plan is specifically for risk management and educating Malawians about potential disasters and it does not outline a communication plan for use during emergencies [2]. There is no evidence of a national public health emergency plan or other legislation, regulation or document with a section detailing a risk communication plan on the website for the Ministry of Health, DoDMA or the Public Health Institute of Malawi [3,4,5].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 30 December 2020.

[2] Republic of Malawi. Office of the Vice President. Disaster Reports. "National Disaster Risk Management Communication Strategy 2014-2018". [<http://www.ovp.gov.mw/index.php/2018-05-19-15-56-08/disaster-docs>]. Accessed 30 December 2020.

[3] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 30 December 2020.

[4] Office of the Vice President. Department of Disaster Management Affairs. [<http://www.ovp.gov.mw/index.php/>]. Accessed 30 December 2020.

[5] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 30 December 2020.

3.5.1c

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that the strategy document used to guide national public health response designates a specific position within the government to serve as the primary spokesperson to the public during a public health emergency. The national COVID-19 Preparedness and Response Plan allocates responsibility for communication variously to the State President, the Minister for Information and the daily reports to the ministries of Health and of Information. [1] There is no further information on this through the Ministry of Health, the Public Health Institute of Malawi or the Department of Disaster Management Affairs (DoDMA). [2,3,4].

[1] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 30 December 2020.

[2] Ministry of Health & Population. [http://www.health.gov.mw/]. Accessed 30 December 2020.

[3] Public Health Institute of Malawi (PHIM). [http://malawipublichealth.org]. Accessed 30 December 2020.

[4] Department of Disaster Management Affairs (DODMA). [www.dodma.gov.mw]. Accessed 30 December 2020.

3.5.2 Public communication

3.5.2a

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

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

Current Year Score: 1

There is publicly available evidence that the Malawi public health system has actively shared messages via online media platforms (eg social media, website) to inform the public about ongoing public health concerns and/or dispel rumours, misinformation or disinformation. The Ministry of Health (MOH) has a COVID-19 Dashboard for the current global pandemic.

[1] The Department of Disaster Management Affairs (DoDMA) states in the National Disaster Risk Management Communication Strategy 2014-2018, which addresses infectious disease outbreaks, that media outlets include radio, TV, documentary, interactive website and social media. [2] The MOH has both Twitter and Facebook accounts, although the Twitter account has not yet been used. An example from the Facebook page is a message, on the 23 January 2021, from the Co-Chairperson of the Presidential (COVID19) Taskforce. The message contains the latest statistics on new and cumulative infections, recoveries and deaths by district. The message also warns against self medication without professional advice. [3,4] The DoDMA also has both Twitter and Facebook accounts. An example of a message from its Twitter page, on 14 January 2021, is the DoDMA Commissioner calling for "strict adherence to Covid-19 preventive measures in the implementation of humanitarian programmes." [5,6]

- [1] Ministry of Health. Covid19 dashboard. [<https://covid19.health.gov.mw/>]. Accessed 31 December 2020.
- [2] Office of the Vice President. Department of Disaster Management Affairs. August 2014. "National Disaster Risk Management Communication Strategy 2014-2018" [<http://www.ovp.gov.mw/index.php/2018-05-19-15-56-08/disaster-docs?download=16:national-disaster-risk-management-communication-strategy>]. Accessed 31 December 2020.
- [3] Twitter. Ministry of Health and Population, Malawi. [https://twitter.com/MoHandP_Malawi]. Accessed 31 December 2020.
- [4] Facebook. Ministry of Health and Population Malawi. [<https://www.facebook.com/malawimoh/>]. Accessed 31 December 2020.
- [5] Twitter. Department of Disaster Management Affairs, Malawi. [<https://twitter.com/disasterdept?lang=en>]. Accessed 31 December 2020.
- [6] Facebook. Department of Disaster Management Affairs. [<https://www.facebook.com/Department-of-Disaster-Management-Affairs-144225626324506/>]. Accessed 31 December 2020.

3.5.2b

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

No = 1, Yes = 0

Current Year Score: 1

There is no publicly available evidence that the Malawian president, or any of his senior ministers, have shared misinformation or disinformation on infectious diseases in the past 2 years. No information on this could be found on the websites of The Ministry of Health, BBC Africa, the (Malawi) Daily Times or the (Malawi) Nation news. [1,2,3,4]

- [1] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 31 December 2020.
- [2] BBC Africa. [<https://www.bbc.com/news/world/africa>]. Accessed 31 December 2020.
- [3] Daily Times (Malawi). [<https://times.mw/>]. Accessed 31 December 2020.
- [4] Nation (Malawi). [<https://www.mwnation.com/section/news/national-news/>]. Accessed 31 December 2020.

3.6 ACCESS TO COMMUNICATIONS INFRASTRUCTURE

3.6.1 Internet users

3.6.1a

Percentage of households with Internet

Input number

Current Year Score: 13.78

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: 47.78

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: 8.0

2019

Gallup; Economist Impact calculation

3.6.4 Female access to the Internet

3.6.4a

Percentage point gap between males and females whose home has access to the Internet

Input number

Current Year Score: 12.0

2019

Gallup; Economist Impact calculation

3.7 TRADE AND TRAVEL RESTRICTIONS

3.7.1 Trade restrictions

3.7.1a

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

Yes = 0, No = 1

Current Year Score: 1

There is no publicly available evidence that Malawi, in the past year, issued a restriction, without international/bilateral support, on the export/import of medical goods (eg: medicines, oxygen, medical supplies, PPE) due to an infectious disease outbreak. A National State of Disaster was announced on 20 March 2020, in line with global norms for the Covid-19 pandemic, but no restriction on export/import of medical goods is included. [1] No further evidence of restrictions without international or bilateral support could be found on any of the websites of the ministries of Health, Agriculture, Foreign affairs or the Customs and Excise Division or the World Health Organisation (WHO) Disease Outbreak News (DON). [2,3,4,5,6]

No further information could be found in media sources.

- [1] United Nations - Malawi. 20 March 2020. "Declaration of State of Disaster by Malawi President Peter Mutharika". [<https://malawi.un.org/en/46778-declaration-state-disaster-malawi-president-peter-mutharika>]. Accessed 31 December 2020.
- [2] Ministry of Health and Population (MOH). [<http://www.health.gov.mw/>]. Accessed 31 December 2020.
- [3] Ministry of Agriculture, Irrigation and Water Development (MOAIWD). [<http://www.agriculture.gov.mw/>]. Accessed 31 December 2020.
- [4] Ministry of Foreign Affairs. [<https://www.foreignaffairs.gov.mw/>]. Accessed 31 December 2020.
- [5] Malawi Revenue Authority. Customs and Excise Division. [<https://www.mra.mw/custom-and-excise/about-customs>]. Accessed 31 December 2020.
- [6] World Health Organisation (WHO). Emergencies preparedness, response. [<https://www.who.int/csr/don/archive/country/mwi/en/>]. Accessed 31 December 2020.

3.7.1b

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

Yes = 0 , No = 1

Current Year Score: 1

There is no publicly available evidence that Malawi issued a restriction, without international/bilateral support, on the export/import of non-medical goods (eg: food, textiles, etc) due to an infectious disease outbreak in the past year. A National State of Disaster was announced on 20 March 2020, in line with global norms for the Covid-19 pandemic, but no restriction on export/import of medical goods is included. [1] No further evidence of restrictions without international or bilateral support could be found on any of the websites of the ministries of Health, Agriculture, Foreign affairs, the Customs and Excise Division or the World Health Organisation (WHO) Disease Outbreak News (DON). [2,3,4,5,6] No further information could be found in media sources.

- [1] United Nations - Malawi. 20 March 2020. "Declaration of State of Disaster by Malawi President Peter Mutharika". [<https://malawi.un.org/en/46778-declaration-state-disaster-malawi-president-peter-mutharika>]. Accessed 31 December 2020.
- [2] Ministry of Health and Population (MOH). [<http://www.health.gov.mw/>]. Accessed 31 December 2020.
- [3] Ministry of Agriculture, Irrigation and Water Development (MOAIWD). [<http://www.agriculture.gov.mw/>]. Accessed 31 December 2020.
- [4] Ministry of Foreign Affairs. [<https://www.foreignaffairs.gov.mw/>]. Accessed 31 December 2020.
- [5] Malawi Revenue Authority. Customs and Excise Division. [<https://www.mra.mw/custom-and-excise/about-customs>]. Accessed 31 December 2020.
- [6] World Health Organisation (WHO). Emergencies preparedness, response. [<https://www.who.int/csr/don/archive/country/mwi/en/>]. Accessed 31 December 2020.

3.7.2 Travel restrictions

3.7.2a

In the past year, has the country implemented a ban, without international/bilateral support, on travelers arriving from a specific country or countries due to an infectious disease outbreak?

Yes = 0, No = 1

Current Year Score: 0

There is publicly available evidence that Malawi implemented a ban, without international/bilateral support, on travellers arriving from a specific country or countries due to an infectious disease outbreak in the past year. The president declared a State of Disaster on 20 March 2020. Included in conditions were a travel ban on "foreign nationals from countries highly affected by coronavirus disease." and temporary suspension of issuance of visas to citizens of countries highly affected by coronavirus. There is no evidence that this ban was supported by any other country or that it was recommended by the World Health Organisation (WHO). [1] A Gardaworld news item, dated 31 March 2020, stated that "Malawi's State of Disaster and entry ban on foreign nationals remains in place as of March 31." [2] This ban remained in place until 1 September 2020 according to the Travelbans website. [3] There is no further information on bans without international/bilateral support through the Ministries of Health or Foreign Affairs, the Customs and Excise Division or the World Health Organisation (WHO) Disease Outbreak News (DON). [4,5,6,7]

[1] United Nations - Malawi. 20 March 2020. "Declaration of State of Disaster by Malawi President Peter Mutharika".

[<https://malawi.un.org/en/46778-declaration-state-disaster-malawi-president-peter-mutharika>]. Accessed 31 December 2020.

[2] Gardaworld. 31 March 2020. "Malawi's State of Disaster and entry ban on foreign nationals remains in place as of March 31." [<https://www.garda.com/crisis24/news-alerts/327801/malawi-state-of-disaster-in-place-due-to-covid-19-march-31>]. Accessed 31 December 2020.

[3] Travelbans. 9 December 2020. [<https://travelbans.org/africa/malawi/>]. Accessed 31 December 2020.

[4] Ministry of Health and Population (MOH) [<http://www.health.gov.mw/>]. Accessed 31 December 2020.

[5] Ministry of Foreign Affairs. [<https://www.foreignaffairs.gov.mw/>]. Accessed 31 December 2020.

[6] Malawi Revenue Authority. Customs and Excise Division. [<https://www.mra.mw/custom-and-excise/about-customs>]. Accessed 31 December 2020.

[7] World Health Organization (WHO). Disease Outbreak News. [<http://www.who.int/csr/don/en/>]. Accessed 31 December 2020.

Category 4: Sufficient and robust health sector to treat the sick and protect health workers

4.1 HEALTH CAPACITY IN CLINICS, HOSPITALS, AND COMMUNITY CARE CENTERS

4.1.1 Available human resources for the broader healthcare system

4.1.1a

Doctors per 100,000 people

Input number

Current Year Score: 3.58

2018

WHO; national sources

4.1.1b

Nurses and midwives per 100,000 people

Input number

Current Year Score: 43.86

2018

WHO; national sources

4.1.1c

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

Yes = 1 , No = 0

Current Year Score: 1

There is evidence that Malawi has a public workforce strategy in place which has been updated in the past five years to identify fields where there is an insufficient workforce and strategies to address these shortcomings. The Health Sector Strategic Plan II 2017-2022 (HSSP II) includes "improve availability, retention, performance and motivation of human resources for health for effective, efficient and equitable health service delivery" and improving recruitment capacity of health workers. The plan also states that persistent gaps in human resource capacity exist across all cadres, districts and health care levels within Malawi's public sector" [1]. Malawi is also a member of USAID's HRH2030 which seeks to address the acute shortage of critical health workers in Malawi and 56 other countries [2]. The 2019 Joint External Evaluation report (JEE) states that "Malawi has a strategy for the development of the human health workforce (2018-2022) that is aligned to the Health Sector Strategic Plan (HSSP) 11 (2017-2022)." It does not appear that the 'Human Resources for Health Strategic Plan 2018-2022' is publicly available yet. [3] The report does recommend that Malawi "Conduct a comprehensive human resource mapping and revise the national human resource strategy and HR information system to include other staff such as epidemiologists, laboratory specialists, public health specialists, biostatisticians and staff in animal health in oth the public and private sector. This should incorporate mechanisms for regular updates and tracking of the IHR workforce in particular, such as public health specialists (epidemiologists), clinicians, biostatisticians and laboratory scientists." [4]

[1] Ministry of Health & Population. "Health Sector Strategic Plan 2017 - 2022" (HSSP II).

[<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 1 January 2021.

[2] USAID Human Resources for Health in 2030 (HRH2030). Malawi. [<https://hrh2030program.org/malawi/>]. Accessed 1 January 2021.

[3] Malawi Human Resources for Health Strategic Plan, 2018-2022.

[https://books.google.co.za/books/about/Malawi_Human_Resources_for_Health_Strate.html?id=WVYWzgeEACAAJ&redir_esc=y]. Accessed 1 January 2021.

[4] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi.

[<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 1 January 2021.

4.1.2 Facilities capacity

4.1.2a

Hospital beds per 100,000 people

Input number

Current Year Score: 130

2011

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 publicly available evidence that Malawi has the capacity to isolate patients with highly communicable diseases in a patient isolation facility located within the country.

USAID's flagship program for health service delivery in Malawi; the Organized Network of Services for Everyone's Health Activity (ONSE), completed renovations, on 15 April 2020, in the Kamuzu Central Hospital in Lilongwe, which delivered a new 20 bed isolation center for infectious disease patients. The project was led by Management Sciences for Health, who worked with Malawi's Ministry of Health and Population. [1] However, there is insufficient evidence that this facility is indeed an advanced patient isolation facility for highly communicable diseases. One of the objectives of the Ministry of Health's Health Sector Strategic Plan II 2017-2022 is: to "construct treatment isolation centres for infectious diseases" [2]. According to the Public Health Institute of Malawi (PHIM), the government is constructing isolation wards. The project was "launched as an emergency response to the outbreak of the Ebola Virus that hit West Africa in 2014." "With funding from the World Bank through the National Aids Commission (NAC), the Public Health Institute of Malawi (PHIM) embarked on an Ebola Project that is looking into preparedness, response and control of Ebola and other infectious diseases." The project aims to construct seven isolation shelters in different districts. [3] There is no further information regarding the specificities of the isolation units, or subsequent progress other than with the Kamuzu Central Hospital unit. [4]

[1] Management Sciences for Health (MSH). 18 May 2020. "A Boost in Malawi's Fight Against COVID-19: USAID ONSE Project Hands Over Refurbished Isolation Center to Government". [<https://www.msh.org/news-events/stories/a-boost-in-malawi%E2%80%99s-fight-against-covid-19-usaid-onse-project-hands-over>]. Accessed 1 January 2020.

[2] Republic of Malawi. Ministry of Health & Population. "Health Sector Strategic Plan II 2017-2022". [<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 23 January 2021.

[3] Public Health Institute of Malawi (PHIM). "Construction of treatment isolation wards resumes." [<http://malawipublichealth.org/index.php/news-and-events/7-construction-of-treatment-isolation-wards-resumes>]. Accessed 23 February 2019.

[4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 23 January 2021.

4.1.2c

Does the country meet one of the following criteria?

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

Yes = 1, No = 0

Current Year Score: 1

There is publicly available evidence that Malawi has demonstrated capacity to expand isolation capacity in response to an infectious disease outbreak in the past two years. There is no evidence that the country has developed, updated or tested a plan to expand isolation capacity in response to an infectious disease outbreak in the past two years. In response to the COVID-19 declaration of a National Emergency, a 20 bed isolation center was completed in the Kamuzu Central Hospital in Lilongwe on 15 April 2020. [1] No evidence of a plan to expand isolation capacity in response to an infectious disease outbreak in the past two years was found via the Ministry of Health or the Department of Disaster Management Affairs [2,3]

[1] Management Sciences for Health (msh). 18 May 2020. "A Boost in Malawi's Fight Against COVID-19: USAID ONSE Project Hands Over Refurbished Isolation Center to Government". [<https://www.msh.org/news-events/stories/a-boost-in-malawi%E2%80%99s-fight-against-covid-19-usaid-onse-project-hands-over>]. Accessed 1 January 2020.

[2] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 13 May 2021.

[3] Department of Disaster Management Affairs (DODMA). [www.dodma.gov.mw]. Accessed 13 May 2021.

4.2 SUPPLY CHAIN FOR HEALTH SYSTEM AND HEALTHCARE WORKERS

4.2.1 Routine health care and laboratory system supply

4.2.1a

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

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

Current Year Score: 0

There is inadequate publicly available evidence to show that there is a national procurement protocol in place which can be utilized by the Ministries of Health and Agriculture for the acquisition of laboratory supplies (such as equipment, reagents and media) and medical supplies (equipment, PPE) for routine needs. The Public Procurement Act (2003), which the Director of Public Procurement is responsible for enforcing, outlines the procurement protocols for "goods" which include "objects of every kind and description, including raw materials, products and equipment, and objects in solid, liquid or gaseous form, and electricity", but no specific mention is made of the Ministries of Health or Agriculture, nor are laboratory or medical supplies mentioned. [1]. In addition, according to the Ministry of Health, although "the public health sector has continued to follow procedures for procuring goods, works and services as laid down in the Public Procurement Act (2003) and elaborated in the Public Procurement Regulations of 2004", there are "major challenges in procurement". These include lack of capacity; poor coordination between the Procurement Unit and other departments; lack of well documented procurement procedures; unclear role of the central level in procurements undertaken at the district level, and excessive emergency

procurements. [2] The Malawi Government, "desirous of establishing a fund for the purposes of ensuring continuous, uninterrupted and adequate supply of approved, quality and affordable medicines and other medical supplies to health facilities", involved the Secretaries for Health, the Treasury and the National Local Government Finance Committee with other primary stakeholders to form the Central Medical Stores Trust [CMST] in 2010. [3] The overview on the Trust website does state, however, that "The Trust inherited various operational, financial, management and governance challenges which had plagued the functioning of its predecessor organization and led to serious drug shortages." No specific mention is made of either the Ministry of Agriculture or of laboratory supplies. [4] No further information could be found through the Public Health Institute of Malawi (PHIM), including the page for the National Public Health Laboratory, or Ministry of Agriculture. [5,6]

[1] Malawi Legal Information Institute. 2003. "Public Procurement Act". [<https://malawilii.org/mw/legislation/act/2003/8>]. Accessed 2 January 2020.

[2] Ministry of Health & Population. "Procurement".

[<http://www.health.gov.mw/index.php/directorates/administration/procurement>]. Accessed 2 January 2020.

[3] Central Medical Stores Trust. 18 November 2010. Trust Deed. [http://www.cmst.mw/files/trust_deed.pdf]. Accessed 23 January 2021.

[4] Central Medical Stores Trust. [<http://www.cmst.mw/index.php/functions/logistics>]. Accessed 2 January 2020.

[5] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 26 December 2020.

[6] , Irrigation and Water Development (MOAIWD). [<http://www.agriculture.gov.mw/>]. Accessed 23 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: 2

There is evidence that Malawi has a stockpile of medical supplies (e.g. MCMs, medicines, vaccines, medical equipment, PPE) for national use during a public health emergency. The 2019 Joint External Evaluation report (JEE) states that "Malawi has a stockpile of medical countermeasures for national use in a public health emergency." and "A national inventory lists available resources such as pharmaceuticals, protective equipment and other equipment; resources for emergency response are stockpiled in warehouses in all regions." [1] The national COVID-19 Preparedness and Response Plan does mention that current distribution of "essential items" is being hampered by restricted movement and trade, and that "funding is required to procure and distribute IPC materials, drugs, supplies and medical equipment". [2] There is no further information on stockpiles through the Ministry of Health, the Department of Disaster Management Affairs (DODMA) or the Public Health Institute of Malawi (PHIM). [3,4,5] Neither of the Ministry of National Defence or the Pharmacy, Medicines and Poisons Board (PMPB) have active websites.

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 2 January 2021.

[2] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 2 January 2021.

[3] Ministry of Health and Population (MOH). [<http://www.health.gov.mw/>]. Accessed 2 January 2021.

[4] Department of Disaster Management Affairs (DODMA). [www.dodma.gov.mw]. Accessed 2 January 2021.

[5] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 2 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 Malawi maintains a stockpile of laboratory supplies (e.g. reagents, media) for national use during a public health emergency. The 2019 Joint External Evaluation report (JEE) states that "A national inventory lists available resources such as pharmaceuticals, protective equipment and other equipment; resources for emergency response are stockpiled in warehouses in all regions." There is, however, no specific reference to laboratory supplies [1] The national COVID-19 Preparedness and Response Plan does mention that current distribution of "essential items" is being hampered by restricted movement and trade, and that "funding is required to procure and distribute IPC materials, drugs, supplies and medical equipment". [2] There is no further information on stockpiles through the Ministry of Health, the Department of Disaster Management Affairs (DODMA) or the Public Health Institute of Malawi (PHIM). [3,4,5] Neither of the Ministry of National Defence or the Pharmacy, Medicines and Poisons Board (PMPB) have active websites.

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 2 January 2021.

[2] COVID-19 Preparedness and Response Plan, Republic of Malawi. [https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 2 January 2021.

[3] Ministry of Health and Population (MOH). [<http://www.health.gov.mw/>]. Accessed 2 January 2021.

[4] Department of Disaster Management Affairs (DODMA). [www.dodma.gov.mw]. Accessed 2 January 2021.

[5] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 2 January 2021.

4.2.2c

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

Yes = 1, No = 0

Current Year Score: 0

There is no evidence that Malawi conducts or requires an annual review of the national stockpile to ensure the supply is sufficient for a public health emergency.

There is no information on this through the Ministries of Health or National Defence, the Department of Disaster Management Affairs (DODMA), the Pharmacy and Medicines Regulatory Authority (PMRA), the COVID-19 Preparedness and Response Plan or the February 2019 Joint External Evaluation (JEE). [1,2,3,4,5,6]

[1] Ministry of Health and Population (MOH) [<http://www.health.gov.mw/>]. Accessed 23 April 2021.

[2] Ministry of National Defence. [<https://www.facebook.com/defence.gov.mw/>]. Accessed 23 April 2021.

[3] Department of Disaster Management Affairs (DODMA). [<https://www.facebook.com/Department-of-Disaster-Management-Affairs-144225626324506/>]. Accessed 23 April 2021.

[4] Pharmacy and Medicines Regulatory Authority (PMRA). [<https://www.facebook.com/pmramalawi/about>]. Accessed 23 April 2021.

[5] COVID-19 Preparedness and Response Plan, Republic of Malawi. [https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 23 April 2021.

[6] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 23 April 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 publicly available evidence of a plan/agreement either to leverage domestic manufacturing capacity, or of a plan/mechanism to procure medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency.

The national COVID-19 Preparedness and Response Plan, released on 8 April 2020, indicates that "local suppliers for IPC and case management supplies are identified" had been partially achieved but does not supply any further details. [1]

The 2019 Joint External Evaluation report (JEE) states that "the country has limited capacity to produce some medical and laboratory supplies and equipment." Also "There is no involvement in any regional/international countermeasure distribution agreements." and suggests as a priority action that "Given the limited or non-existent local production of antimicrobials and vaccines, systems should be strengthened to enable sufficient stockpiling and distribution of these pharmaceuticals both before and during emergencies." [2]

An August 2011 paper by the World Bank, on pharmaceutical supply and distribution channels in Africa, states that although there is limited local pharmaceutical manufacturing, Malawi relies on imports for 90 percent of pharmaceutical products. Local producers struggle due to the small private sector, limited central medicine store tenders and no government support, among other things. [3]

A UNICEF article, dated 9 September 2020, states that the "UNICEF has initiated procurement actions worth over US\$10 million for essential and strategic supplies on behalf of the Government of Malawi and other partners." [4]

There is no further information through the Ministries of Health or Defence, the Department of Disaster Management Affairs (DODMA) or the Public Health Institute of Malawi (PHIM). [5,6,7,8]

There is no more recent information on local supply in media sources.

[1] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 2 January 2021.

[2] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 2 January 2021.

- [3] World Bank. August 2011. "Private Sector Pharmaceutical Supply and Distribution Channels in Africa: A Focus on Ghana, Malawi and Mali."
[<http://documents1.worldbank.org/curated/en/756351468194341354/pdf/656010WP00PUBL00PvtSectorPharma0811.pdf>]. Accessed 2 January 2021.
- [4] UNICEF. 9 September 2020. "UNICEF Malawi Supply Update on Coronavirus Disease (COVID-19) Response".
[<https://www.unicef.org/malawi/coronavirus-disease-covid-19/unicef-malawi-supply-update-coronavirus-disease-covid-19-response>]. Accessed 2 January 2021.
- [5] Ministry of Health and Population (MOH). [<http://www.health.gov.mw/>]. Accessed 2 January 2021.
- [6] Ministry of National Defence. [<https://www.facebook.com/defence.gov.mw/>]. Accessed 23 April 2021.
- [7] Department of Disaster Management Affairs (DODMA). [<https://www.facebook.com/Department-of-Disaster-Management-Affairs-144225626324506/>]. Accessed 2 January 2021.
- [8] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 2 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, or of a plan/mechanism to procure, laboratory supplies (e.g. reagents, media) for national use during a public health emergency. The 2019 Joint External Evaluation report (JEE) states that "the country has limited capacity to produce some medical and laboratory supplies and equipment." [1] The Laboratories1.com website lists 12 local laboratory suppliers. There is, however, no evidence of plans or agreements with these suppliers. [2] There is no further information on such plans, agreements or mechanisms through the COVID-19 Preparedness and Response Plan, the Ministry of Health, the Department of Disaster Management Affairs (DODMA) or the Public Health Institute of Malawi (PHIM). [3,4,5,6] Neither of the Ministry of National Defence or the Pharmacy, Medicines and Poisons Board (PMPB) have active websites. Malawi does not have a published public health emergency plan.

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 2 January 2021.

[2] Laboratories1.com. "Laboratory Suppliers in Malawi." [<https://www.laboratories1.com/laboratory-suppliers/malawi>]. Accessed 2 January 2021.

[3] COVID-19 Preparedness and Response Plan, Republic of Malawi. [https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 2 January 2021.

[4] Ministry of Health and Population (MOH). [<http://www.health.gov.mw/>]. Accessed 2 January 2021.

[5] Department of Disaster Management Affairs (DODMA). [www.dodma.gov.mw]. Accessed 2 January 2021.

[6] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 2 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 publicly available evidence that Malawi has a plan, program or guidelines in place for dispensing medical countermeasures for national use during a public health emergency. There is no evidence of such a plan through the 2019 Joint External Evaluation report (JEE), the 2020 national COVID-19 Preparedness and Response Plan, the Ministry of Health, the Public Health Institute (PHIM) or the Department of Disaster Management Affairs (DoDMA) website. [1, 2, 3, 4, 5] Neither the Ministry of Defence or the Pharmacy, Medicines and Poisons Board have active websites. The World Health Organisation reports that "emergency vaccination campaigns, including campaigns in Malawi, have largely been conducted with the support of non-governmental organisations (NGOs), with little integration into local health systems". [6]

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 2 January 2021.

[2] COVID-19 Preparedness and Response Plan, Republic of Malawi. [https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 2 January 2021.

[3] Ministry of Health & Population. <http://www.health.gov.mw/>. Accessed 2 January 2021.

[4] Public Health Institute of Malawi (PHIM). <http://malawipublichealth.org>. Accessed 2 January 2021.

[5] Office of the Vice President. Department of Disaster Management Affairs. <http://www.ovp.gov.mw/index.php/>. Accessed 2 January 2021.

[6] World Health Organisation. 2018. "Oral cholera vaccine in cholera prevention and control, Malawi". <https://www.who.int/bulletin/volumes/96/6/17-207175/en/>. Accessed 2 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 no publicly available evidence that Malawi has a formalised public plan in place to receive health personnel from other countries to respond to a public health emergency. The 2019 Joint External Evaluation report (JEE) includes in areas that need strengthening "The country has no plan for sending and receiving health personnel during a public health Emergency; There are no plans for surge staffing, including triggers for requesting personnel from other countries; There is no involvement in regional and international personnel deployment agreements, such as the WHO Global Outbreak Alert and Response Network." [1] There is no other evidence of such a plan through the Ministry of Health, the Public Health Institute

or the Department for Disaster Management Affairs (DoDMA). [2,3,4] The Ministry of Defence does not have an active website. There is evidence, however, that Malawi has received health personnel in the past. According to the World Health Organisation, Malawi received experts from the WHO Regional Office for Africa during the cholera outbreak of 2015, who were sent to provide technical advice and support to implement comprehensive control strategies. [5]

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 2 January 2021.

[2] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 2 January 2021.

[3] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 2 January 2021.

[4] Office of the Vice President. Department of Disaster Management Affairs. [<http://www.ovp.gov.mw/index.php/>]. Accessed 2 January 2021.

[5] World Health Organisation. March 2015. "WHO Intensifies Support to cholera outbreak in Malawi and Mozambique". <https://www.afro.who.int/news/who-intensifies-support-cholera-outbreak-malawi-and-mozambique>. Accessed 2 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: 89.8

2016

WHO/World Bank/United Nations Children's Fund (UNICEF)

4.4.1c

Out-of-pocket health expenditures per capita, purchasing power parity (PPP; current international \$)

Input number

Current Year Score: 12.16

2017

WHO Global Health Expenditure database

4.4.2 Paid medical leave

4.4.2a

Are workers guaranteed paid sick leave?

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

Current Year Score: 2

2020

World Policy Analysis Center

4.4.3 Healthcare worker access to healthcare

4.4.3a

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

Yes = 1, No = 0

Current Year Score: 0

There is no publicly available evidence of 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. Malawi does not have a publicly available public health emergency document. There is no evidence of such a plan through the 2019 Joint External Evaluation report (JEE), the 2020 national COVID-19 Preparedness and Response Plan, the Ministry of Health, including the Health Sector Strategic Plan II 2017-2022, the Department of Disaster Management Affairs, or the Disaster Preparedness and Relief Act (1991). [1,2,3,4,5,6]. The Ministry of Defence does not have an active website.

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 2 January 2021.

[2] COVID-19 Preparedness and Response Plan, Republic of Malawi. [https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 2 January 2021.

[3] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 2 January 2021.

[4] Ministry of Health & Population. "Health Sector Strategic Plan 2017 -2022".

[<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 2 January 2021.

[5] Office of the Vice President. Department of Disaster Management Affairs. [<http://www.ovp.gov.mw/index.php/>]. Accessed 2 January 2021.

[6] Malawi Legal Information Institute. "Disaster Preparedness and Relief Act".

[https://malawilii.org/mw/consolidated_legislation/3305]. Accessed 2 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 insufficient publicly available evidence of a system in place for public health officials and healthcare workers to communicate during a public health emergency. Malawi does not have a publicly available public health emergency document. The 2019 Joint External Evaluation report (JEE) states that "Simulation exercises to test multisectoral, multidisciplinary coordination and communication mechanisms are erratic." and recommends the formalization of communication coordination mechanisms with national and international stakeholders. [1] The 2020 national COVID-19 Preparedness and Response Plan states that among the specific objectives of the Malawi National Covid-19 Communication Plan are to "Coordinate and monitor the implementation of communication interventions for all Covid-19 stakeholders" but there is no specific reference to healthcare workers. [2] the Health Sector Strategic Plan II (HSSP II) 2017-2022 states that "there are shortages of transport and communication infrastructure" in Malawi and it aims to strengthen communication linkages by "developing a policy on communication devices for health facilities, providing reliable forms of communication systems/facilities e.g. cell phones and providing Information Technology (IT) infrastructure (computers and internet access) to health facilities" [3] There is no further information on such communication through any of the Ministry of Health, the Ministry of Agriculture, the Public Health Institute, the Department of Disaster Management Affairs (DoDMA) or the Disaster Preparedness and Relief Act of 1991. [4,5,6,7,8]

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 2 January 2021.

[2] COVID-19 Preparedness and Response Plan, Republic of Malawi. [https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 2 January 2021.

[3] Ministry of Health & Population. "Health Sector Strategic Plan 2017 - 2022". [<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 2 January 2021.

[4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 2 January 2021.

[5] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 2 January 2021.

[6] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 2 January 2021.

[7] Office of the Vice President. Department of Disaster Management Affairs. [<http://www.ovp.gov.mw/index.php/>]. Accessed 2 January 2021.

[8] Malawi Legal Information Institute. 1991. "Disaster Preparedness and Relief Act". [https://malawilii.org/system/files/consolidatedlegislation/3305/disaster_preparedness_relief_act_pdf_17349.pdf]. Accessed 2 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 insufficient publicly available evidence of a system in place for public health officials and healthcare workers to communicate during a public health emergency, so it does not encompass healthcare workers in both the public and private sector. Malawi does not have a publicly available public health emergency document. The 2019 Joint External Evaluation report (JEE) states that "Simulation exercises to test multisectoral, multidisciplinary coordination and communication mechanisms are erratic." and recommends the formalization of communication coordination mechanisms with national and international stakeholders. [1] The 2020 national COVID-19 Preparedness and Response Plan states that among the specific objectives of the Malawi National Covid-19 Communication Plan are to "Coordinate and monitor the implementation of communication interventions for all Covid-19 stakeholders" but there is no specific reference to healthcare workers. [2] the Health Sector Strategic Plan II (HSSP II) 2017-2022 states that "there are shortages of transport and communication infrastructure" in Malawi and it aims to strengthen communication linkages by "developing a policy on communication devices for health facilities, providing reliable forms of communication systems/facilities e.g. cell phones and providing Information Technology (IT) infrastructure (computers and internet access) to health facilities" [3] There is no further information on such communication through any of the Ministry of Health, the Ministry of Agriculture, the Public Health Institute, the Department of Disaster Management Affairs (DoDMA) or the Disaster Preparedness and Relief Act of 1991. [4,5,6,7,8]

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 2 January 2021.

[2] COVID-19 Preparedness and Response Plan, Republic of Malawi. [https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 2 January 2021.

[3] Ministry of Health & Population. "Health Sector Strategic Plan 2017 - 2022". [<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 2 January 2021.

[4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 2 January 2021.

[5] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 2 January 2021.

[6] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 2 January 2021.

[7] Office of the Vice President. Department of Disaster Management Affairs. [<http://www.ovp.gov.mw/index.php/>]. Accessed 2 January 2021.

[8] Malawi Legal Information Institute. 1991. "Disaster Preparedness and Relief Act". [https://malawilii.org/system/files/consolidatedlegislation/3305/disaster_preparedness_relief_act_pdf_17349.pdf]. Accessed 2 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 no publicly available evidence that the national public health system in Malawi is monitoring for and tracking the number of health care associated infections (HAIs) that take place in healthcare facilities. The 2019 Joint External Evaluation report (JEE) states that "There is no national surveillance programme for health care-associated infections (HAI)." [1] There is no evidence of such surveillance through the 2020 national COVID-19 Preparedness and Response Plan, the Ministry of Health, the Health Sector Strategic Plan II 2017-2022, or the Public Health Institute [2,3,4,5].

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 2 January 2021.

[2] COVID-19 Preparedness and Response Plan, Republic of Malawi. [https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 2 January 2021.

[3] Republic of Malawi. Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 2 January 2021.

[4] Republic of Malawi. Ministry of Health & Population. "Health Sector Strategic Plan 2017 - 2022".

[<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 2 January 2021.

[5] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 2 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 in Malawi for ethical review from an ethics committee before beginning a clinical trial in Malawi. According to the USA's National Institute of Allergy Infectious Diseases, which outlines the clinical research regulations in Malawi, "Malawi has a centralised registration process for ethics committees (ECs) and EC review. The National Commission for Science and Technology (NCST) is the governmental body responsible for EC oversight, and for the

promotion and coordination of research in Malawi". As per the Summary of Procedures and Guidelines for the Conduct of Health Research in Malawi (September 2013), the General Guidelines on Health Research College of Medicine Research and Ethics Committee (COMREC) (September 2010) and The National Health Sciences Research Committee General Guidelines on Health Research (December 2007), the National Health Sciences Research Committee (NHSRC) and the College of Medicine Research and Ethics Committee (COMREC) are the two government approved ECs responsible for monitoring and evaluating human research studies and "maintaining and protecting the dignity and rights of research participants and ensuring their safety throughout their participation in a clinical trial". The NHSRC is authorised to review and approve proposals with a national interest and proposals originating from researchers who are not faculty members or affiliates of the College of Medicine (COM) or Kamuzu College of Nursing (KCN). "COMREC, as a subsidiary of NHSRC, is only permitted to review and approve studies involving or originating from COM and KCN faculty members and students" [1]. There is no further information on ethics committees on the Ministry of Health website. [2] The Pharmacy, Medicines and Poisons Board (PMPB) does not currently have a website.

[1] National Institute of Allergy and Infectious Diseases. "Malawi". [https://clinregs.niaid.nih.gov/country/malawi#_top]. Accessed 2 January 2020.

[2] Ministry of Health and Population. [<http://www.health.gov.mw/>]. Accessed 2 January 2020.

4.7.1b

Is there an expedited process for approving clinical trials for unregistered medical countermeasures (MCM) to treat ongoing epidemics?

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence that there is an expedited process for approving clinical trials for unregistered medical countermeasures to treat ongoing pandemics in Malawi. While the Summary of Procedures and Guidelines for the Conduct of Health Research in Malawi (September 2013) and the National Health Sciences Research Committee (NHSRC) General Guidelines on Health Research (December 2007) refer to an expedited process, that process does not specifically apply to approving clinical trials for medical countermeasures to treat ongoing pandemics [1, 2]. The NHSRC guidelines outline that "research studies that have previously been reviewed by a fully convened committee and require the principal investigator to address minor issues may be approved through the expedited process but those requiring major issues to be addressed would be referred for full committee meeting as in 5.2.1.1". Section 5.2.1.1 states "generally, any new study, including all high risk studies, studies involving vulnerable population any clinical interventional study, studies involving sensitive information connected to personal identifiers and studies previously review but require major issues to be addressed, will be reviewed by a fully convened NHSRC meeting". The expedited review guidelines also outline that "studies by students may also be considered for expedited review and expedited review can be considered for continuing review of research previously approved by the scheduled NHSRC" [2]. There is no evidence of an expedited process for medical countermeasures through the Ministry of Health or the Public Health Institute of Malawi [3, 4].

[1] National Institute of Allergy and Infectious Diseases. Research Unit, National Health Sciences Research Committee. September 2013. "Summary of Procedures and Guidelines for the Conduct of Health Research in Malawi".

[https://clinregs.niaid.nih.gov/country/malawi#_top]. Accessed 2 January 2020.

[2] National Institute of Allergy and Infectious Diseases. Research Unit, National Health Sciences Research Committee. December 2007. "The National Health Sciences Research Committee General Guidelines on Health Research".

[https://clinregs.niaid.nih.gov/country/malawi#_top]. Accessed 2 January 2020.

[3] Republic of Malawi. Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 2 January 2020.

[4] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 2 January 2020.

4.7.2 Regulatory process for approving medical countermeasures

4.7.2a

Is there a government agency responsible for approving new medical countermeasures (MCM) for humans?

Yes = 1 , No = 0

Current Year Score: 1

There is a government agency responsible for approving new medical countermeasures for humans in Malawi. According to the USA's National Institute of Allergy and Infectious Diseases, which outlines clinical research regulations in Malawi, the Pharmacy, Medicines and Poisons Board (PMPB) (replaced on 1 October 2019 by Pharmacy and Medicines Regulatory Authority (PMRA), but neither of which presently has a functional website) is mandated by the Ministry of Health (MOH) to monitor the registration and quality of drugs in Malawi. The term "medical countermeasure" is not specifically used on the website for the National Institute of Allergy and Infectious Diseases [1].

[1] National Institute of Allergy and Infectious Diseases. "Malawi". [https://clinregs.niaid.nih.gov/country/malawi#_top]. Accessed 2 January 2020.

4.7.2b

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that there is an expedited process for approving medical countermeasures for human use during public health emergencies in Malawi. There is no evidence of such a process through the 2019 Joint External Evaluation report (JEE), the 2020 national COVID-19 Preparedness and Response Plan, the Ministry of Health, the Public Health Institute, the Department of Disaster Management affairs or the Disaster Preparedness and Relief Act, adopted in 1991. [1,2,3,4,5,6] Malawi has not published a public health emergency document. The Pharmacy, Medicines and Poisons Board (PMPB) no longer has a functional website.

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 2 January 2021.

[2] COVID-19 Preparedness and Response Plan, Republic of Malawi. [https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 2 January 2021.

[3] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 2 January 2020.

[4] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 2 January 2020.

[5] Office of President and Cabinet. "The Department of Disaster Management Affairs". [<http://www.opc.gov.mw/index.php/departments/departments2/dodma>]. Accessed 2 January 2020.

[6] Malawi Legal Information Institute. 1991. "Disaster Preparedness and Relief Act". [https://malawilii.org/system/files/consolidatedlegislation/3305/disaster_preparedness_relief_act_pdf_17349.pdf]. Accessed

2 January 2020.

Category 5: Commitments to improving national capacity, financing plans to address gaps, and adhering to global norms

5.1 INTERNATIONAL HEALTH REGULATIONS (IHR) REPORTING COMPLIANCE AND DISASTER RISK REDUCTION

5.1.1 Official IHR reporting

5.1.1a

Has the country submitted IHR reports to the WHO for the previous calendar year?

Yes = 1, No = 0

Current Year Score: 1

2020

World Health Organization

5.1.2 Integration of health into disaster risk reduction

5.1.2a

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

Yes = 1, No = 0

Current Year Score: 1

Pandemics are integrated into the nation risk reduction strategy in Malawi. The Department of Disaster Management Affairs (DoDMA) published the National Disaster Risk Reduction (DRR) Framework 2010-2015 in June 2010 (there is no evidence of an updated document). The DRR Framework addresses "biological hazards" which it describes as the "process or phenomenon of organic origin or conveyed by biological vectors, including exposure to pathogenic micro-organisms, toxins and bioactive substances that may cause loss of life, injury, illness or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage". The examples of biological hazards it provides include "outbreaks of epidemic diseases". [1]. There is no evidence that Malawi has a standalone national disaster risk reduction strategy for pandemics on the website for the Ministry of Health or the Public Health Institute [2,3].

[1] Office of the Vice President. Department of Disaster Management Affairs. June 2010. "National Disaster Risk Reduction Framework 2010-2015". [<http://www.ovp.gov.mw/index.php/2018-05-19-15-56-08/disaster-docs>]. Accessed 2 January 2021.

[2] Republic of Malawi. Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 2 January 2021.

[3] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 2 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: 0

There is insufficient evidence that Malawi has cross-border agreements, protocols or MOUs with its neighbouring countries, or as part of a regional group, with regards to public health emergencies. Although the 2019 Joint External Evaluation report (JEE) states that "The Malawi Immigration Department, Defence Force, fire brigades and the police service support cross-border and internal public health and security management" and "Frameworks of agreement for cross-border collaboration with Zambia and Mozambique are established." It also states that no MOUs have been developed for cross-border communication. [1] The 2020 national COVID-19 Preparedness and Response Plan states that there is "Inadequate cross border coordination at both national and district level." [2] Malawi is not a member of the East Africa Public Health Laboratory Networking Project which targets of 25 satellite laboratories in East Africa and aims to improve capacity "for disease surveillance and emergency preparedness efforts through the availability of timely laboratory data to provide early warning of public health events" [3] There is no evidence of such an agreement on the website for the Ministry of Health, the Department of Disaster Management Affairs or the Public Health Institute of Malawi [4,5,6]. Malawi has not published a public health emergency document.

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 2 January 2021.

[2] COVID-19 Preparedness and Response Plan, Republic of Malawi.

[https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 2 January 2021. 3] East Africa Community. "East Africa Public Health Laboratory Networking Project". [<https://www.eac.int/health/disease-prevention/east-africa-public-health-laboratory-networking-project>]. Accessed 2 January 2021.

[4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 2 January 2021.

[5] Office of the Vice President. Department of Disaster Management Affairs. [<http://www.ovp.gov.mw/index.php/>]. Accessed 2 January 2021.

[6] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 2 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 Malawi has cross-border agreements, protocols or MOUs with its neighbouring countries, or as part of a regional group, with regards to animal health emergencies. Although the 2019 Joint External Evaluation report (JEE) states that "The Malawi Immigration Department, Defence Force, fire brigades and the police service support cross-border and internal public health and security management" and "Frameworks of agreement for cross-border collaboration with Zambia and Mozambique are established." It also states that no MOUs have been developed for cross-border communication. [1] The 2020 national COVID-19 Preparedness and Response Plan states that there is "Inadequate cross border coordination at both national and district level." [2] Malawi is not a member of the East Africa Public Health Laboratory Networking Project which targets of 25 satellite laboratories in East Africa and aims to improve capacity "for disease surveillance and emergency preparedness efforts through the availability of timely laboratory data to provide early warning of public health events" [3] There is no evidence of such an agreement on the website for the Ministry of Agriculture, Ministry of Health, the Food and Agriculture Organization (FAO) of the United Nations - Country Page for Malawi, the Department of Disaster Management Affairs or the Public Health Institute of Malawi [4,5,6,7,8]. Malawi has not published a public health emergency document.

[1] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 2 January 2021.

[2] COVID-19 Preparedness and Response Plan, Republic of Malawi. [https://reliefweb.int/sites/reliefweb.int/files/resources/National-COVID-19-Preparedness-and-Response-Plan_08-04-2020_Final-Version.pdf]. Accessed 2 January 2021.

[3] East Africa Community. "East Africa Public Health Laboratory Networking Project". [<https://www.eac.int/health/disease-prevention/east-africa-public-health-laboratory-networking-project>]. Accessed 2 January 2021.

[4] Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 2 January 2021.

[5] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 2 January 2021.

[6] Food and Agriculture Organization (FAO). Malawi. [<http://www.fao.org/emergencies/countries/detail/en/c/161513>]. Accessed 2 January 2021.

[7] Office of the Vice President. Department of Disaster Management Affairs. [<http://www.ovp.gov.mw/index.php/>]. Accessed 2 January 2021.

[8] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 2 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: 1

2021

Biological Weapons Convention

5.3.2 Voluntary memberships

5.3.2a

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

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

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

Current Year Score: 1

2021

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

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

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

5.4.1a

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

Yes = 1 , No = 0

Current Year Score: 1

2021

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

5.4.1b

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

Yes = 1 , No = 0

Current Year Score: 0

2021

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

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

5.4.2a

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

Yes = 1 , No = 0

Current Year Score: 0

2021

OIE PVS assessments

5.4.2b

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

Yes = 1 , No = 0

Current Year Score: 0

2021

OIE PVS assessments

5.5 FINANCING

5.5.1 National financing for epidemic preparedness

5.5.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no publicly available evidence that the country has allocated national funds to improve capacity to address epidemic threats within the past three years. No information of funding towards epidemic threats could be found through the Ministry of Health, the Ministry of Agriculture or the Budget Statements for 2018, 2019 or 2020. [1,2,3,4,5]

[1] Ministry of Health and Population (MOH) [<http://www.health.gov.mw/>]. Accessed 2 January 2021.

[2] Ministry of Agriculture, Irrigation and Water Development (MOAIWD). [<http://www.agriculture.gov.mw/>]. Accessed 2 January 2021.

[3] Ministry of Finance, Economic Planning and Development. 2020 Budget Statement.

[Malawi_2020_Approval_External_BudgetSpeech_MinFin_COMESASADC_English.pdf]. Accessed 2 January 2021.

[4] Ministry of Finance, Economic Planning and Development. 18 May 2018. "The 2018/2019 Budget Statement".

[<https://www.tralac.org/documents/resources/by-country/malawi/1942-malawi-2018-2019-budget-statement/file.html>]. Accessed 2 January 2021.

[5] Ministry of Finance, Economic Planning and Development. 2018 Budget Statement.

[malawi_2017_approval_external_budget_speech_ministry_of_finance_comesa_sadc_english_.pdf]. Accessed 2 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

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 public evidence of a special emergency public financing mechanism and funds which Malawi can access in the face of a public health emergency. Malawi is an IDA borrowing country and eligible for the World Bank pandemic financing facility. Malawi is eligible due to "1) Relative poverty defined as GNI per capita must be below an established threshold (updated annually). In fiscal year 2021, this was \$1,185. 2) Lack of creditworthiness to borrow on market terms and therefore have a need for concessional resources to finance the country's development program" [1,2]. There is no evidence of a self-financed emergency fund through the Ministry of Health or the Department for Disaster Management Affairs (DoDMA). [3,4] Malawi has not published a public health emergency plan.

[1] IDA. "Borrowing Countries". [<http://ida.worldbank.org/about/borrowing-countries>]. Accessed 2 January 2021.

[2] WB Pandemic Financing Facility. December 2017. "Pandemic Emergency Financing Facility (PEF)".

[<http://pubdocs.worldbank.org/en/119961516647620597/PEF-Operational-Brief-Dec-2017.pdf>]. Accessed 2 January 2021.

[3] Republic of Malawi. Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 2 January 2021.

[4] Office of the Vice President. Department of Disaster Management Affairs. [<http://www.ovp.gov.mw/index.php/>]. Accessed 2 January 2021.

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

5.5.4a

Is there evidence that senior leaders (president or ministers), in the past three years, have made a public commitment either to:

- Support other countries to improve capacity to address epidemic threats by providing financing or support?

- Improve the country's domestic capacity to address epidemic threats by expanding financing or requesting support to improve capacity?

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

Current Year Score: 0

There is no publicly available evidence that senior Malawi leaders (president or ministers) have made a public commitment either to support other countries to improve capacity to address epidemic threats by providing financing or support or to improve its own domestic capacity to address epidemic threats by expanding financing or requesting support to improve capacity in the past three years. The Global Health Security (GHS) Funding Tracker Dashboard confirms that Malawi has not invested finances or technical support to support other countries to improve capacity to address epidemic threats in the past three years [1]. One of the objectives of the Sector Strategic Plan II (HSSP II) 2017-2022 is health financing and to "increase health sector financial resources and improve efficiency in resource allocation and utilization" but this does not specifically address epidemic threats, nor has it been publicly endorsed by senior leaders. [2] There is no other evidence of the president or his ministers making a public commitment through the Joint External Evaluation report (JEE) of the Republic of Malawi, conducted in 2019, the Ministry of Health, the Ministry of Foreign Affairs or the World Health Organisation (country page). [3, 4, 5, 6]

[1] Global Health Security Funding Tracker Dashboard. "Malawi." [<https://tracking.ghscosting.org/#analysis/MW/r>]. Accessed 2 January 2021.

[2] Ministry of Health & Population. "Health Sector Strategic Plan 2017 - 2022." [<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 2 January 2021.

[3] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi. [<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 2 January 2021.

[4] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 2 January 2021.

[5] Ministry of Foreign Affairs. [<http://www.foreignaffairs.gov.mw/>]. Accessed 2 January 2021.

[6] World Health Organisation. "Malawi". [<https://www.who.int/countries/mwi/en/>]. Accessed 2 January 2021.

5.5.4b

Is there evidence that the country has, in the past three years, either:

- Provided other countries with financing or technical support to improve capacity to address epidemic threats?

- Requested financing or technical support from donors to improve the country's domestic capacity to address epidemic threats?

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

Current Year Score: 1

Although there is insufficient evidence that Malawi has invested finances (from international donors or national budget) or technical support to support other countries to improve capacity to address epidemic threats, there is evidence that Malawi has invested finances to improve its own domestic capacity in the past three years. There is no publicly available evidence that Malawi has invested finances or technical support to support other countries to address epidemic threats through the Ministry of Health, the Ministry of Foreign Affairs, the World Health Organisation (WHO) country page or the WHO regional page [1, 2, 3, 4]. One of the objectives of the Sector Strategic Plan II (HSSP II) 2017-2022 is health financing and to "increase health sector financial resources and improve efficiency in resource allocation and utilization" but this does not specifically address epidemic threats. [5] There is, however, evidence that Malawi has invested finances to improve its own domestic capacity in the past three years. The Global Health Security (GHS) Funding Tracker Dashboard shows that Malawi has received approximately USD 1.5 billion from donor countries in the past three years to prevent, detect and respond to

epidemic threats. [6]. Evidence of this investment is available on the Malawi country page for the Global Vaccine Alliance (GAVI) which identifies the vaccinations that have been funded and conducted since 2001 [7].

- [1] Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 8 March 2019.
- [2] Ministry of Foreign Affairs. [<http://www.foreignaffairs.gov.mw/>]. Accessed 2 January 2021.
- [3] World Health Organisation (WHO). "Malawi". <https://www.who.int/countries/mwi/en/>. Accessed 2 January 2021.
- [4] WHO. Regional Office for Africa. [<https://www.afro.who.int/>]. Accessed 2 January 2021.
- [5] Ministry of Health & Population. "Health Sector Strategic Plan 2017 - 2022". [<http://www.health.gov.mw/index.php/policies-strategies>]. Accessed 2 January 2021.
- [6] Global Health Security Funding Tracker. [<https://tracking.ghscosting.org/#/data>]. Accessed 2 January 2021.
- [7] GAVI. "Malawi". [<https://www.gavi.org/country/malawi/>]. Accessed 2 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: 1

2021

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

5.6 COMMITMENT TO SHARING OF GENETIC AND BIOLOGICAL DATA AND SPECIMENS

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

5.6.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no evidence of a publicly available plan or policy for sharing genetic data, epidemiological data, clinical specimens, and/or isolated specimens (biological materials) with international organisations and/or other countries that goes beyond influenza in Malawi. There is no evidence of such a statement or policy through the Ministries of Health or Agriculture, the Public Health Institute or the 2019 Joint External Evaluation report (JEE) [1,2,3,4].

- [1] Republic of Malawi. Ministry of Health & Population. [<http://www.health.gov.mw/>]. Accessed 2 January 2021.
- [2] Public Health Institute of Malawi (PHIM). [<http://malawipublichealth.org>]. Accessed 2 January 2021.
- [3] Republic of Malawi. Ministry of Agriculture, Irrigation & Water Development. [<http://www.agriculture.gov.mw/>]. Accessed 2 January 2021.
- [4] World Health Organization (WHO). 11-15 February 2019. Joint External Evaluation report (JEE) of the Republic of Malawi.

[<https://apps.who.int/iris/bitstream/handle/10665/325321/WHO-WHE-CPI-2019.58-eng.pdf?sequence=1&isAllowed=y>]. Accessed 2 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 Malawi has not shared samples in accordance with the PIP Framework in the past two years. There was no evidence of this through the Ministry of Health, the World Health Organisations' "News Room", country page or "Disease Outbreak News (DON)", or local and international media outlets [1,2,3,4,5,6,7].

- [1] Ministry of Health and Population (MOH) [<http://www.health.gov.mw/>]. Accessed 2 January 2021.
- [2] World Health Organisation (WHO). "News Room". [<https://www.who.int/news-room/>]. Accessed 2 January 2021.
- [3] WHO. "Malawi". [<https://www.afro.who.int/countries/malawi>]. Accessed 2 January 2021.
- [4] WHO. Disease Outbreak News (DONs). "Malawi". [<https://www.who.int/csr/don/archive/country/mwi/en/>]. Accessed 2 January 2021.
- [5] Nyasa Times. [<https://www.nyasatimes.com/>]. Accessed 2 January 2021.
- [6] The Nation. [<https://mwnation.com/>]. Accessed 2 January 2021.
- [7] BBC World News. [<https://www.bbc.com/news/world>]. Accessed 2 January 2021.

5.6.1c

Is there public evidence that the country has not shared pandemic pathogen samples during an outbreak in the past two years?

Yes = 0 , No = 1

Current Year Score: 1

There is no publicly available evidence that Malawi has failed to share pandemic pathogen samples generally, or COVID-19 samples specifically, during an outbreak within the past two years. There is no evidence on this through the Ministry of Health, the World Health Organisation (WHO) country page for Malawi or either international or local media outlets. [1,2,3,4,5]

- [1] Ministry of Health and Population (MOH) [<http://www.health.gov.mw/>]. Accessed 2 January 2021.
- [2] WHO. "Malawi". [<https://www.afro.who.int/countries/malawi>]. Accessed 2 January 2021.
- [3] Nyasa Times. [<https://www.nyasatimes.com/>]. Accessed 2 January 2021.
- [4] The Nation. [<https://mwnation.com/>]. Accessed 2 January 2021.
- [5] BBC World News. [<https://www.bbc.com/news/world>]. Accessed 2 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: 1

2020

Economist Intelligence

6.1.1b

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

Input number

Current Year Score: 0

2020

Economist Intelligence

6.1.1c

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

Input number

Current Year Score: 1

2020

Economist Intelligence

6.1.1d

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

Input number

Current Year Score: 0

2020

Economist Intelligence

6.1.1e

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

Input number

Current Year Score: 30

2020

Transparency International

6.1.1f

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

Input number

Current Year Score: 1

2020

Economist Intelligence

6.1.1g

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

Input number

Current Year Score: 2

2020

Economist Intelligence

6.1.2 Orderly transfers of power

6.1.2a

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

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

Current Year Score: 2

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: 4

2021

Economist Intelligence

6.1.4b

What is the level of illicit arms flows within the country?

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

Current Year Score: 3

2020

UN Office of Drugs and Crime (UNODC)

6.1.4c

How high is the risk of organized criminal activity to the government or businesses in the country?

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

Current Year Score: 3

2021

Economist Intelligence

6.1.5 Armed conflict

6.1.5a

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

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

Current Year Score: 4

2021

Economist Intelligence

6.1.6 Government territorial control

6.1.6a

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

Yes = 1, No = 0

Current Year Score: 1

2021

Economist Intelligence

6.1.7 International tensions

6.1.7a

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

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

Current Year Score: 3

2021

Economist Intelligence

6.2 SOCIO-ECONOMIC RESILIENCE

6.2.1 Literacy

6.2.1a

Adult literacy rate, population 15+ years, both sexes (%)

Input number

Current Year Score: 62.14

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: 0.39

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: 29.8

2016

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

A Good Governance Africa (GGA) paper, dated October 2017, states that a 2014 FinScope survey revealed that some 91% of businesses in the Malawian micro, small and medium enterprise sector operate informally with no registration. There are estimates of 60% of GDP being generated outside the formal financial system. [1] A 2019 International Labour Organization (ILOSTAT) paper on informal economies shows, on its global map, that the Malawi informal sector in 2016 was 75-89%. [2]

[1] Good Governance Africa (GGA). 1 October 2017. "Malawi eyes the informal sector as a source of income."

[<https://gga.org/malawi-eyes-the-informal-sector-as-a-source-of-income/>]. Accessed 2 January 2021.

[2] International Labour Organization (ILOSTAT). 2019. "Interactions between Workers' Organizations and Workers in the Informal Economy: A Compendium of Practice". [https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_735630.pdf]. Accessed 2 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: 0

2021

Economist Intelligence Democracy Index

6.2.5 Local media and reporting

6.2.5a

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

Input number

Current Year Score: 1

2021

Economist Intelligence Democracy Index

6.2.6 Inequality

6.2.6a

Gini coefficient

Scored 0-1, where 0=best

Current Year Score: 0.45

Latest available.

World Bank; Economist Impact calculations

6.3 INFRASTRUCTURE ADEQUACY

6.3.1 Adequacy of road network

6.3.1a

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

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

Current Year Score: 1

2021

Economist Intelligence

6.3.2 Adequacy of airports

6.3.2a

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

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

Current Year Score: 2

2021

Economist Intelligence

6.3.3 Adequacy of power network

6.3.3a

What is the risk that power shortages could be disruptive?

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

Current Year Score: 0

2021

Economist Intelligence

6.4 ENVIRONMENTAL RISKS

6.4.1 Urbanization

6.4.1a

Urban population (% of total population)

Input number

Current Year Score: 17.17

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: -4.45

2008-2018

World Bank; Economist Impact

6.4.3 Natural disaster risk

6.4.3a

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

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

Current Year Score: 0

2021

Economist Intelligence

6.5 PUBLIC HEALTH VULNERABILITIES

6.5.1 Access to quality healthcare

6.5.1a

Total life expectancy (years)

Input number

Current Year Score: 63.8

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: 589.8

2019

WHO

6.5.1c

Population ages 65 and above (% of total population)

Input number

Current Year Score: 2.64

2019

World Bank

6.5.1d

Prevalence of current tobacco use (% of adults)

Input number

Current Year Score: 12.8

2018

World Bank

6.5.1e

Prevalence of obesity among adults

Input number

Current Year Score: 5.8

2016

WHO

6.5.2 Access to potable water and sanitation

6.5.2a

Percentage of homes with access to at least basic water infrastructure

Input number

Current Year Score: 68.83

2017

UNICEF; Economist Impact

6.5.2b

Percentage of homes with access to at least basic sanitation facilities

Input number

Current Year Score: 26.23

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: 34.51

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: 2

2018

Wellcome Trust Global Monitor 2018

6.5.4b

Trust medical and health advice from medical workers

Share of population that trust medical and health advice from health professionals , More than 80% = 2, Between 60-80%, or no data available = 1, Less than 60% = 0

Current Year Score: 2

2018

Wellcome Trust Global Monitor 2018