

# Kenya

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

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

### 1.1 ANTIMICROBIAL RESISTANCE (AMR)

#### 1.1.1 AMR surveillance, detection, and reporting

##### 1.1.1a

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

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

**Current Year Score: 2**

Kenya has a national Antimicrobial Resistance (AMR) plan for the surveillance, detecting and reporting of priority AMR pathogens as stated by the mission report for the Joint External Evaluation for Kenya, completed in 2017. The National Action Plan (NAP) and Strategy Policy for AMR was drafted by the Ministry of Health and Ministry of Agriculture, Livestock and Fisheries. [1] The NAP and Strategy Policy on AMR was officially launched during the World Antibiotic Awareness Week (WAAW) in November 2017 and is meant to expire in 2022. [2] This is the first NAP on the Prevention and Containment of AMR in Kenya that has been developed based both on the National Policy on Prevention and Containment of AMR as well as the recommendations of the situation analysis on AMR, which was conducted in 2011 and updated in 2016. This strategy provides a regulatory and implementation framework to establish and strengthen systems to contain the emergence and spread of AMR. The NAP contains specific provisions that account for the surveillance, detection and reporting of AMR pathogens. For example, it lays out plans to establish a national public health laboratory network, establish a national reference center with the ability to collect and analyse data, develop an information management system for AMR, and routine reporting of antibiotic use and resistance to a national coordinating center. These are only a handful of the measures the NAP seeks to establish; they span the animal and human health sector. [3] In addition, according to the JEE, Kenya has 128 health laboratories and four central veterinary investigation laboratories that detect and report AMR. Kenya also relies on private hospitals and faith-based organization laboratories to supplement the monitoring and reporting capabilities of their national health and veterinary laboratories. [1]

[1] World Health Organisation. February/March 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en>]. Accessed 5 October 2020.

[2] Food and Agriculture Organization of the United Nations. November 2017. "Kenya launches 'One Health' national and policy to tackle antimicrobial resistance". [<http://www.fao.org/antimicrobial-resistance/news-and-events/news/news-details/en/c/1069750/>]. Accessed 5 October 2020.

[3] National Action Plan on Prevention and Containment of Antimicrobial Resistance 2017.

[<http://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]. Accessed 5 October 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: 0**

There is insufficient evidence to conclude that Kenya's national laboratory system can test for priority AMR pathogens. According to the Centers for Disease Control and Prevention (CDC), in August 2019, the "CDC and the Kenya Ministry of Health (MoH), through their National Public Health Laboratory Services (NPHLS), are working together to build capacity to establish a new, laboratory-based national AR surveillance network". At this time, the MoH was piloting surveillance at four sites: Thika, Kitale, Malindi, and Machakos and would "be used to better understand the prevalence and effects of eight antibiotic-resistant organisms in Kenya". [1] However, no further data is available about which eight organisms would be tested for and there was no evidence found that the system has so far been formally put in place. The Joint External Evaluation, conducted in 2017, states that "laboratory capacities are assured at national level by the National Microbiology Reference Laboratory and the Kenya Medical Research Institute, which is a WHO Collaborating Centre for surveillance of AMR." However, the report does not describe which AMR pathogens the country is capable of performing tests for. [2] Strategic Objective 2 of Kenya's National Action Plan on Prevention and Containment of Antimicrobial Resistance 2017-2022 notes the creation of a national public health network for testing resistant pathogens as a main objective. Although the plan does not include details on which pathogens the country can currently test for, the document does note under Strategic Intervention 2.1 that one activity is to "collect existing data on AMR status in Kenya" from institutions including the Ministry of Health, the Ministry of Agriculture, Livestock and Fisheries and the National Public Health Laboratories. [3] There is no evidence via these agencies on which AMR pathogens the country can conduct tests for. [4,5,6] The National Public Health Laboratories (NPHL) hosts the National Microbiology Reference Laboratory which performs antimicrobial resistance (AMR) surveillance, but does not have a publicly available list of tests. [7] According to the WHO Global AMR Surveillance System survey, Kenya's national AMR surveillance system has 8 sites, but there is no available data on pathogens for which it is collecting data. [8]

[1] Centers for Disease Control and Prevention (CDC). August 2019. "Tracking Antibiotic Resistance in Kenya and Senegal". [<https://www.cdc.gov/drugresistance/solutions-initiative/stories/surveillance-in-Kenya-Senegal.html>]. Accessed October 5 2020.

[2] World Health Organization. 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed October 5 2020.

[3] National Action Plan on Prevention and Containment of Antimicrobial Resistance 2017. [<http://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]. Accessed October 5 2020.

[4] Government of Kenya. "Ministry of Health." [<http://www.health.go.ke>]. Accessed October 5 2020.

[5] Government of Kenya. "Ministry of Agriculture Livestock Fisheries and Irrigation." [<http://www.kilimo.go.ke>]. Accessed October 5 2020.

[6] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed October 5 2020.

[7] National Public Health Laboratory. "National Microbiology Reference Laboratory (NMRL)." [<http://nphl.go.ke/national-microbiology-reference-laboratory-nmrl/>]. Accessed October 5 2020.

[8] WHO "Global Antimicrobial Resistance Surveillance system (GLASS) country profiles". [<http://apps.who.int/gho/tableau-public/tpc-frame.jsp?id=2004>]. Accessed October 5 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 public evidence indicating that Kenya currently conducts environmental surveillance for antimicrobial residues, or that it tests soil and waterways for AMR pathogens. There is no relevant information shared via the public websites of the Kenyan Ministry of the Environment and Forestry's environmental agency, National Environment Management Authority

(NEMA) or the Kenyan Ministry of Health. [1,2,3] The National Action Plan on Prevention and Containment of AMR 2017-2022, stresses the need for the control of AMR pathogens in the environment, and states as a goal to "conduct data collection, sampling, testing, and analysis of antimicrobial drug residue in animals and the environment environmental surveillance of AMR pathogens". However, there is no other evidence that this goal has yet been achieved. [4] The Joint External Evaluation (JEE) for Kenya, conducted in 2017, also does not provide any evidence indicating that Kenya currently conducts surveillance for AMR / testing soil and waterways. [5] According to the National Public Health Laboratory Strategic Plan 2016 - 2020, the National microbiology reference laboratory conducts testing on water, food and environmental samples, but does not specify that it tests for AMR samples. [6] Between 2015 and 2017, a series of studies were conducted by the World Health Organization (WHO) comparing poliovirus (PV) environmental surveillance systems: bag-mediated filtration system (BMFS) and WHO's standard two-phase method. No evidence was found however, to show that this surveillance is a regular occurrence led by the Kenyan government. [7,8]

[1] Ministry of Environment & Forestry. "About the Ministry." [<http://www.environment.go.ke/?cat=28>]. Accessed 5 October 2020.

[2] National Action Plan on Prevention and Containment of Antimicrobial Resistance 2017. [<http://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]. Accessed 5 October 2020.

[3] National Environment Management Authority. [<https://www.nema.go.ke/>]. Accessed 5 October 2020.

[4] National Action Plan on Prevention and Containment of Antimicrobial Resistance 2017. [<http://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]. Accessed 5 October 2020.

[5] WHO 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 5 October 2020.

[6] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 5 October 2020.

[7] SpringerLink. November 2019. "Feasibility of the Bag-Mediated Filtration System for Environmental Surveillance of Poliovirus in Kenya". [<https://link.springer.com/article/10.1007/s12560-019-09412-1>]. Accessed 5 October 2020.

[8] Society for Applied Microbiology. August 2020. "Validation of the bag-mediated filtration system for environmental surveillance of poliovirus in Nairobi, Kenya". [<https://sfamjournals.onlinelibrary.wiley.com/doi/full/10.1111/jam.14807>]. Accessed 5 October 2020.

[9] World Health Organization. 2015. "Environmental Surveillance in Kenya". [<https://search.bvsalud.org/gim/resource/es/afr-198145>]. Accessed 5 October 2020.

## 1.1.2 Antimicrobial control

### 1.1.2a

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

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

**Current Year Score: 1**

There is evidence of a national regulation in place requiring prescriptions for antibiotic use for humans in Kenya, however enforcement of the legislation is still a challenge. Regulation of both human and veterinary medicines is done through the Pharmacy and Poisons Act (Chapter 244), which was put into place in 2012. The Act regulates the manufacture, prescription and use of, and trade in, drugs and poisons used for human beings and animals and in agriculture and other activities. Schedule IV of the Act highlights antibiotics in the list of substances sold by retail requiring prescription given by a duly qualified medical practitioner, dentist or veterinary surgeons. [1] The Pharmacy and Poisons Board is the Drug Regulatory Authority established under the Pharmacy and Poisons Act, Chapter 244 of the Laws of Kenya. The Board aims to implement the appropriate regulatory measures to achieve the highest standards of safety, efficacy and quality for all drugs, sold, or

used, to ensure the protection of the consumer as envisaged by the laws regulating drugs in force in Kenya. The National Action Plan on Prevention and Containment of Antimicrobial Resistance 2017-2022 further seeks to specifically address regulation through implementation of the post-marketing surveillance of antimicrobials. [2] According to a New York Times article from April 2019, as well as a study published in September 2019 that analyzed data from the digital healthcare exchange platform for surveillance of antibiotic prescriptions, there still are challenges with regards to enforcing the regulations. [3,4] A study published in October 2020, further states that "appropriate antibiotic prescription remains a challenge in Kenyan public hospitals", where the study conducted research in 14 Kenyan hospitals, and only about half of the patients who participated received appropriate antibiotic therapy. [5]

[1] Pharmacy and Poisons Act (Chapter 244). 2012. [<https://pharmacyboardkenya.org/downloads>]. Accessed 5 October 2020.

[2] National Action Plan on Prevention and Containment of Antimicrobial Resistance 2017.

[<http://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]. Accessed 5 October 2020.

[3] New York Times. April 2019. "In a poor Kenyan Community, Cheap Antibiotics Fuel Deadly Drug-resistant Infections".

[<https://www.nytimes.com/2019/04/07/health/antibiotic-resistance-kenya-drugs.html>]. Accessed 5 October 2020.

[4] Mekuria LA, de Wit TFR, Spieker N, Koech R, Nyarango R, Ndwiga S, et al. September 2019. "Analyzing data from the digital healthcare exchange platform for surveillance of antibiotic prescriptions in primary care in urban Kenya: A mixed-methods study". [<https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0222651&type=printable>]. Accessed 5 October 2020.

[5] Michuki Maina, Mwaniki, P., Odira, E., Kiko, N., McKnight, J., Schultz, C., English, M., Tosas-Auguet, O. August 2020.

"Antibiotic use in Kenyan public hospitals: Prevalence, appropriateness and link to guideline availability". [Antibiotic use in Kenyan public hospitals: Prevalence, appropriateness and link to guideline availability]. Accessed 5 October 2020.

### 1.1.2b

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

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

**Current Year Score: 1**

There is a national regulation in place in Kenya requiring prescriptions for antibiotic use for animals, however there is insufficient evidence that the regulation is being enforced. Regulation of both human and veterinary medicines is done through the Pharmacy and Poisons Act (Chapter 244) which was put into place in 2012. The Act regulates the manufacture, prescription, use of, and trade in, drugs and poisons used for human beings and animals and in agriculture and other activities. Specifically, schedule IV of the Act highlights antibiotics as one of the retail substances that require a prescription given by a duly qualified medical practitioner, dentist or veterinary surgeon. [1] However the Kenyan Ministry of Agriculture, Livestock and Fisheries' Veterinary Policy, published in April 2015, alludes to uncoordinated enforcement of legislation leading to an increase in AMR. [2] This finding has been found in more recent studies and articles, as well. [3,4] To address this issue, in November 2017 the Kenyan government launched a new agency, the Veterinary Medicine Directorate (VMD), to oversee the regulation of all veterinary medicinal products in the country, which published the "Guidelines for the Prudent Use of Antimicrobials in Animals". The VMD oversees the manufacture, importation, exportation, registration, distribution, prescription and dispensing of veterinary medicine. [5,6] No evidence was found to suggest that the agency has helped to change behavior around antibiotics and animals. The Joint External Evaluation Mission Report of 2017 does not indicate whether Kenya has a national regulation in place requiring prescriptions for antibiotic use for animals. [7]

[1] Pharmacy and Poisons Act (Chapter 244). 2012.

[[http://www.kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/PharmacyandPoisonsAct\\_Cap.244.pdf](http://www.kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/PharmacyandPoisonsAct_Cap.244.pdf)]. Accessed 5 October 2020.

[2] Kenya Veterinary Policy. 2015. [<http://www.kenyamarkets.org/wp-content/uploads/2016/06/Kenya-Veterinary-Policy->

January-2015-Draft.pdf]. Accessed 5 October 2020.

[3] Ayukekbong, J. A., Ntemgwa, M., & Atabe, A. N. May 2017. "The threat of antimicrobial resistance in developing countries: causes and control strategies". [<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5433038/>]. Accessed 5 October 2020.

[4] The Conversation. January 2017. "Antibiotics in meat: why Kenya needs to do more". [<https://theconversation.com/antibiotics-in-meat-why-kenya-needs-to-do-more-71564>]. Accessed 5 October 2020.

[5] Kenya Ministry of Agriculture, Livestock and Fisheries. November 2017. "Agency to regulate veterinary medicine in Kenya launched". [<https://www.galvmed.org/news/agency-regulate-veterinary-medicines-kenya-launched/>]. Accessed 5 October 2020.

[6] Ministry of Agriculture, Livestock, Fisheries and Irrigation. October 2018. "Guidelines for the Prudent Use of Antimicrobials in Animals". Accessed 5 October 2020.

[7] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 5 October 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 insufficient evidence of a national legislation, plans, or equivalent strategy documents on zoonotic disease in Kenya. Kenya has a strategy document for zoonotic diseases prepared by the Zoonotic Disease Unit (ZDU) established in 2012 through a MOU between the Ministry of Health and the Ministry of Agriculture, according to the Joint External Evaluation (JEE) Mission Report of 2017. [1] The ZDU published the "National Strategic Plan for the Implementation of One Health In Kenya (2012-2017)" and apparently has a list of priority zoonotic diseases, however the actual plan was not found through an online search. [1,2,3,4] The JEE 2017 recommends developing of a national control strategy for brucellosis and anthrax. [1] There is no further evidence of an updated version of the "National Strategic Plan for the Implementation of One Health In Kenya (2012-2017)" and no other evidence of the plan or similar on the Ministry of Health website. [3,4]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 5 October 2020.

[2] Republic of Kenya Zoonotic Disease Unit. "Strategic Plan." [<http://zdukenya.org/strategic-plan/>]. Attempted access on 5 October 2020.

[3] One Health. December 2019. "One Health Policy Context of Ethiopia, Somalia, and Kenya". [<https://cgspace.cgiar.org/rest/bitstreams/183816/retrieve>]. Accessed 5 October 2020.

[4] Munyua, P.M., Njenga, M.K., Osoro, E.M. et al. May 2019. "Successes and challenges of the One Health approach in Kenya over the last decade". [<https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-019-6772-7#citeas>]. Accessed 5 October 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 evidence that Kenya has a national legislation, plans or equivalent strategy document(s) which includes measures for risk identification and reduction for zoonotic disease spillover events from animals to humans. According to the Joint External Evaluation Mission Report 2017, the Zoonotic Disease Unit (ZDU) was established in August 2012 and has a mission to "establish and maintain active collaboration at the animal-human-ecosystem interface to prevent and control zoonotic diseases". ZDU developed the National Strategic Plan for the Implementation of One Health In Kenya (2012-2017), which highlights risk mapping of priority diseases, however the actual strategy or an updated version of the strategy was not found through an online search. There is also no mention of whether zoonotic disease spillover is addressed. [1,2,3] The ZDU has also developed integrated public and animal health strategic and contingency plans for select zoonotic diseases (Rift Valley fever and rabies). The JEE 2017 recommends developing of a national control strategy for brucellosis and anthrax. [1] The ZDU website was not accessible at the time of research. [4] A study was conducted in 2019 to test surveillance systems that would help detect early spillover events. Kenya was used to test a "real-time surveillance system that leverages the existing mobile phone network and shows immense potential to improve adaptive management of spillover". The system was implemented in 1500 households across rural Kenya, and participants were asked to report symptom syndromes in their livestock. [5] There is no other publicly available evidence via the Ministry of Health or the Ministry of Agriculture, Livestock, Fisheries and Irrigation. [6,7]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya".

[<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 5 October 2020.

[2] Munyua, P.M., Njenga, M.K., Osoro, E.M. et al. May 2019. "Successes and challenges of the One Health approach in Kenya over the last decade". [<https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-019-6772-7#citeas>]. Accessed 5 October 2020.

[3] Republic of Kenya Zoonotic Disease Unit. "Strategic Plan." [<http://zdukenya.org/strategic-plan/>]. Attempted access on 5 October 2020.

[4] Government of Kenya. "Zoonotic Disease Unit." [<http://zdukenya.org/about-zdu/>]. Attempted access on 5 October 2020.

[5] Becker, D. J., Washburne, A. D., Faust, C. L., Pulliam, J., Mordecai, E. A., Lloyd-Smith, J. O., & Plowright, R. K. September 2019. "Dynamic and integrative approaches to understanding pathogen spillover".

[<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6711302/>]. Accessed 7 October 2020.

[6] Ministry of Health. [<http://www.health.go.ke>]. Accessed 5 October 2020.

[7] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 5 October 2020.

### 1.2.1c

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

Yes = 1, No = 0

**Current Year Score: 0**

There is insufficient evidence that Kenya has national plans and legislation that account for the surveillance and control of multiple zoonotic pathogens of public health concern. According to the Joint External Evaluation Mission Report of 2017, a "zoonotic surveillance system is in place and epidemiological analyses have been performed for some of the priority disease."

[1] The Animal Diseases Act of 2015 lists a minimum of 25 notifiable diseases (e.g. rinderpest, anthrax, etc) that must be monitored on an ongoing basis and reported in the event of an outbreak. [2] On zoonotic disease control, the JEE report notes that "integrated prevention and control strategies, jointly issued by the Ministry of Health and Ministry of Agriculture, Livestock and Fisheries for two priority zoonotic diseases: Rift Valley fever and rabies". [1] There is evidence that the Kenya Zoonotic Disease Unit (ZDU), which was founded in 2011, is also responsible for strengthening surveillance and control of

zoonotic diseases as part of its mandate. [3,4,5] However, the actual ZDU National Strategic Plan for the Implementation of One Health In Kenya (2012-2017) was not found and no further evidence is available of an updated version. There is no other publicly available evidence available via the Ministry of Health or the Ministry of Agriculture, Livestock, Fisheries and Irrigation. [6,7]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/]. Accessed 5 October 2020.

[2] The Animal Diseases Act. 2015.

[http://kenyalaw.org/lex/rest/db/kenyalaw/Kenya/Legislation/English/Acts%20and%20Regulations/A/Animal%20Diseases%20Cap.%20364%20-%20Act%20No.%204%20of%201965/docs/AnimaldiseasesAct4of1965.pdf]. Accessed 5 October 2020.

[3] Republic of Kenya Zoonotic Disease Unit. "Strategic Plan." [http://zdukenya.org/strategic-plan/]. Attempted access on 5 October 2020.

[4] Munyua, P.M., Njenga, M.K., Osoro, E.M. et al. May 2019. "Successes and challenges of the One Health approach in Kenya over the last decade". [https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-019-6772-7#citeas]. Accessed 5 October 2020.

[5] One Health. December 2019. "One Health Policy Context of Ethiopia, Somalia, and Kenya".

[https://cgspace.cgiar.org/rest/bitstreams/183816/retrieve]. Accessed 5 October 2020.

[6] Ministry of Health. [http://www.health.go.ke]. Accessed 19 October 2020.

[7] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [http://www.kilimo.go.ke]. Accessed 19 October 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: 1**

Kenya has a zoonotic disease unit (ZDU) established in 2012 through an Memorandum Of Understanding between the Ministry of Health (MoH) and the Ministry of Agriculture, Livestock and Fisheries (MALF).

The ZDU is a One Health office in Kenya that was formed to address the gap that exists between animal and human health sectors in terms of prevention and control of zoonotic diseases. According to the Joint External Evaluation Mission report of 2017, the unit is nested between MoH and MALF, and has the goal of establishing and maintaining active collaboration at the animal-human-ecosystem interface towards better prevention and control of diseases transmissible between livestock and humans. [1,2] The ZDU website was not accessible at the time of research, however, according to a study conducted in December 2019 on the One Health Policy implementation in Somalia, Ethiopia, and Kenya, as well as another study conducted in May 2019 on the successes and challenges of the One Health Policy in Kenya, the ZDU is directly linked and dependent on these ministries for leadership and financial support. [3,4]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/] Accessed 5 October 2020.

[2] One Health. December 2019. "One Health Policy Context of Ethiopia, Somalia, and Kenya".

[https://cgspace.cgiar.org/rest/bitstreams/183816/retrieve]. Accessed 5 October 2020.

[3] Munyua, P.M., Njenga, M.K., Osoro, E.M. et al. May 2019. "Successes and challenges of the One Health approach in Kenya over the last decade". [https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-019-6772-7#citeas]. Accessed 20 October 2020.

[4] One Health. December 2019. "One Health Policy Context of Ethiopia, Somalia, and Kenya".

[<https://cgspace.cgiar.org/rest/bitstreams/183816/retrieve>]. Accessed 20 October 2020.

## 1.2.2 Surveillance systems for zoonotic diseases/pathogens

### 1.2.2a

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

Yes = 1 , No = 0

**Current Year Score: 1**

There is a national mechanism for owners of livestock to conduct and report on disease surveillance. According to the Animal Diseases Act [CAP 364] there is a list of notifiable diseases maintained by the Director of Veterinary Services (DVS). The most important notifiable diseases in Kenya are Foot and Mouth Disease (FMD), Anthrax, Contagious Bovine Pleuropneumonia (CBPP), Rabies, Lumpy Skin disease, Contagious Caprine Pleuropneumonia (CCPP), New Castle Disease, East Coast Fever, Rift Valley Fever Trypanosomosis, and re-emerging diseases like Avian Influenza. Owners of livestock infected or suspected to be infected by a notifiable disease are required to separate the animal from other animals and report the disease to the nearest veterinary officer. There is no available evidence indicating specifically how this report is to be made according to the Ministry of Health, the Ministry of Agriculture, Livestock and Fisheries, the National Public Health Laboratory and the National Public Health Laboratory. The veterinary officer will then notify the Director of Veterinary Services at the National Biosafety Authority, who will declare the area containing the infected livestock as impacted by a notifiable disease. [1,2,3,4,5,6,7] The Joint External Evaluation (JEE) Mission Report of 2017 reported a zoonotic surveillance system at a national level however it also reported low disease reporting rates in the animal health sector. [8]

[1] GALVmed. March 2015. "Review of the policy, regulatory and administrative framework for delivery of livestock health products and services in Eastern and Southern Africa". [<http://www.galvmed.org/wp-content/uploads/2015/09/East-Africa-Review-of-Policy-Regulatory-and-Administrative-Framework-for-Delivery-of-Livestock-Health-Products-and-Services-March-2015.pdf>]. Accessed 5 October 2020.

[2] Animal Diseases Act [CAP 364]. 2015.

[[https://eregulations.invest.go.ke/media/AnimaldiseasesAct4of1965\\_subsidary.pdf](https://eregulations.invest.go.ke/media/AnimaldiseasesAct4of1965_subsidary.pdf)]. Accessed 5 October 2020.

[3] Republic of Kenya Ministry of Livestock Development. "Session Paper No 2 of 2008 on National Livestock Policy November 2008." [<http://www.kenyamarkets.org/wp-content/uploads/2016/06/National-Livestock-Policy-2008.pdf>]. Accessed 5 October 2020.

[4] Ministry of Health. [<http://www.health.go.ke>]. Accessed 5 October 2020.

[5] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 5 October 2020.

[6] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 5 October 2020.

[7] Science Daily. April 2018. "Surveillance of livestock could detect rift valley fever disease before human transmission". [<https://www.sciencedaily.com/releases/2018/04/180426141550.htm>]. Accessed 5 October 2020.

[8] World Health Organization (WHO) 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 5 October 2020.

### 1.2.2b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no public evidence of laws that specifically safeguard the confidentiality of information generated through surveillance activities for animals (for owners). The Data Protection Bill 2018 passed into law as the Data Protection Act in November 2019, and gives effect to Article 31(c) of the Constitution, which outlines the right of every person not to have information relating to their family or private affairs unnecessarily required or revealed and Article 31(d), the right not to have the privacy of their communications infringed. It also regulates the collection, retrieval, processing, storing, use and disclosure of personal data. The Act, however, does not explicitly reference animal surveillance and does not address surveillance or property protections. [1,2,3,4] The Constitution of Kenya 2010 (Constitution) does provide for the right to privacy. [2] There is no further evidence from the Joint External Evaluation (JEE) Mission Report of 2017, the Ministry of Agriculture and Ministry of Health on the laws safeguarding the confidentiality of information generated through surveillance activities for animals(for owners). [5,6,7] And the Zoonotic Disease Unit website was not accessible at the time of research. [8]

- [1] One Trust Data Guidance. May 2019. "Kenya: Final version of Protection Bill includes 'key changes'". [<https://corporate.dataguidance.com/final-version-of-data-protection-bill-includes-key-changes/>]. Accessed 6 October 2020.
- [2] The Data Protection Bill. [<https://www.ict.go.ke/wp-content/uploads/2016/04/Kenya-Data-Protection-Bill-2018-14-08-2018.pdf>]. Accessed 5 October 2020.
- [3] The Gazette Supplement. November 2019. "The Data Protection Act, 2019". [[http://kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/2019/TheDataProtectionAct\\_\\_No24of2019.pdf](http://kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/2019/TheDataProtectionAct__No24of2019.pdf)]. Accessed 5 October 2020.
- [4] Reuters. November 2019. "Kenya passes data protection law crucial for tech investments". [<https://www.reuters.com/article/us-kenya-dataprotection/kenya-passes-data-protection-law-crucial-for-tech-investments-idUSKBN1X1101>]. Accessed 6 October 2020.
- [5] Ministry of Health. [<http://www.health.go.ke>]. Accessed 5 October 2020.
- [6] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 5 October 2020.
- [7] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 5 October 2020.
- [8] Government of Kenya. "Zoonotic Disease Unit." [<http://zdukenya.org/about-zdu/>]. Attempted access on 5 October 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: 1**

The Kenya Wildlife Service (KWS) veterinary services conducts both passive and active surveillance of wildlife. [1] KWS is a state corporation that was established by an Act of Parliament (Cap 376) with the mandate to conserve and manage wildlife in Kenya and to enforce related laws and regulations. [2] Wildlife disease management within KWS is the mandate of the Veterinary services department located at KWS headquarters. It has 6 satellite clinics in key conservation areas to ensure quick responses and effective monitoring of disease in wildlife. [1] According to the Joint External Evaluation Mission Report of 2017, syndromic surveillance was piloted for wildlife, event-based surveillance for five syndromes in wildlife. [3] Diseases monitored include; Anthrax- Bacillus anthracis(buffalo, rhino, antelopes, zebra, hippos, giraffes); Rabies- lyssavirus (endangered wild dogs); Rinderpest -Morbillivirus, Peste des Petits Ruminants (PPR)- Morbillivirus (Wild small ruminants); Rift Valley Fever- Phlebovirus (gerenuks and gazelles); Foot and mouth disease- Aphthovirus (buffaloes) and African Swine fever- African Swine fever virus (Warthogs). [1]

[1] World Organisation for Animal Health (OIE). November 2016. "Challenges facing wildlife disease surveillance in Kenya & progress made since the last OIE training of focal points".[<http://www.rr-africa.oie.int/docspdf/en/2016/WILD/KENYA.pdf>]. Accessed 6 October 2020.

[2] Kenya Wildlife Services. "About us."[<http://kws.go.ke/about-us/about-us>]. Accessed 6 October 2020.

[3] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya".[<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 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: 3.38

2018

OIE WAHIS database

### 1.2.4b

Number of veterinary para-professionals per 100,000 people

Input number

Current Year Score: 9.5

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 public evidence that Kenya has mechanisms in place for working with the private sector on zoonotic disease. The National Strategic Plan for the Implementation of One Health in Kenya 2012-2017 was not accessible at the time of research, however, no evidence was found to suggest that it includes an established mechanism or proposed plan for working with the private sector on zoonotic diseases in the Joint External Evaluation Mission Report of 2017, as well as other studies conducted on the successes and challenges of the One Health Policy in Kenya. [1,2,3,4] Instead, this has been identified as a gap: "The participation of the private animal and human health practitioners is minimal with poor to no reporting from them on disease trends and occurrence". [2] There is no other publicly available evidence on a collaboration mechanism with the private sector on zoonotic disease via the Joint External Evaluation Mission Report of 2017, the Ministry of Health or the Ministry of Agriculture, Livestock, Fisheries and Irrigation. [3,5,6] And the Zoonotic Disease Unit website was not accessible at the time of research. [7]

[1] One Health. December 2019. "One Health Policy Context of Ethiopia, Somalia, and Kenya".

[<https://cgspace.cgiar.org/rest/bitstreams/183816/retrieve>]. Accessed 5 October 2020.

[2] National Strategic Plan for the Implementation of One Health in Kenya 2012-2017. [[http://zdukenya.org/wp-content/uploads/2012/09/ZDU\\_StrategicPlan\\_updated.pdf](http://zdukenya.org/wp-content/uploads/2012/09/ZDU_StrategicPlan_updated.pdf)]. Attempted access on 6 October 2020.

[3] World Health Organization (WHO) 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya".

[<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.

[4] Munyua, P.M., Njenga, M.K., Osoro, E.M. et al. May 2019. "Successes and challenges of the One Health approach in Kenya over the last decade". [<https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-019-6772-7#citeas>]. Accessed 20 October 2020.

[5] Ministry of Health. [<http://www.health.go.ke>]. Accessed 6 October 2020.

[6] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 6 October 2020.

[7] Zoonotic Disease Unit. "About Us" [<http://zdukenya.org/about-zdu/>]. Attempted access on 6 October 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 public evidence of any consolidated record of facilities that store or process especially dangerous pathogens and toxins according to the Ministry of Health, Ministry of Defence and the Ministry of Agriculture, Livestock, Fisheries and Irrigation. [1,2,3] Additionally, the Joint External Evaluation (JEE) Mission Report of 2017 indicates that there is not yet a process for developing and monitoring an inventory of pathogens within facilities that store or process dangerous pathogens and toxins. The JEE Report also recommends developing and implementing a pathogen inventory system such as a database. [4] The National Public Health Laboratory Services (NPHLS) Strategic Plan of 2016-2020 includes within its strategic activities the development of a biological agents and specimen archiving system. This system will be designed to ensure a proper agent inventory, conduct mapping of pathogens and toxins and develop an inventory of laboratories handling potential pathogens and toxins for bioterrorism use. [5] No evidence or updates were found to suggest that these activities have yet been put into

place since the writing of the strategy. Although Kenya is party to the Biological Weapons Convention and submitted Confidence-Building Measures in 2019 and 2020, access to these reports is restricted, and it is unknown if they contain information on this matter. [6] Vertic's Biological Weapons Convention (BWC) Legislation Database does not list any documents for Kenya specific to the consolidation of facilities that store or process especially dangerous pathogens. [7]

- [1] Ministry of Health. "About the Ministry." [[http://www.health.go.ke/?page\\_id=126](http://www.health.go.ke/?page_id=126)]. Accessed 6 October 2020.
- [2] Ministry of Defence. "About MoD." [[http://www.mod.go.ke/?page\\_id=338](http://www.mod.go.ke/?page_id=338)]. Accessed 6 October 2020.
- [3] Ministry of Agriculture, Livestock, Fisheries and Irrigation. "About Us." [[http://www.kilimo.go.ke/?page\\_id=7](http://www.kilimo.go.ke/?page_id=7)]. Accessed 6 October 2020.
- [4] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya." [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.
- [5] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 6 October 2020.
- [6] United Nations. "Confidence Building Measures: Kenya". [<https://bwc-ecbm.unog.ch/state/kenya>]. Accessed 6 October 2020.
- [7] Vertic Database. "Kenya". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/k/>]. Accessed 6 October 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 public evidence of legislation 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 according to the Ministry of Health, the Ministry of Defense and the Ministry of Agriculture, Livestock, Fisheries and Irrigation. [1,2,3] The Joint External Evaluation Mission Report of 2017 stated that a Bioscience Bill that includes both biosafety and biosecurity was being considered in parliament. [4] The Center for Biosecurity and Biopreparedness (CBB) conducted a biosecurity high-level meeting in Nairobi in May 2018 that was meant to generate support for biosecurity in Kenya. It was declared at the meeting that a biosecurity law would be presented before the parliament by November 2018, but there is no evidence that this bill has yet been passed by the country according to the Ministry of Health, the Center for Biosecurity and Biopreparedness, or the Kenya Vision 2030. [1,5,6] Although Kenya is party to the Biological Weapons Convention and submitted Confidence-Building Measures in 2019 and 2020, access to these reports is restricted, and it is unknown if they contain information on this matter. [7] Vertic's Biological Weapons Convention (BWC) Legislation Database does not list any documents for Kenya specific to legislations or regulations in place that are related to biosecurity. [8]

- [1] Ministry of Health. "About the Ministry." [[http://www.health.go.ke/?page\\_id=126](http://www.health.go.ke/?page_id=126)]. Accessed 6 October 2020.
- [2] Ministry of Defence. "About MoD." [[http://www.mod.go.ke/?page\\_id=338](http://www.mod.go.ke/?page_id=338)]. Accessed 6 October 2020.
- [3] Ministry of Agriculture, Livestock, Fisheries and Irrigation. "About Us." [[http://www.kilimo.go.ke/?page\\_id=7](http://www.kilimo.go.ke/?page_id=7)]. Accessed 6 October 2020.
- [4] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya." [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.
- [5] Center for Biosecurity and Biopreparedness. May 2018. "Strong Kenyan support for biosecurity".

[[https://www.biosecurity.dk/no\\_cache/nyhed0/article/424/361/](https://www.biosecurity.dk/no_cache/nyhed0/article/424/361/)]. Accessed 6 October 2020.

[6] Kenya Vision 2030. "Science, Technology and Innovation - Policy, Legal and Institutional Reforms".

[<http://vision2030.go.ke/project/science-technology-and-innovation-policy-legal-and-institutional-reforms/>]. Accessed 6 October 2020.

[7] United Nations. "Confidence Building Measures: Kenya". [<https://bwc-ecbm.unog.ch/state/kenya>]. Accessed 6 October 2020.

[8] Vertic Database. "Kenya". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/k/>]. Accessed 6 October 2020.

### 1.3.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence of an established agency responsible for the enforcement of biosecurity legislation and regulations. There is no evidence that there are biosecurity laws in place in the country, nor that there is an enforcement agency in place according to the Joint External Evaluation Mission Report of 2017, the Ministry of Health, the Ministry of Defence and the Ministry of Agriculture, Livestock and Fisheries. [1,2,3,4] The Joint External Evaluation Mission Report of 2017 stated that a Bioscience Bill that includes both biosafety and biosecurity considerations was being considered in parliament. [1] The Center for Biosecurity and Biopreparedness (CBB) conducted a biosecurity high-level meeting in Nairobi in May 2018 that was meant to generate support for biosecurity in Kenya. It was declared at the meeting that a biosecurity law would be presented before the parliament by November 2018, but there is no evidence that this bill has yet been passed by the country according to the Ministry of Health, the Center for Biosecurity and Biopreparedness, or the Kenya Vision 2030. [1,5,6] Although Kenya is party to the Biological Weapons Convention and submitted Confidence-Building Measures in 2019 and 2020, access to these reports is restricted, and it is unknown if they contain information on this matter. [7] Vertic's Biological Weapons Convention (BWC) Legislation Database does not list any documents for Kenya specific to legislations or regulations in place that are related to biosecurity. [8]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 6 October 2020.

[3] Ministry of Defence. "About MoD." [[http://www.mod.go.ke/?page\\_id=338](http://www.mod.go.ke/?page_id=338)]. Accessed 6 October 2020.

[4] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 6 October 2020.

[5] Center for Biosecurity and Biopreparedness. May 2018. "Strong Kenyan support for biosecurity".

[[https://www.biosecurity.dk/no\\_cache/nyhed0/article/424/361/](https://www.biosecurity.dk/no_cache/nyhed0/article/424/361/)]. Accessed 6 October 2020.

[6] Kenya Vision 2030. "Science, Technology and Innovation - Policy, Legal and Institutional Reforms".

[<http://vision2030.go.ke/project/science-technology-and-innovation-policy-legal-and-institutional-reforms/>]. Accessed 6 October 2020.

[7] United Nations. "Confidence Building Measures: Kenya". [<https://bwc-ecbm.unog.ch/state/kenya>]. Accessed 6 October 2020.

[8] Vertic Database. "Kenya". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/k/>]. Accessed 6 October 2020.

### 1.3.1d

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Kenya has taken action to consolidate its inventories of especially dangerous pathogens and toxins into a minimum number of facilities according to the Ministry of Health and the Ministry of Agriculture, Livestock, Fisheries and Irrigation. [1,2,3] The Joint External Evaluation Mission Report of 2017 reports that dangerous pathogens and toxins have not been consolidated into a minimum number of facilities, and diagnostics that preclude culturing dangerous pathogens have not been undertaken. Part of the recommendations the report included developing and implementing a pathogen and inventory systems (database). [4] The National Public Health Laboratory (NPHL) strategic plan (2016-2020) includes within its activities the development of a biological agents and specimen archiving systems that ensure proper agent inventory for NPHLS as well as a mapping of pathogens and toxins for NPHL and the development of an inventory of laboratories handling potential pathogens and toxins for bioterrorism use. [5] However, there is no evidence found that this has yet taken place according to the National Public Health Laboratory. [1] Although Kenya is party to the Biological Weapons Convention and submitted Confidence-Building Measures in 2019 and 2020, access to these reports is restricted, and it is unknown whether they contain information on this matter. [6] Vertic's Biological Weapons Convention (BWC) Legislation Database does not list any documents for Kenya specific to legislations or regulations in place that are related to biosecurity. [7]

[1] Ministry of Health. "National Public Health Laboratory." [<http://nphl.go.ke/national-microbiology-reference-laboratory-nmr/>]. Accessed 6 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 6 October 2020.

[3] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 6 October 2020.

[4] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.

[5] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 6 October 2020.

[6] United Nations. "Confidence Building Measures: Kenya". [<https://bwc-ecbm.unog.ch/state/kenya>]. Accessed 6 October 2020.

[7] Vertic Database. "Kenya". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/k/>]. Accessed 6 October 2020.

### 1.3.1e

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence of in-country capacity to conduct Polymerase Chain Reaction (PCR)-based diagnostic testing for anthrax or Ebola, which would preclude culturing a live pathogen according to the Joint External Evaluation Mission Report of 2017, the Ministry of Health, the Ministry of Agriculture, Livestock and Fisheries and the National Public Health Laboratory. [1,2,3,4] There is evidence that the US Centers for Disease Control (CDC) has conducted trainings for the Ministry of Health in PCR techniques, but there is only evidence that this was done for influenza and MERS CoV. [5] The National Public Health Laboratory mentions that the National Public Health Virology Laboratory is able to conduct PCR testing

for influenza but not for anthrax or Ebola. [6]

- [1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.
- [2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 6 October 2020.
- [3] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 6 October 2020.
- [4] Ministry of Health. "National Public Health Laboratory." [<http://www.nphls.or.ke/index.php?pg=#>]. Accessed 6 October 2020.
- [5] Center for Disease Control and Prevention (CDC ) Kenya. "Annual report 2014." [[https://www.cdc.gov/globalhealth/countries/kenya/pdf/CDC-KENYA\\_2014REPORT.pdf](https://www.cdc.gov/globalhealth/countries/kenya/pdf/CDC-KENYA_2014REPORT.pdf)]. Accessed 6 October 2020.
- [6] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 6 October 2020.

## 1.3.2 Biosecurity training and practices

### 1.3.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient public evidence of a requirement for standardised training on biosecurity. Per the Joint External Evaluation Mission report of 2017, "the Ministry of Health has developed a biosafety and biosecurity curriculum for training health care workers (particularly medical laboratory personnel) and provides an annual refresher training guide for use at the health facility level. With funding from CDC through the United States President's Emergency Plan for AIDS Relief, and using the locally designed curriculum, over 3000 medical laboratory personnel have been trained on basic biosafety by local implementing partners and NPHL's biosafety and biosecurity office. In addition, 100 biosafety/biosecurity trainers-of-trainers have been trained." [1] The training "content is largely based on the WHO Laboratory Biosafety Manual. The manual primarily addresses laboratory biosafety, providing guidelines for establishment of containment principles, and practices that prevent unintentional exposure to biological agents and toxins". [2] There is no further information on the training via the Joint External Evaluation Mission Report of 2017, the Ministry of Health, the Ministry of Defence and the Ministry of Agriculture, Livestock and Fisheries. [1,3,4,5] Although Kenya is party to the Biological Weapons Convention and submitted Confidence-Building Measures in 2019 and 2020, access to these reports is restricted, and it is unknown whether they contain information on this matter. [6] Vertic's Biological Weapons Convention (BWC) Legislation Database does not list any documents for Kenya specific to legislations or regulations in place that are related to biosecurity. [7]

- [1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.
- [2] Muriithi, B., Bundi, M., Galata, A. et al. August 2018. "Biosafety and biosecurity capacity building: insights from implementation of the NUITM-KEMRI biosafety training model". [<https://tropmedhealth.biomedcentral.com/articles/10.1186/s41182-018-0108-7#citeas>]. Accessed 6 October 2020.
- [3] Ministry of Health. [<http://www.health.go.ke>]. Accessed 6 October 2020.
- [4] Ministry of Defence. "About MoD." [[http://www.mod.go.ke/?page\\_id=338](http://www.mod.go.ke/?page_id=338)]. Accessed 6 October 2020.
- [5] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 6 October 2020.
- [6] United Nations. "Confidence Building Measures: Kenya". [<https://bwc-ecbm.unog.ch/state/kenya>]. Accessed 6 October 2020.

2020.

[7] Vertic Database. "Kenya". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/k/>]. Accessed 6 October 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 public evidence that Kenya has any regulations or conditions specifying that security and other personnel with access to especially dangerous materials are subject to drug testing, background checks, and psychological or mental fitness checks, according to the Kenyan National Public Health Laboratory, the Ministry of Health and the Ministry of Agriculture, Livestock, Fisheries and Irrigation. [1,2,3,4] The country has not yet passed national laws on biosecurity and personnel requirements according to the Kenya Vision 2030, and the Joint External Evaluation (JEE) Mission Report of 2017, and the report also recommends the need for access control at medical laboratories. [5,6] Kenya is currently developing a National Biosciences Bill once it has been passed it will provide a framework for prosecuting crimes and preventing and responding to biological threats. [7] However, there is no publicly available evidence indicating that the bill would include regulations or conditions specifying drug testing, background checks, and psychological or mental fitness checks. There is also no evidence that the bill has been put in place. Although Kenya is party to the Biological Weapons Convention and submitted Confidence-Building Measures in 2019 and 2020, access to these reports is restricted, and it is unknown whether they contain information on this matter. [8] Vertic's Biological Weapons Convention (BWC) Legislation Database does not list any documents for Kenya specific to legislations or regulations in place specifying that security and other personnel with access to especially dangerous materials are subject to drug testing, background checks, and psychological or mental fitness checks. [9]

[1] Ministry of Health. "National Public Health Laboratory." [<http://www.nphls.or.ke/index.php?pg=#>]. Accessed 6 October 2020.

[2] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 6 October 2020.

[3] Ministry of Health. [<http://www.health.go.ke>]. Accessed 6 October 2020.

[4] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 6 October 2020.

[5] Kenya Vision 2030. "Science, Technology and Innovation - Policy, Legal and Institutional Reforms".

[<http://vision2030.go.ke/project/science-technology-and-innovation-policy-legal-and-institutional-reforms/>]. Accessed 6 October 2020.

[6] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.

[7] United Nations Office at Geneva (UNOG). "Kenya National Implementation of the Biological Weapons Convention (BWC)". [[https://www.unog.ch/80256EDD006B8954/\(httpAssets\)/43A49034FA81453CC1257ED200491E1F/\\$file/Kabiru\\_Draeger\\_Kenya+Denmark+\\_GHSA+side+event\\_8\\_11\\_2015.pdf](https://www.unog.ch/80256EDD006B8954/(httpAssets)/43A49034FA81453CC1257ED200491E1F/$file/Kabiru_Draeger_Kenya+Denmark+_GHSA+side+event_8_11_2015.pdf)]. Accessed 6 October 2020.

[8] United Nations. "Confidence Building Measures: Kenya". [<https://bwc-ecbm.unog.ch/state/kenya>]. Accessed 6 October 2020.

[9] Vertic Database. "Kenya". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/k/>]. Accessed 6 October 2020.

### 1.3.4 Transportation security

#### 1.3.4a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence of national regulations on the safe and secure transport of infectious substances (Categories A and B). There is no relevant information shared by the Kenyan National Public Health Laboratory, the Ministry of Health, the Ministry of Agriculture, Livestock, Fisheries and Irrigation or the Ministry of Transport, Infrastructure, Housing and Urban Development. [1,2,3,4,5] However the National Environment Management Authority (NEMA) has developed the Environment Management and Coordination (Toxic and Hazardous Industrial Chemicals and Materials Management) Regulations 2018 that are designed to support the sustainable management of chemicals in Kenya, including biohazardous infectious materials. While the draft does not break down the infectious substances by Categories A or B, it does have Part II classification based on health hazards, which includes both biohazardous infectious materials and health hazards not otherwise classified. The draft further outlines requirements for the packaging and transport of toxic and hazardous industrial chemicals or materials on road and rail transport. [6] The Environmental Management and Coordination Act (Amendment) of 2015 also mentions that it will "determine measures for the establishment of enforcement procedures and regulations for the storage, packaging and transportation of pesticides and toxic substances", however it does not specifically mention Categories A and B, and there is no evidence that these measures have been established since the passing of the law. [7] Although Kenya is party to the Biological Weapons Convention and submitted Confidence-Building Measures in 2019 and 2020, access to these reports is restricted, and it is unknown whether they contain information on this matter. [8] Vertic's Biological Weapons Convention (BWC) Legislation Database does not list any documents for Kenya specific national regulations on the safe and secure transport of infectious substances (Categories A and B). [9]

[1] Ministry of Health. "National Public Health Laboratory." [<http://www.nphls.or.ke/index.php?pg=#>]. Accessed 6 October 2020.

[2] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 6 October 2020.

[3] Ministry of Health." [<http://www.health.go.ke>]. Accessed 6 October 2020.

[4] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 6 October 2020.

[5] Ministry of Transport, Infrastructure, Housing and Urban Development. [<http://www.transport.go.ke/Home.html>]. Accessed 6 October 2020.

[6] National Environment Management Authority. "Draft Environmental Management and Coordination (Toxic and Hazardous Industrial Chemicals and Materials Management) Regulations 2018." [[https://www.nema.go.ke/index.php?option=com\\_content&view=article&id=267:draft-chemical-regulations&catid=2&Itemid=417](https://www.nema.go.ke/index.php?option=com_content&view=article&id=267:draft-chemical-regulations&catid=2&Itemid=417)]. Accessed 6 October 2020.

[7] The Environmental Management and Co-ordination Act (Amendment) of 2015.

[<http://www.nema.go.ke/images/Docs/Legislation%20and%20Policies/EMCA%20Act%202015.pdf>]. Accessed 6 October 2020.

[8] United Nations. "Confidence Building Measures: Kenya". [<https://bwc-ecbm.unog.ch/state/kenya>]. Accessed 6 October 2020.

[9] Vertic Database. "Kenya". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/k/>]. Accessed 6 October 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 indicating that Kenya has legislation, regulation, or other guidance in place to oversee the cross-border transfer and end-user screening of especially dangerous pathogens, toxins and pathogens with pandemic potential. There is no relevant information shared by the Joint External Evaluation report of 2017, the Ministry of Health, the Ministry of Defence and the Ministry of Agriculture, Livestock, Fisheries and Irrigation. [1,2,3,4] There are a number of laws that deal with the management of hazardous chemicals and substances, however, there is no publicly available evidence indicating that Kenya has legislation, regulation, or other guidance in place to oversee the cross-border transfer and end-user screening of especially dangerous pathogens, toxins and pathogens with pandemic potential. [5,6] Although Kenya is party to the Biological Weapons Convention and submitted Confidence-Building Measures in 2019 and 2020, access to these reports is restricted, and it is unknown whether they contain information on this matter. [7] Vertic's Biological Weapons Convention (BWC) Legislation Database does not list any documents for Kenya specific the transportation or transfer and end-user screening of especially dangerous pathogens, toxins and pathogens with pandemic potential. [8]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 6 October 2020.

[3] Ministry of Defence. "About MoD." [[http://www.mod.go.ke/?page\\_id=338](http://www.mod.go.ke/?page_id=338)]. Accessed 6 October 2020.

[4] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 6 October 2020.

[5] Kenya Legal Resources. "Management Of Harzadous Chemicals and Substances".

[<http://www.kenyalawresourcecenter.org/2011/07/management-of-hazardous-chemicals-and.html>]. Accessed 6 October 2020.

[6] The Environmental Management and Co-ordination Act (Amendment) of 2015.

[<http://www.nema.go.ke/images/Docs/Legislation%20and%20Policies/EMCA%20Act%202015.pdf>]. Accessed 6 October 2020.

[7] United Nations. "Confidence Building Measures: Kenya". [<https://bwc-ecbm.unog.ch/state/kenya>]. Accessed 6 October 2020.

[8] Vertic Database. "Kenya". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/k/>]. Accessed 6 October 2020.

## 1.4 BIOSAFETY

### 1.4.1 Whole-of-government biosafety systems

#### 1.4.1a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Kenya has biosafety laws in place. Although there is a Biosafety Act in place, the Joint External Evaluation Mission Report of 2017 notes that this only governs genetically modified organisms. [1,2,3] The report states that a Bioscience Bill that includes both biosafety and biosecurity was being considered in parliament. [1] The Center for Biosecurity and Biopreparedness (CBB) conducted a biosecurity high-level meeting in Nairobi in May 2018 that was meant to generate support for biosecurity in Kenya. It was declared at the meeting that a biosecurity law would be presented before the parliament by November 2018, but there is no evidence of this law via the websites of the Ministry of Health, the Ministry of Agriculture, Livestock, Fisheries and Irrigation, or the Center for Biosecurity and Biopreparedness, and the Kenya Vision 2030. [4,5,6,7] Although Kenya is party to the Biological Weapons Convention and submitted Confidence-Building Measures in 2019 and 2020, access to these reports is restricted, and it is unknown whether they contain information on this matter. [8] Vertic's Biological Weapons Convention (BWC) Legislation Database does not list any documents for Kenya specific to legislations or regulations in place that are related to biosafety or biosecurity. [9]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya".

[<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.

[2] National Biosafety Authority. "Biosafety Act 2009."

[[http://www.biosafetykenya.go.ke/index.php?option=com\\_content&view=article&id=16&Itemid=121](http://www.biosafetykenya.go.ke/index.php?option=com_content&view=article&id=16&Itemid=121)]. Accessed 6 October 2020.

[3] National Biosafety Authority. "Biosafety Regulations."

[[http://www.biosafetykenya.go.ke/index.php?option=com\\_content&view=article&id=17&Itemid=122](http://www.biosafetykenya.go.ke/index.php?option=com_content&view=article&id=17&Itemid=122)]. Accessed 6 October 2020.

[4] Ministry of Health. "About the Ministry". [[http://www.health.go.ke/?page\\_id=126](http://www.health.go.ke/?page_id=126)]. Accessed 6 October 2020.

[5] Ministry of Agriculture, Livestock, Fisheries and Irrigation. "About Us". [[http://www.kilimo.go.ke/?page\\_id=7](http://www.kilimo.go.ke/?page_id=7)]. Accessed 6 October 2020.

[6] Center for Biosecurity and Biopreparedness. May 2018. "Strong Kenyan support for biosecurity".

[[https://www.biosecurity.dk/no\\_cache/nyhed0/article/424/361/](https://www.biosecurity.dk/no_cache/nyhed0/article/424/361/)]. Accessed 6 October 2020.

[7] Kenya Vision 2030. "Science, Technology and Innovation - Policy, Legal and Institutional Reforms".

[<http://vision2030.go.ke/project/science-technology-and-innovation-policy-legal-and-institutional-reforms/>]. Accessed 6 October 2020.

[8] United Nations. "Confidence Building Measures: Kenya". [<https://bwc-ecbm.unog.ch/state/kenya>]. Accessed 6 October 2020.

[9] Vertic Database. "Kenya". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/k/>]. Accessed 6 October 2020.

### 1.4.1b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence of an agency that is responsible for the enforcement of biosafety legislation and regulations in Kenya. There is also no evidence that Kenya has biosafety laws in place. Although there is a National Biosafety Authority (NBA) responsible for the enforcement of the Biosafety Act, the Joint External Evaluation Mission Report of 2017, notes that this only governs genetically modified organisms. [1,2,3] The report states that a Bioscience Bill that includes both biosafety and biosecurity was being considered in parliament. [1]The Center for Biosecurity and Biopreparedness (CBB) conducted a biosecurity high-level meeting in Nairobi in May 2018 that was meant to generate support for biosecurity in Kenya. It was

declared at the meeting that a biosecurity law would be presented before the parliament by November 2018, but there is no evidence of this law via the websites of the Ministry of Health, the Ministry of Agriculture, Livestock, Fisheries and Irrigation, or the Center for Biosecurity and Biopreparedness, and the Kenya Vision 2030. [4,5,6,7] Although Kenya is party to the Biological Weapons Convention and submitted Confidence-Building Measures in 2019 and 2020, access to these reports is restricted, and it is unknown whether they contain information on this matter. [8] Vertic's Biological Weapons Convention (BWC) Legislation Database does not list any documents for Kenya specific to legislations or regulations in place that are related to biosafety or biosecurity. [9]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya".

[<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.

[2] National Biosafety Authority. "Biosafety Act 2009."

[[http://www.biosafetykenya.go.ke/index.php?option=com\\_content&view=article&id=16&Itemid=121](http://www.biosafetykenya.go.ke/index.php?option=com_content&view=article&id=16&Itemid=121)]. Accessed 6 October 2020.

[3] National Biosafety Authority. "Biosafety Regulations."

[[http://www.biosafetykenya.go.ke/index.php?option=com\\_content&view=article&id=17&Itemid=122](http://www.biosafetykenya.go.ke/index.php?option=com_content&view=article&id=17&Itemid=122)]. Accessed 6 October 2020.

[4] Ministry of Health. "About the Ministry". [[http://www.health.go.ke/?page\\_id=126](http://www.health.go.ke/?page_id=126)]. Accessed 6 October 2020.

[5] Ministry of Agriculture, Livestock, Fisheries and Irrigation. "About Us". [[http://www.kilimo.go.ke/?page\\_id=7](http://www.kilimo.go.ke/?page_id=7)]. Accessed 6 October 2020.

[6] Center for Biosecurity and Biopreparedness. May 2018. "Strong Kenyan support for biosecurity".

[[https://www.biosecurity.dk/no\\_cache/nyhed0/article/424/361/](https://www.biosecurity.dk/no_cache/nyhed0/article/424/361/)]. Accessed 6 October 2020.

[7] Kenya Vision 2030. "Science, Technology and Innovation - Policy, Legal and Institutional Reforms".

[<http://vision2030.go.ke/project/science-technology-and-innovation-policy-legal-and-institutional-reforms/>]. Accessed 6 October 2020.

[8] United Nations. "Confidence Building Measures: Kenya". [<https://bwc-ecbm.unog.ch/state/kenya>]. Accessed 6 October 2020.

[9] Vertic Database. "Kenya". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/k/>]. Accessed 6 October 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: 1**

There is public evidence of a requirement for standardised training on biosafety. Per the Joint External Evaluation Mission report of 2017, "the Ministry of Health has developed a biosafety and biosecurity curriculum for training health care workers (particularly medical laboratory personnel) and provides an annual refresher training guide for use at the health facility level. With funding from CDC through the United States President's Emergency Plan for AIDS Relief, and using the locally designed curriculum, over 3000 medical laboratory personnel have been trained on basic biosafety by local implementing partners and NPHL's biosafety and biosecurity office. In addition, 100 biosafety/biosecurity trainers-of-trainers have been trained." [1] The training "content is largely based on the WHO Laboratory Biosafety Manual. The manual primarily addresses laboratory biosafety, providing guidelines for establishment of containment principles, and practices that prevent unintentional

exposure to biological agents and toxins". [2] There is no further information on the training and what specifics are covered via the Joint External Evaluation Mission Report of 2017, the Ministry of Health, the Ministry of Defence and the Ministry of Agriculture, Livestock and Fisheries. [1,3,4,5] Although Kenya is party to the Biological Weapons Convention and submitted Confidence-Building Measures in 2019 and 2020, access to these reports is restricted, and it is unknown whether they contain information on this matter. [6] Vertic's Biological Weapons Convention (BWC) Legislation Database does not list any documents for Kenya specific to legislations or regulations in place that are related to biosafety or biosecurity. [7]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/] Accessed 6 October 2020.

[2] Muriithi, B., Bundi, M., Galata, A. et al. August 2018. "Biosafety and biosecurity capacity building: insights from implementation of the NUITM-KEMRI biosafety training model". [https://tropmedhealth.biomedcentral.com/articles/10.1186/s41182-018-0108-7#citeas]. Accessed 6 October 2020.

[3] Ministry of Health. [http://www.health.go.ke]. Accessed 6 October 2020.

[4] Ministry of Defence. "About MoD." [http://www.mod.go.ke/?page\_id=338]. Accessed 6 October 2020.

[5] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [http://www.kilimo.go.ke]. Accessed 6 October 2020.

[6] United Nations. "Confidence Building Measures: Kenya". [https://bwc-ecbm.unog.ch/state/kenya]. Accessed 6 October 2020.

[7] Vertic Database. "Kenya". [https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/k/]. Accessed 6 October 2020.

## 1.5 DUAL-USE RESEARCH AND CULTURE OF RESPONSIBLE SCIENCE

### 1.5.1 Oversight of research with especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research

#### 1.5.1a

**Is there publicly available evidence that the country has conducted an assessment to determine whether ongoing research is occurring on especially dangerous pathogens, toxins, pathogens with pandemic potential and/or other dual-use research?**

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Kenya 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 according to the Kenyan Ministry of Health, the Ministry of Agriculture, Livestock, Fisheries and Irrigation, the National Public Health Laboratory or the Kenya Medical Research Initiative. [1,2,3,4] The Joint External Evaluation Mission Report of 2017 notes that "Kenya has not adopted a list of selected hazards and pathogens." [5] Although Kenya is party to the Biological Weapons Convention and submitted Confidence-Building Measures in 2019 and 2020, access to these reports is restricted, and it is unknown whether they contain information on this matter. [6] Vertic's Biological Weapons Convention (BWC) Legislation Database does not list any documents for Kenya that suggests that it 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. [7]

[1] Ministry of Health. [http://www.health.go.ke]. Accessed 6 October 2020.

[2] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [http://www.kilimo.go.ke]. Accessed 6 October 2020.

[3] National Public Health Laboratory. "Home". [http://nphl.go.ke/]. Accessed 6 October 2020.

[4] Kenya Medical Research Intitute. "Infectious & Parasitic Diseases Research Program (IPDRP)".

[<https://www.kemri.org/index.php/portfolio/ipdrpc>]. Accessed 6 October 2020.

[5] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya".

[<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.

[6] United Nations. "Confidence Building Measures: Kenya". [<https://bwc-ecbm.unog.ch/state/kenya>]. Accessed 6 October 2020.

[7] Vertic Database. "Kenya". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/k/>]. Accessed 6 October 2020.

### 1.5.1b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence of a national policy in Kenya requiring oversight of dual-use research, such as research with especially dangerous pathogens or toxins with pandemic potential. There is no relevant information shared via public websites by the Ministry of Health, the Ministry of Agriculture, Livestock and Fisheries, the National Public Health Laboratory, or the Kenya Medical Research Institute. [1,2,3,4] Although Kenya has ratified the Biological Weapons Convention, there are no publicly available policies that specifically outline how the government will oversee and regulate biological dual-use research that may result in the weaponization of dangerous pathogens, according to the Eighth Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction of 2016, as well as United Nations Office at Geneva (UNOG) presentation on the Kenya and Denmark partnership on the National Implementation of the Biological Weapons Convention (BWC) shared in 2015. [5,6] The Joint External Evaluation Mission Report of 2017 notes that "Kenya has not adopted a list of selected hazards and pathogens." [7] Although Kenya is party to the Biological Weapons Convention and submitted Confidence-Building Measures in 2019 and 2020, access to these reports is restricted, and it is unknown whether they contain information on this matter. [8] Vertic's Biological Weapons Convention (BWC) Legislation Database does not list any documents for Kenya specific to a national policy in Kenya requiring oversight of dual-use research, such as research with especially dangerous pathogens or toxins with pandemic potential. [9]

[1] Ministry of Health. [<http://www.health.go.ke>]. Accessed 6 October 2020.

[2] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 6 October 2020.

[3] The National Public Health Laboratory. "Home". [<http://nphl.go.ke/>]. Accessed 6 October 2020.

[4] Kenya Medical Research Institute. "Home". [<https://www.kemri.org/>]. Accessed 6 October 2020.

[5] Eighth Review Conference of the States Parties to the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction. 2016. "Final Document of the Eighth Review Conference".

[[https://www.unog.ch/80256EDD006B8954/\(httpAssets\)/3604FF0C6D1C7C80C12582100046035D/\\$file/BWCCONF.VIII4%20Final%20Document%20of%20the%20RC.pdf](https://www.unog.ch/80256EDD006B8954/(httpAssets)/3604FF0C6D1C7C80C12582100046035D/$file/BWCCONF.VIII4%20Final%20Document%20of%20the%20RC.pdf)]. Accessed 6 October 2020.

[6] United Nations Office at Geneva (UNOG). "Kenya National Implementation of the Biological Weapons Convention (BWC)". [[https://www.unog.ch/80256EDD006B8954/\(httpAssets\)/43A49034FA81453CC1257ED200491E1F/\\$file/Kabiru\\_Draeger\\_Kenya+\\_Denmark+\\_GHS+side+event\\_8\\_11\\_2015.pdf](https://www.unog.ch/80256EDD006B8954/(httpAssets)/43A49034FA81453CC1257ED200491E1F/$file/Kabiru_Draeger_Kenya+_Denmark+_GHS+side+event_8_11_2015.pdf)]. Accessed 6 October 2020.

[7] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya".

[<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.

[8] United Nations. "Confidence Building Measures: Kenya". [<https://bwc-ecbm.unog.ch/state/kenya>]. Accessed 6 October 2020.

[9] Vertic Database. "Kenya". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/k/>]. Accessed 6 October 2020.

### 1.5.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence of a designated oversight agency for research on dangerous pathogens or other dual research. There is no relevant information shared via the websites of the Ministry of Health, the Ministry of Agriculture, Livestock and Fisheries, the National Public Health Laboratory, the Kenya Medical Research Institute, or the Kenyan Ministry of Defence. [1,2,3,4,5] The Joint External Evaluation Mission Report of 2017 notes that "Kenya has not adopted a list of selected hazards and pathogens." [6] There is, however, evidence of a partnership between the National Commission for Science, Technology and Innovation, the Commission for University Education (CUE) and the Centre for Biosecurity and Bio-preparedness (CBB) under the Government of Denmark has been established to coordinate the national implementation of the Biological Warfare Convention (BWC) in Kenya. [7] Although Kenya is party to the Biological Weapons Convention and submitted Confidence-Building Measures in 2019 and 2020, access to these reports is restricted, and it is unknown whether they contain information on this matter. [8] Vertic's Biological Weapons Convention (BWC) Legislation Database does not list any documents for Kenya specific to designated oversight agencies for research on dangerous pathogens or other dual research. [9]

[1] Ministry of Health. [<http://www.health.go.ke>]. Accessed 6 October 2020.

[2] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 6 October 2020.

[3] National Public Health Laboratory. "Home." [<http://nphl.go.ke/>]. Accessed 6 October 2020.

[4] Kenya Medical Research Institute. "About KEMRI." [<https://www.kemri.org/>]. Accessed 6 October 2020.

[5] Ministry of Defence. "About MoD." [[http://www.mod.go.ke/?page\\_id=338](http://www.mod.go.ke/?page_id=338)]. Accessed 6 October 2020.

[6] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.

[7] United Nations Office at Geneva (UNOG). "Kenya National Implementation of the Biological Weapons Convention (BWC)". [[https://www.unog.ch/80256EDD006B8954/\(httpAssets\)/43A49034FA81453CC1257ED200491E1F/\\$file/Kabiru\\_Draeger\\_Ke\\_nya+\\_Denmark+\\_GHSA+side+event\\_8\\_11\\_2015.pdf](https://www.unog.ch/80256EDD006B8954/(httpAssets)/43A49034FA81453CC1257ED200491E1F/$file/Kabiru_Draeger_Ke_nya+_Denmark+_GHSA+side+event_8_11_2015.pdf)]. Accessed 6 October 2020.

[8] United Nations. "Confidence Building Measures: Kenya". [<https://bwc-ecbm.unog.ch/state/kenya>]. Accessed 6 October 2020.

[9] Vertic Database. "Kenya". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/k/>]. Accessed 6 October 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 public evidence of national legislation or regulations that require the screening of synthesized DNA before it is sold in Kenya. There is no relevant information shared via a public website by the Ministry of Health, the Ministry of Agriculture, Livestock and Fisheries, or the Kenyan Ministry of Defence. [1,2,3] The Biosafety Act 2009 regulates the applications for approval and risk assessment of genetically modified organisms (GMOs) which also covers in-vitro nucleic acid techniques using recombinant DNA. However, the Biosafety Act of 2009 does not specifically address the screening of synthesised DNA [4] The Kenya Standing Technical Committee on Imports and Exports regulates non-plant materials or products that are likely to be carriers of harmful diseases or pests such as DNA / RNA however, there is no specific detail regarding synthesized DNA. [5] Although Kenya is party to the Biological Weapons Convention and submitted Confidence-Building Measures in 2019 and 2020, access to these reports is restricted, and it is unknown whether they contain information on this matter. [7] Vertic's Biological Weapons Convention (BWC) Legislation Database does not list any documents for Kenya specific to legislations or regulations in place that require the screening of synthesized DNA before it is sold in Kenya. [8]

[1] Ministry of Health. [<http://www.health.go.ke>]. Accessed 6 October 2020.

[2] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 6 October 2020.

[3] Ministry of Defence. "About MoD." [[http://www.mod.go.ke/?page\\_id=338](http://www.mod.go.ke/?page_id=338)]. Accessed 6 October 2020.

[4] National Biosafety Authority. "Biosafety Act 2009."

[[http://www.biosafetykenya.go.ke/index.php?option=com\\_content&view=article&id=16&Itemid=121](http://www.biosafetykenya.go.ke/index.php?option=com_content&view=article&id=16&Itemid=121)]. Accessed 6 October 2020.

[5] International Livestock Research Institute. "Import and export of biological material."

[<https://www.ilri.org/importsandexport>] Accessed 6 October 2020.

[6] United Nations. "Confidence Building Measures: Kenya". [<https://bwc-ecbm.unog.ch/state/kenya>]. Accessed 6 October 2020.

[7] Vertic Database. "Kenya". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/k/>]. Accessed 6 October 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: 2**

There is evidence that Kenya can conduct at least five of the ten WHO-defined core tests. The Kenya National Laboratory Network has the capacity to conduct all ten core tests, according to the Joint External Evaluation (JEE) Mission Report of 2017. However, the report does not name the tests and does not mention what the four country-defined core tests are. [1] There is evidence outside of the JEE report on Kenya's ability to conduct these tests. The National Influenza Center (NIC) conducts real-time PCR testing for the influenza virus (flu), the National Tuberculosis Reference Laboratory conducts Acid First Bacilli (AFB) Microscopy tests for TB, the Virology Reference Center conducts the virus culture tests for poliovirus, the National Malaria Reference Laboratory conducts rapid diagnostic testing for Plasmodium SPP, and the National HIV Reference Laboratory conducts serology testing for HIV and the Food Safety and Nutrition Reference Laboratory conducts bacterial culture for Salmonella enteritidis serotype Typhi. [2] Kenya has not publicly defined the country-specific tests according to the National Public Health Laboratory, Ministry of Health and the Ministry of Agriculture, Livestock, Fisheries and Irrigation. [2,3,4]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 7 October 2020.

[2] National Public Health Laboratory. "Home." [<http://nphl.go.ke/>]. Accessed 6 October 2020.

[3] Ministry of Health. [<http://www.health.go.ke/>]. Accessed 7 October 2020.

[4] Ministry of Agriculture, Livestock, Fisheries and Irrigation." [<http://www.kilimo.go.ke/>]. Accessed 7 October 2020.

##### 2.1.1b

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

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

**Current Year Score: 0**

There is no evidence that Kenya 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 including for Covid-19. The Joint External Evaluation (JEE) Mission Report of 2017 makes no mention of testing during public health emergencies and ranks its indicator "National multi-hazard public health emergency preparedness and response plan is developed and implemented" a '1' meaning no capacity. [1] No further evidence was found on the websites of the Ministry of Health, the Ministry of Agriculture, or the National Laboratory. And although the National Public Health Laboratory Strategic plan 2016-2020, states that the National Laboratory "is mandated to perform specialized testing for priority infectious and non-communicable diseases, laboratory-based disease surveillance, and to provide quality assurance for the public health laboratory network", there is no mention of a document or strategy used for conducting testing during public health emergencies. [2,3,4,5] With regards to COVID-19, a post-covid strategy was developed which includes, among other things increasing testing capacity, however the strategy itself was not found through a media search and no evidence was found that suggests it goes beyond just testing. [6]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 6 October 2020.

[3] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 6 October 2020.

[4] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 6 October 2020.

[5] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 6 October 2020.

[6] Xinhuanet. December 2020. "Kenya launches post-COVID-19 recovery strategy for counties". [[http://www.xinhuanet.com/english/2020-12/04/c\\_139564195.htm](http://www.xinhuanet.com/english/2020-12/04/c_139564195.htm)]. Accessed 28 March 2021.

## 2.1.2 Laboratory quality systems

### 2.1.2a

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

Yes = 1, No = 0

**Current Year Score: 1**

There is evidence that some of the reference laboratories for Kenya are accredited. According to the Joint External Evaluation report of 2017, two of the reference laboratories under the National Public Health Laboratory Service (NPHLS), the National HIV Reference Laboratory and the National Microbiology Reference Laboratory, are accredited by the Kenya Accreditation Service for ISO 15189, having met the required international standards for medical laboratories quality and competence. [1] On June 2018 the National Tuberculosis Reference Laboratory (NTRL) under NPHLS received ISO 15189:2012 accreditation by Kenya National Accreditation Systems (KENAS) as equally having met the required international standards for medical laboratories quality and competence. [2] Since then, several other laboratories have been accredited. [3] No further evidence was found on the Ministry of Health or the Ministry of Agriculture websites or the National Laboratory. [4,5,6,7]

- [1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.
- [2] National Microbiology Reference Laboratory. "NPHLS Quarterly Bulletin-3rd Edition." [<http://www.nphls.or.ke/wp-content/uploads/2018/08/NPHL-Issue-3.pdf>]. Accessed 6 October 2020.
- [3] SLMTA. "Laboratories that have achieved accreditation". [<https://slmta.org/accredited-labs/>]. Accessed 6 October 2020.
- [4] Ministry of Health. [<http://www.health.go.ke>]. Accessed 6 October 2020.
- [5] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 6 October 2020.
- [6] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 6 October 2020.
- [7] Kenya Medical Research Institute. [<https://www.kemri.org/>]. Accessed 6 October 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: 1**

There is evidence that at least some of Kenya's reference laboratories participate in external quality assessment. Although there is no mention of external quality assessments by the Kenya National Public Health Laboratory Service (NPHLS) or in the Joint External Evaluation Mission Report of 2017, there is evidence that the National HIV Reference Laboratory, the National Microbiology Reference Laboratory and the National Tuberculosis Reference Laboratory, among several others are ISO15189 accredited. [1,2,3,4] ISO 15189 certification requires external quality assurance reviews. [5] No further evidence was found on the Ministry of Health or the Ministry of Agriculture websites or the National Laboratory. [6,7,8,9]

- [1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 6 October 2020.
- [2] National Public Health Laboratory. "Home." [<http://nphl.go.ke/>]. Accessed 6 October 2020.
- [3] National Microbiology Reference Laboratory. "NPHLS Quarterly Bulletin-3rd Edition." [<http://www.nphls.or.ke/wp-content/uploads/2018/08/NPHL-Issue-3.pdf>]. Accessed 6 October 2020.
- [4] SLMTA. "Laboratories that have achieved accreditation". [<https://slmta.org/accredited-labs/>]. Accessed 6 October 2020.
- [5] World Health Organisation. "Content Sheet 10-1: Overview of External Quality Assessment (EQA)". [[http://www.who.int/ihr/training/laboratory\\_quality/10\\_b\\_eqa\\_contents.pdf](http://www.who.int/ihr/training/laboratory_quality/10_b_eqa_contents.pdf)]. Accessed 6 October 2020.
- [6] Ministry of Health. [<http://www.health.go.ke>]. Accessed 6 October 2020.
- [7] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 6 October 2020.
- [8] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 6 October 2020.
- [9] Kenya Medical Research Institute. [<https://www.kemri.org/>]. Accessed 6 October 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 a specimen transport system in Kenya, however there is no evidence that it functions nationwide. The system only has the capacity to transport specimens to national laboratories from 50% or fewer of intermediate level/districts for testing, according to the Joint External Evaluation (JEE) Mission Report of 2017. There is also an integrated Ministry of Health and partner-supported courier services for specimen referral. [1] There is no publicly available evidence indicating that the system has improved since the publication of the JEE Mission Report of 2017, according to the Ministry of Health, the Ministry of Agriculture, Livestock, Fisheries and Irrigation and the National Public Health Laboratory. [2,3,4] In order to strengthen and improve the transport system of specimens, Kenya has developed the Kenya health sector referral strategy (2014-2018). The objective of this strategy is to create a functioning integrated laboratory referral network (ILRN), develop ILRN tools, prepare laboratory tests menu for ILRN, contract courier services for transportation and train personnel and contracted services on biosafety and equipment maintenance. [5] The National Public Health Laboratory (NPHL) strategic plan (2016-2020) also describes the laboratory capacity requirements that Kenya must comply with in terms of the International Health Regulations (IHR) and includes "specimen collection and transportation" as part of the six pillars mentioned. However, only the description for the National Microbiology Reference Laboratory includes details about its specimen transportation system and states that there is a delay in turnaround time mainly because there is a delay in the transmission of test results to clinicians exacerbated by delay in specimen transportation. No other mention to transportation is made for other laboratories in the rest of the plan. [6] No other evidence is available on meeting the IHR specimen transportation pillar.

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 7 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke/>]. Accessed 7 October 2020.

[3] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke/>]. Accessed 7 October 2020.

[4] National Public Health Laboratory. "Home." [<http://nphl.go.ke/>]. Accessed 7 October 2020.

[5] Ministry of Health. "Kenya Health Sector Strategy (2014-2018)". [<https://www.measureevaluation.org/pima/referral-systems/referral-strategy/>]. Accessed 7 October 2020.

[6] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 6 October 2020.

## 2.2.2 Laboratory cooperation and coordination

### 2.2.2a

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

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

**Current Year Score: 0**

There is no evidence of a plan 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. The Joint External Evaluation (JEE) Mission Report of 2017 states that "a system of licensing of health laboratories that includes conformity to a national quality standard exists, but it is voluntary or is not a requirement for all laboratories". There is no other mention of licensing of laboratories. [1] The Kenya Medical Laboratory Technicians & Technologists Board (KMLTTB), which registers and licenses laboratories in Kenya provides detailed description on the procedure to follow to register a laboratory facility, however there are no procedures or any mention of rapid authorization during a public health emergency. [2] No further evidence was found on the websites of the Ministry of Health, the Ministry of Agriculture, the National Laboratory, or its National Public Health Laboratory Strategic plan 2016-2020. [3,4,5,6]

- [1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 7 October 2020.
- [2] Kenya Medical Laboratory Technicians & Technologists Board (KMLTTB). "Laboratories". [<http://kmlttb.org/laboratories/>]. Accessed 8 October 2020.
- [3] Ministry of Health. [<http://www.health.go.ke>]. Accessed 6 October 2020.
- [4] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 6 October 2020.
- [5] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 6 October 2020.
- [6] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 6 October 2020.

## 2.3 REAL-TIME SURVEILLANCE AND REPORTING

### 2.3.1 Indicator and event-based surveillance and reporting systems

#### 2.3.1a

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

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

**Current Year Score: 2**

Kenya is conducting ongoing event-based surveillance (EBS) and analysis for infectious disease. There is evidence that the Emergency Operations Centre is conducting event-based surveillance. According to the Joint External Evaluation Mission Report of 2017, one of the functions of the Emergency Operations Center (launched by the Ministry of Health in 2016) is to conduct event-based surveillance. The EOC collects information "through indirect sources such as media outlets, social media, and direct sources such as rumour reporting (telephone hotlines, SMS and web-based reporting (mSOS). Event-based surveillance reports are generated on a daily basis and submitted to the Disease Surveillance and Response Unit as well as other interested parties". The JEE additionally notes that the Ministry of Agriculture, Livestock and Fisheries conducts EBS, collecting "information from a variety of sources including veterinary service providers, livestock staff, farmers and laboratories". The ministry uses an email-based platform and a mobile phone app for this EBS. Although the JEE states that the EBS system is "not yet well established", it also states that analysis occurs daily and improvements are ongoing. [1] The Centers for Disease Control and Prevention (CDC) also published a study conducted between 2016 and 2020 on ways to improve detection and response to respiratory pathogens and discusses Kenya's event-based surveillance capacity, explaining the system with the EOC. It also describes the EBS capacity building and training that was conducted to further strengthen community and health worker ability to conduct EBS activities. [2] The EOC does not seem to have an online presence, and there is no further evidence available on the websites of the Ministry of Health, Agriculture, or the National Public Health Laboratory, or its accompanying strategic plan. [3,4,5,6]

- [1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 7 October 2020.
- [2] Idubor OI, Kobayashi M, Ndegwa L, et al. April 2020. "Improving Detection and Response to Respiratory Events — Kenya, April 2016-April 2020". [[https://www.cdc.gov/mmwr/volumes/69/wr/mm6918a2.htm?s\\_cid=mm6918a2\\_x#suggestedcitation](https://www.cdc.gov/mmwr/volumes/69/wr/mm6918a2.htm?s_cid=mm6918a2_x#suggestedcitation)]. Accessed 7 October 2020.
- [3] Ministry of Health. [<http://www.health.go.ke>]. Accessed 7 October 2020.
- [4] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 7 October 2020.

[5] National Public Health Laboratory. "Home." [<http://nphl.go.ke/>]. Accessed 7 October 2020.

[6] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 6 October 2020.

### 2.3.1b

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

Yes = 1, No = 0

**Current Year Score: 1**

There is evidence that Kenya has reported a potential public health emergency of international concern (PHEIC) to the World Health Organisation (WHO) in the past two years.

Rift Valley fever (RVF) has been reported in Kenya in humans in Isiolo and Mandera counties and in animals in Isiolo, Mandera, Murang'a and Garissa counties. As of 4 February 2021, there were a total of 32 human cases (14 confirmed positive), and 11 deaths (CFR 34 %). The event is believed to have started on 19 November 2020, with deaths among herders presenting with symptoms of fever, headache, general malaise with or without nausea, epistaxis/hematemesis, and abdominal pain/diarrhoea reported to the County Department of Health in Isiolo. The first human case was reported in late November 2020 from Sericho ward in Garbatulla Subcounty. Deaths have been reported in Gafarsa and Erisaboru within Garbatulla subcounty as well Korbesa in Merti subcounty. On 16 December, RVF was confirmed by PCR at the National Virology Laboratory (NVL), Kenya Medical Research Institute (KEMRI). As of 4 February 2021, a total of 22 human cases had been reported (12 confirmed positive), and 10 deaths (three confirmed positive). Most cases were from Garbatulla subcounty, with the majority being herders, male, and aged 13 to 70 years old. [1]

The last PHEIC was reported to the WHO in June 2018, when the Ministry of Health confirmed and reported an outbreak of Rift Valley Fever. [2] Previous to this, and from December 2017 to February 2018, the Ministry of Health reported 453 cases, including 32 laboratory-confirmed cases and 421 suspected cases, of Chikungunya from Mombasa county. [3] With regards to COVID-19, although Kenya did not report the pandemic to the WHO, it did activate the national emergency response committee on Coronavirus with an executive order on 28 February 2020 and also "declared the Coronavirus (COVID-19) a Public Health Emergency of International Concern". [4,5] On March 13, instead of declaring a state of emergency, like many other countries in the region, the Kenyan president activated the Public Order Act, which put into place "measures aimed at curbing the spread of the coronavirus, such as requiring face masks to be worn at all times, vehicles to run at half capacity, and the closure of religious centers, schools, and 'non-essential' businesses". Travel restrictions were also put into place at this time, however no evidence was found that Kenya declared a state of emergency in response. [6,7]

[1] World Health Organisation (WHO). "Disease Outbreak News - Rift Valley fever – Kenya" 12 February 2021. [<https://www.who.int/csr/don/12-february-2021-rift-valley-fever-kenya/en/>]. Accessed 3 June 2021.

[2] World Health Organisation (WHO). "Rift Valley fever - Kenya." [<http://www.who.int/csr/don/18-june-2018-rift-valley-fever-kenya/en/>]. Accessed 7 October 2020.

[3] World Health Organisation (WHO). "Chikungunya - Mombasa, Kenya." [<http://www.who.int/csr/don/27-february-2018-chikungunya-kenya/en/>]. Accessed 7 October 2020.

[4] Good Governance Africa (GGA). June 2020. "COVID-19: In Kenya, confusion and corruption while politicians flout lockdowns". [<https://gga.org/tag/national-emergency-response-committee-on-coronavirus/>]. Accessed 12 October 2020.

[5] Executive Office of the President State House. February 2020. "National Emergency Response Committee on Coronavirus". [[https://www.health.go.ke/wp-content/uploads/2020/06/Executive-Order-No-2-of-2020\\_National-Emergency-Response-Committee-on-Coronavirus-28.2.20.pdf](https://www.health.go.ke/wp-content/uploads/2020/06/Executive-Order-No-2-of-2020_National-Emergency-Response-Committee-on-Coronavirus-28.2.20.pdf)]. Accessed 12 October 2020.

[6] The New York Review of Books. July 2020. "Kenya Turns Its Covid-19 Crisis into a Human Rights Emergency".  
[<https://www.nybooks.com/daily/2020/07/22/kenya-turns-its-covid-19-crisis-into-a-human-rights-emergency/>]. Accessed 7 October 2020.

[7] Strathmore University. "Should the Kenyan Government Declare a State of Emergency?".  
[<https://www.strathmore.edu/news/should-the-kenyan-government-declare-a-state-of-emergency/>]. Accessed 7 October 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: 1**

The Kenyan government operates an electronic reporting surveillance system at both the national and the sub-national level. According to the Joint External Evaluation Mission Report of 2017, "web-based indicator surveillance system for human health is in place and used by all sub-counties as well as level 4, 5 and 6 health facilities" although "paper-based reporting is still used at smaller local health facilities and sub-county focal points". [1] Local health facilities provide weekly surveillance summary reports in paper format or via SMS. This data is then categorised and entered by facility into an electronic web-based system (DHIS 2) which can be accessed at the national or sub-county level. [1,2,3,4]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya".  
[<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>] Accessed 7 October 2020.

[2] Ministry of Health Division of Diseases Surveillance and Response. 2013. "Report on the Baseline Assessment of Capacity for Monitoring and Evaluation." [[https://www.measureevaluation.org/pima/baseline-assessments/report-on-the-baseline-assessment-of-capacity-for-monitoring-and-evaluation/at\\_download/file](https://www.measureevaluation.org/pima/baseline-assessments/report-on-the-baseline-assessment-of-capacity-for-monitoring-and-evaluation/at_download/file)]. Accessed 7 October 2020.

[3] Njeru, I., Kareko, D., Kisangau, N. et al. July 2020. "Use of technology for public health surveillance reporting: opportunities, challenges and lessons learnt from Kenya".

[<https://bmcpublihealth.biomedcentral.com/articles/10.1186/s12889-020-09222-2#citeas>]. Accessed 7 October 2020.

[4] Idubor OI, Kobayashi M, Ndegwa L, et al. April 2020. "Improving Detection and Response to Respiratory Events — Kenya, April 2016-April 2020".

[[https://www.cdc.gov/mmwr/volumes/69/wr/mm6918a2.htm?s\\_cid=mm6918a2\\_x#suggestedcitation](https://www.cdc.gov/mmwr/volumes/69/wr/mm6918a2.htm?s_cid=mm6918a2_x#suggestedcitation)]. Accessed 7 October 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 indicating that the system does collect ongoing/real time laboratory data according to the Ministry of Health, the Kenyan National Public Health Institute and the National Public Health Laboratory. [1,2,3] Laboratory data is not incorporated into the current reporting systems in either the human or animal health sectors according to the Joint External Evaluation Mission Report of 2017. The report states that "Human health, at this time, only enters malaria laboratory data in DHIS 2 on a weekly basis. Other diseases collect laboratory data individually and report on a weekly basis, but this is not fed into DHIS 2. Analysed laboratory data are shared with various stakeholders on a weekly basis

and raw data for specific diseases (such as acute flaccid paralysis and measles) are shared with WHO." [4] A pilot study was conducted by the Centers for Disease Control and Prevention (CDC) from 2016-2020 to look at ways of improving detection and response to respiratory pathogens and tested event-based real-time surveillance systems, including mobile phone-based electronic reporting system as well as the national EOC hotline system. "Both systems were integrated into the EOC dashboard at the county and national levels for real-time reporting and response coordination", and despite positive outcomes of the study, no evidence was found that these reporting systems have been integrated beyond the respiratory pathogenic pilot study. [5]

[1] Ministry of Health. [<http://www.health.go.ke>]. Accessed 6 October 2020.

[2] International Association of National Public Health Institutes. "Kenya" [<http://www.ianphi.org/membercountries/memberinformation/kenya.html>]. Accessed 7 October 2020.

[3] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 6 October 2020.

[4] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>] Accessed 7 October 2020.

[5] Idubor OI, Kobayashi M, Ndegwa L, et al. April 2020. "Improving Detection and Response to Respiratory Events — Kenya, April 2016-April 2020".

[[https://www.cdc.gov/mmwr/volumes/69/wr/mm6918a2.htm?s\\_cid=mm6918a2\\_x#suggestedcitation](https://www.cdc.gov/mmwr/volumes/69/wr/mm6918a2.htm?s_cid=mm6918a2_x#suggestedcitation)]. Accessed 7 October 2020.

## 2.4 SURVEILLANCE DATA ACCESSIBILITY AND TRANSPARENCY

### 2.4.1 Coverage and use of electronic health records

#### 2.4.1a

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

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

**Current Year Score: 0**

There is evidence to demonstrate that electronic health records (EHR) are in use in Kenya. The Kenya National eHealth Policy 2016-2030 notes that there are several challenges limiting eHealth uptake in the country including poor infrastructure, low literacy, inadequate technical expertise, unreliable power supply and limited funding. [1] Kenya has adopted the use of EHR using the Open Medical Record Systems (OpenMRS), a platform and an application which enables individuals with no programming knowledge to design a customized medical records system. [2,3] Studies have reported that the implementation of an open source electronic health record system can be complicated to put in place, despite the presumed benefits of such a system. [2,4] However, despite evidence that EHR are used to some degree, there is no evidence that the EHR has been widely rolled out. There is no evidence via the Ministry of Health or the National Public Health Laboratory of common adoption of EHR. [5,6]

[1] The Kenya National eHealth Policy 2016-2030. [<https://www.medbox.org/kenya-nation-e-health-policy-2016-2030/download.pdf>]. Accessed 7 October 2020.

[2] Muinga, N., Magare, S., Monda, J., Kamau, O., Houston, S., Fraser, H., Powell, J., English, M., & Paton, C. June 2018. "Implementing an Open Source Electronic Health Record System in Kenyan Health Care Facilities: Case Study".

[<https://doi.org/10.2196/medinform.8403>][<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5932328/>]. Accessed 7 October 2020.

[3] OpenMRS. "About" [<https://openmrs.org/about/>]. Accessed 7 October 2020.

[4] Pathways for Prosperity Commission. September 2018. "Electronic Health Records: A case study from Kenya". [[https://pathwayscommission.bsg.ox.ac.uk/sites/default/files/2019-09/electronic\\_health\\_records.pdf](https://pathwayscommission.bsg.ox.ac.uk/sites/default/files/2019-09/electronic_health_records.pdf)]. Accessed 7 October 2020.

[5] Ministry of Health. [<http://www.health.go.ke>]. Accessed 7 October 2020.

[6] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 6 October 2020.

### 2.4.1b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that the national public health system in Kenya has access to Electronic Health Records (EHR) of individuals in the country. However, with the proliferation of EHR systems, the government is looking to collate individual biometric data to enable access of electronic medical records from over 7,000 health centers country wide, yet "significant work is [still] required to ensure interoperability of systems within hospitals and with other government services". [1,2] The Kenya National eHealth Policy 2016-2030 provides for networked care and professional practice with guidelines towards managing data without compromising patient's privacy and safety. [3] The Ministry of Health, in the roll out of electronic medical records, has envisioned that the system would have a health information exchange (HIE) component to enable interoperability and sharing of data between the various modules of the EHRs, within the hospital, between hospitals in the county, and into other health information repositories such as the national health information system - Demographic Health Information System (DHIS)2 and the human resources information system. The EHR would collect both financial and human resources information as well as electronic medical records from pharmacies and laboratories as well. [4] Some of the challenges that Kenya still faces in terms of full implementation and use of an interoperable system include "clinical adoption, system complexity and usability challenges". [5] The National Public Health Laboratory Strategic Plan 2016-2020 states that a mandate of the National Public Health Laboratory includes developing a "comprehensive laboratory information management system to collect, compile and process data from public and private laboratories; advance technology and infrastructure to enable electronic reporting of laboratory test data to health information systems", however no evidence was found of progress reports to determine how far along the mandate has been achieved. [6] There is no further evidence via the Ministry of Health or the National Public Health Laboratory. [7,8]

[1] Capital Business. "Telkom Kenya to invest Sh3b in Big Four related infrastructure." June 12, 2018.

[<https://www.capitalfm.co.ke/business/2018/06/telkom-kenya-to-invest-sh3b-in-big-four-related-infrastructure/>] Accessed 10 October 2020.

[2] Muinga, N., Magare, S., Monda, J. et al. January 2020. "Digital health Systems in Kenyan Public Hospitals: a mixed-methods survey". [<https://bmcmmedinformdecismak.biomedcentral.com/articles/10.1186/s12911-019-1005-7#citeas>]. Accessed 10 October 2020.

[3] The Kenya National eHealth Policy 2016-2030. [<https://www.medbox.org/kenya-nation-e-health-policy-2016-2030/download.pdf>] Accessed 10 October 2020.

[4] Muinga, N., Magare, S., Monda, J., Kamau, O., Houston, S., Fraser, H., Powell, J., English, M., & Paton, C. June 2018. "Implementing an Open Source Electronic Health Record System in Kenyan Health Care Facilities: Case Study". [<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5932328/>]. Accessed 10 October 2020.

[5] Pathways for Prosperity Commission. September 2018. "Electronic Health Records: A case study from Kenya". [[https://pathwayscommission.bsg.ox.ac.uk/sites/default/files/2019-09/electronic\\_health\\_records.pdf](https://pathwayscommission.bsg.ox.ac.uk/sites/default/files/2019-09/electronic_health_records.pdf)]. Accessed 10 October 2020.

[6] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 10 October 2020.

[7] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.

[8] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 10 October 2020.

### 2.4.1c

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

Yes = 1 , No = 0

**Current Year Score: 1**

Kenya has data standards to ensure that data is comparable for medical records. According to the Kenya eHealth Policy 2016-2030 and the 2010 Standards and Guidelines for Electronic Medical Record Systems in Kenya, there are guidelines to ensure the interoperability, security, quality and meaningful use of information communication in healthcare. Specifically, the Standards and Guidelines for EMR Systems in Kenya recommends the use of HL7 as "a flexible standard by which various health care systems can communicate with each other." The document further outlines in Section 2 standards to ensure data comparability. [1,2] In addition, the Revised Guidelines for mHealth Systems 2017 were created to enhance the efficiency and effectiveness of delivering mobile health services in Kenya. The Revised Guidelines for mHealth Systems 2017 specifically refer to data standards in place to support the Health Information Exchange, enabling health care professionals and patients to easily share medical information. [3]

[1] The Kenya National eHealth Policy 2016-2030. [<https://www.medbox.org/kenya-nation-e-health-policy-2016-2030/download.pdf>]. Accessed 10 October 2020.

[2] Ministry of Public Health. 2010. "Standards and Guidelines for Electronic Medical Record Systems in Kenya." [[https://www.ghdonline.org/uploads/Standards\\_and\\_Guidelines\\_for\\_Electronic\\_Medical\\_Record\\_Systems.pdf](https://www.ghdonline.org/uploads/Standards_and_Guidelines_for_Electronic_Medical_Record_Systems.pdf)]. Accessed 10 October 2020.

[3] Kenya Standards and Guidelines for mHealth Systems. 2017. [<https://mhealthkenya.org/wp-content/uploads/2017/06/Kenya-Standards-and-Guidelines-for-mHealth-Systems-April-2017.pdf>]. Accessed 10 October 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 evidence of established mechanisms responsible for animal, human, and wildlife surveillance to share data (e.g., through mosquito surveillance, brucellosis surveillance) according to the Ministry of Health, the Ministry of Agriculture, Livestock, Fisheries and Irrigation, the Joint External Evaluation (JEE) Mission Report of 2017 and the Zoonotic Disease Unit (ZDU). [1,2,3,4] The ZDU published the "National Strategic Plan for the Implementation of One Health In Kenya (2012-2017)", however the actual strategy was not found through an online search. [5] A 2019 study looking at the successes and challenges of the implementation of the One Health Approach in Kenya, discusses benefits of ZDU as "providing an institutional framework to highlight the public health importance of endemic and epidemic zoonoses" and lists gaps including sustainability concerns, competing priorities and funding deficiencies. The study, however, makes no mention of mechanisms responsible for sharing animal, human, or wildlife surveillance data. [6] According to the JEE Mission Report, no formal

infrastructure exists for sharing data across human health and animal health sectors. [1] There is a formal One Health coordinating mechanism through the ZDU established in 2012 through an MOU between the Ministry of Health and the Ministry of Agriculture. [7] Athman Mwatondo et al., in their 2017 study on "Catalysts for implementation of one Health in Kenya", highlight evidence of a forum for communication and data sharing by institutionalizing one health through the ZDU. [8] However, there is no specific mention of any particular mechanism responsible for animal, human, and wildlife surveillance to share data via the study or via the JEE Mission Report, the Ministry of Health, the Ministry of Agriculture, Livestock, Fisheries and Irrigation, the Zoonotic Disease Unit (ZDU) or the Ministry of Environment and Forestry. [1,2,3,4,5,7,8]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 10 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.

[3] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 10 October 2020.

[4] Republic of Kenya Zoonotic Disease Unit (ZDU). 2018. "About ZDU". [<http://zdukenya.org/about-zdu/>]. Accessed 10 October 2020.

[5] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 10 October 2020.

[6] Munyua, P.M., Njenga, M.K., Osoro, E.M. et al. May 2019. "Successes and challenges of the One Health approach in Kenya over the last decade". [<https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-019-6772-7#citeas>]. Accessed 10 October 2020.

[7] Athman Mwatondo et. al. 2017. "Catalysts for implementation of one Health in Kenya." [<http://www.panafrican-med-journal.com/content/series/28/1/1/full/>]. Accessed 10 October 2020.

[8] Ministry of Environment and Forestry. [<http://www.environment.go.ke>]. Accessed 10 October 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**

The Kenyan government makes de-identified health surveillance data publicly available on government websites in the case of a major disease outbreak but does not make this data available outside of health emergency situation. The Director of Medical Services at the Ministry of Health has published press releases on its website at irregular intervals and less frequent than on a weekly basis. The press releases include information on the type of disease, location, date of the outbreak, number of cases reported as well as steps taken to control the outbreak. [1] With regards to COVID-19, the Ministry of Health website has a COVID-19-specific section that provides daily, weekly, and total updates on the number of new cases, deaths, and total confirmed cases for Kenya and globally. COVID-19 press releases are also shared on the front page of the website, and so are protocols, campaigns posters, guidelines, and situation reports. [2] No further evidence is available on the websites of the Ministry of Health or the National Public Health Laboratory, and there is no mention of available de-identified health surveillance data in the National Public Health Laboratory Strategic Plan 2016-2020. [2,3,4]

[1] Ministry of Health. "Press release on disease outbreak situation in Kenya as at 11th June 2018." 12 June 2018.

[<http://www.health.go.ke/?p=4325>]. Accessed 10 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.

[3] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 10 October 2020.

[4] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 10 October 2020.

### 2.4.3b

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

Yes = 1 , No = 0

**Current Year Score: 1**

Kenya does make de-identified health surveillance data on COVID-19 publicly available via daily reports (or other format) on the Ministry of Health website. It's website has a COVID-19-specific section, that provides daily, weekly, and total updates on the number of new cases, deaths, and total confirmed cases for Kenya and globally. COVID-19 press releases are also shared on the front page of the website, and so are links to protocols, campaign posters, guidelines, and situation reports. [1] No further evidence is available on the websites of the Ministry of Health or the National Public Health Laboratory, and there is no mention of available de-identified health surveillance data on COVID-19 in the National Public Health Laboratory Strategic Plan 2016-2020. [1,2,3]

[1] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.

[2] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 10 October 2020.

[3] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 10 October 2020.

## 2.4.4 Ethical considerations during surveillance

### 2.4.4a

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

Yes = 1 , No = 0

**Current Year Score: 1**

Kenya has laws in place that specifically safeguard the confidentiality of identifiable information of individuals generated through health surveillance activities. The Kenya National eHealth Policy 2016-2030 identifies several laws that safeguard the confidentiality of identifiable information of individuals generated through health surveillance activities including: Kenya Information and Communications Act, 2015; the Health Bill, 2016; Open Data Protection Bill, 2013; Cyber Security and Protection Bill, 2016; and the Access to Information Act, 2016 all of which provide a legal framework and guidance for safeguarding the confidentiality of individual health information generated through health surveillance activities. [1,2,3,4,5,6] The Data Protection Bill 2018 passed into law as the Data Protection Act in November 2019, gives effect to Article 31(c) of the Constitution, which outlines the right of every person not to have information relating to their family or private affairs unnecessarily required or revealed and Article 31(d), the right not to have the privacy of their communications infringed. It also regulates the collection, retrieval, processing, storing, use and disclosure of personal data. [7,8,9,10] No further evidence is available on the websites of the Ministry of Health or the National Public Health Laboratory, and there is no mention of laws in place that specifically safeguard the confidentiality of identifiable information of individuals generated through health surveillance activities in the National Public Health Laboratory Strategic Plan 2016-2020. [11,12,13]

- [1] The Kenya National eHealth Policy 2016-2030. [<https://www.medbox.org/kenya-nation-e-health-policy-2016-2030/download.pdf>]. Accessed 10 October 2020.
- [2] Kenya Information and Communications Act. 2015. [[http://kfcg.co.ke/wp-content/uploads/2016/07/Kenya\\_Information\\_and\\_Communications\\_Act.pdf](http://kfcg.co.ke/wp-content/uploads/2016/07/Kenya_Information_and_Communications_Act.pdf)]. Accessed 10 October 2020.
- [3] The Health Bill. 2016. [[http://publications.universalhealth2030.org/uploads/the\\_health\\_bill\\_2016.pdf](http://publications.universalhealth2030.org/uploads/the_health_bill_2016.pdf)]. Accessed 10 October 2020.
- [4] Kenya Open Data Protection Bill. 2013. [<http://icta.go.ke/data-protection-bill-2012/>]. Accessed 10 October 2020.
- [5] The Cyber Security and Protection Bill. 2016. [[http://kenyalaw.org/kl/fileadmin/pdfdownloads/bills/2016/CyberSecurityandProtectionBill\\_2016.pdf](http://kenyalaw.org/kl/fileadmin/pdfdownloads/bills/2016/CyberSecurityandProtectionBill_2016.pdf)]. Accessed 10 October 2020.
- [6] Access to Information Act. 2016. [<http://kenyalaw.org/lex/actview.xql?actid=No.%2031%20of%202016>]. Accessed 10 October 2020.
- [7] The Data Protection Bill. 2018. [[http://www.parliament.go.ke/sites/default/files/2017-05/Data\\_Protection\\_Bill\\_2018.pdf](http://www.parliament.go.ke/sites/default/files/2017-05/Data_Protection_Bill_2018.pdf)]. Accessed 10 October 2020.
- [8] One Trust Data Guidance. May 2019. "Kenya: Final version of Protection Bill includes 'key changes'". [<https://corporate.dataguidance.com/final-version-of-data-protection-bill-includes-key-changes/>]. Accessed 10 October 2020.
- [9] The Gazette Supplement. November 2019. "The Data Protection Act, 2019". [[http://kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/2019/TheDataProtectionAct\\_\\_No24of2019.pdf](http://kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/2019/TheDataProtectionAct__No24of2019.pdf)]. Accessed 10 October 2020.
- [10] Reuters. November 2019. "Kenya passes data protection law crucial for tech investments". [<https://www.reuters.com/article/us-kenya-dataprotection/kenya-passes-data-protection-law-crucial-for-tech-investments-idUSKBN1XI1O1>]. Accessed 10 October 2020.
- [11] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.
- [12] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 10 October 2020.
- [13] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 10 October 2020.

#### 2.4.4b

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

Yes = 1 , No = 0

**Current Year Score: 1**

The Kenyan government has regulations safeguarding the confidentiality of identifiable health information for individuals that include the mention of protection from cyber attacks, according to the Kenya National eHealth Policy 2016-2030. [1] For example, the Computer Misuse and Cybercrimes Act, 2018, which also prohibits the sharing of information relating the health status of another person without prior written consent of that person, specifies that "A person who intentionally and without authorisation does any act which causes an unauthorised interference, to a computer system, program or data, commits an offence and is liable on conviction, to a fine not exceeding ten million shillings or to imprisonment for a term not exceeding five years, or to both." [2] No further evidence is available on the websites of the Ministry of Health or the National Public Health Laboratory, and there is no mention of regulations safeguarding the confidentiality of identifiable health information for individuals in the National Public Health Laboratory Strategic Plan 2016-2020. [3,4,5]

- [1] The Kenya National eHealth Policy 2016-2030. [<https://www.medbox.org/kenya-nation-e-health-policy-2016-2030/download.pdf>]. Accessed 10 October 2020.
- [2] The Computer Misuse and Cybercrimes Act. 2018. [<http://kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/ComputerMisuseandCybercrimesActNo5of2018.pdf>] Accessed 10 October 2020.
- [3] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.
- [4] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 10 October 2020.
- [5] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 10 October 2020.

## 2.4.5 International data sharing

### 2.4.5a

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

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

**Current Year Score: 2**

There is evidence that Kenya has made a commitment via public statements, legislation and/or a cooperative agreement to share surveillance data during a public health emergency with other countries in the region, according to the Joint External Evaluation Mission Report of 2017. [1] Kenya participates in the African Public Health Laboratories Network (APHLN), which provides lab assistance and information sharing during public health emergencies. [2] Additionally, Kenya also participates in the East African Community (EAC) whereby each member state, Burundi, Kenya, Rwanda, South Sudan, Tanzania and Uganda are committed to sharing surveillance data both as a preventative measure and in the case of a public health emergency. [3,4]

There is also evidence of an information sharing agreement between Somalia and Kenya in a Joint Cross Border Health Coordination Meeting Report from 4 to 6 April 2018. The document says the two countries, "established coordination and information sharing AFP (acute flaccid paralysis) surveillance data and other diseases conditions/events among border district/ health facilities." This includes active public health emergencies and ongoing surveillance. [5]

Finally, Kenya is also committed to sharing surveillance data through the African Field Epidemiology Network (AFENET), though not specifically during a public health emergency. [6] No further evidence is available on the websites of the Ministry of Health or the National Public Health Laboratory, and there is no mention of sharing surveillance data during a public health emergency with other countries in the region via the National Public Health Laboratory Strategic Plan 2016-2020. [7,8,9]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 10 October 2020.

[2] African Public Health Laboratories Network (APHLN). 2018. "What we do." [<http://www.aslm.org/what-we-do/aphln/>]. Accessed 10 October 2020.

[3] World Health Organization. "South Sudan, Uganda, and Kenya strengthen implementation of cross-border disease surveillance and outbreak response in East Africa" [<https://afro.who.int/news/south-sudan-uganda-and-kenya-strengthen-implementation-cross-border-disease-surveillance-and>]. Accessed 10 October 2020.

[4] Ope M., Sonoia S., Kariuki J., E.G Mboera L., N.V Gandham R., Schneidman M., & Kimura M. January 2017. "Regional Initiatives in Support of Surveillance in East Africa: The East Africa Integrated Disease Surveillance Network (EAIDSNet)

Experience". [<https://www.tandfonline.com/doi/citedby/10.3402/ehtj.v6i0.19948?scroll=top&needAccess=true>]. Accessed 10 October 2020.

[5] CORE GROUP Polio Project. 4-6 April 2018. "Kenya and Somalia Joint Cross Border Health Coordination Meeting Report." [<https://coregroup.org/wp-content/uploads/2018/06/Wajir-Joint-Cross-Border-HC-Meeting-Report.pdf>]. Accessed 19th April 2021.

[6] African Field Epidemiology Network (AFENET). "About us." [<http://www.afenet.net/>]. Accessed 10 October 2020.

[7] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.

[8] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 10 October 2020.

[9] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 10 October 2020.

## 2.5 CASE-BASED INVESTIGATION

### 2.5.1 Case investigation and contact tracing

#### 2.5.1a

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

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

**Current Year Score: 1**

There is some evidence to show that Kenya has a system in place to prepare 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.

Contact tracing has been a widely used approach to contain the COVID-19 pandemic - it has been used to identify individuals and health care facilities that those who have contracted the virus have been in touch with. [1] When the first case of COVID-19 was reported, Kenya was able to shift into response mode with the help of the World Health Organization (WHO) and the Field Epidemiology Lab Training Program (FELTP), who supported the country with putting into place Rapid Response Teams, setting up a hotline, and establishing isolation and treatment units at the Kenyatta National Referral Hospital. Part of the support that the WHO also provided was to scale up contact tracing capabilities. [2,3]

In May 2020, a Kenyan university announced their development of a "computer-based contact tracing case management application" to help with the COVID-19 pandemic and meant to identify "who, where, and when someone gets into contact with a COVID-19 patient". Victoria Ngumi, vice chancellor of Jomo Kenyatta University of Agriculture and Technology (JKUAT) said that the application includes triaging and case management functions that are primed to solve the cumbersome nature of manual records in most hospitals across the country. She said that the university has developed innovations based on a challenge by the government to research institutions and individual innovators to provide solutions aimed at mitigating this dreaded disease.[4]

Contact tracing was also used prior to the COVID-19 pandemic in cases such as during cholera outbreaks in 2017 and in 2019 to identify where people were eating, as well as which households and workplaces they were frequenting. [5,6] No other evidence was available on websites of the Ministry of Health, in the Joint External Evaluation (JEE) of Kenya 2017, or the National Public Health Laboratory or its respective strategy to suggest that Kenya has a system in place to prepare 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. [7,8,9,10]

- [1] Ministry of Health. April 2020. "Govt extends quarantine period for 14 days Nairobi, Saturday April 4, 2020". [<https://www.health.go.ke/govt-extends-quarantine-period-for-14-days-nairobi-saturday-april-4-2020/>]. Accessed 12 October 2020.
- [2] World Health Organization (WHO). March 2020. "Scaling up contact tracing to combat COVID-19 in Kenya". [<https://www.who.int/news-room/feature-stories/detail/scaling-up-contract-tracing-to-combat-covid-19-in-kenya>]. Accessed 12 October 2020.
- [3] Centers for Disease Control and Prevention (CDC). "Kenya: FELTP Activated for Emergency Response". [<https://www.cdc.gov/globalhealth/healthprotection/fetp-40th-anniversary/stories/kenya-feltp-response.html>]. Accessed 12 October 2020.
- [4] XINHUANET. May 2020. "Kenya University launches contact tracing app, ventilators to help address COVID-19 pandemic". [[http://www.xinhuanet.com/english/2020-05/07/c\\_139035989.htm](http://www.xinhuanet.com/english/2020-05/07/c_139035989.htm)]. Accessed 12 October 2020.
- [5] Ministry of Health. April 2019. "Press Release on Cholera 18th April 2019". [<https://www.health.go.ke/press-release-on-cholera-18th-april-2019/>]. Accessed 12 October 2020.
- [6] Ministry of Health. July 2017. "Government close two hotels to contain cholera outbreak". [<https://www.health.go.ke/government-close-two-hotels-to-contain-cholera-outbreak/>]. Accessed 12 October 2020.
- [7] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.
- [8] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.
- [9] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 12 October 2020.
- [10] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 12 October 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**

No evidence was found that Kenya 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 mention of wraparound services on the websites of the Ministry of Health, the National Public Health Laboratory or its accompanying strategy, or in the Joint External Evaluation (JEE) of Kenya 2017. [1,2,3,4] In June 2020, and in response to reports that "Kenya's authorities forcibly quarantined tens of thousands of people in facilities that lacked proper sanitation, were crowded and confined, and did not provide people with personal protective equipment like face masks", the Ministry of Health released guidelines, in accordance with the World Health Organization (WHO) recommendations on how people with mild or asymptomatic cases of COVID-19 could self-isolate at home. [5] No evidence was available to suggest that additional services would be provided to these patients with regards to economic support or medical attention.

- [1] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.
- [2] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 12 October 2020.
- [3] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 12 October 2020.
- [4] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya".

[<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[5] Human Rights Watch. July 2020. "Kenya Stops Abusive Forced Quarantine Related to COVID-19".

[<https://www.hrw.org/news/2020/07/31/kenya-stops-abusive-forced-quarantine-related-covid-19>]. Accessed 12 October 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 evidence that Kenya 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). Kenya does make de-identified health surveillance data on COVID-19 publicly available, however, the data available does not cover contact tracing information. It provides daily, weekly, and total updates on the number of new cases, deaths, and total confirmed cases for Kenya and globally. COVID-19 press releases are also shared on the front page of the website, and so are links to protocols, campaign posters, guidelines, and situation reports. [1] No further evidence is available on the websites of the Ministry of Health or the National Public Health Laboratory. [2,3]

[1] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.

[2] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 10 October 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: 1**

There is evidence that Kenya has a joint plan or cooperative agreement between the public health system and border control authorities to identify suspected and potential cases in international travelers and trace and quarantine their contacts in the event of an active public health emergency, but only in response to an ongoing emergency.

According to the Joint External Evaluation (JEE) of Kenya 2017, "The National Emergency Response Plan (2014) specifies the coordination for different types of emergencies at various levels of government. Public health authorities are formally linked to security authorities through the Border Control and Operations Coordinating Committee (BCOCC), which was established under the Ministry of Interior and Coordination of National Government. There are clear examples of multisectoral emergency response plans that include public health and security services including: National Emergency Response Plan; mass casualty incident management protocols; Public Health Events of Initially Unknown Etiology framework; and integrated emergency contingency plans at points of entry". [1,2,3,4] The Ministry of Health's website has the International Travelers Health Surveillance Form. Providing the form's information to a Port Health Officer is required under the Public Health Act

CAP 242 of the laws of Kenya, and is being collected as part of public health response to the Corona Virus pandemic. [5]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[2] RefWorld. June 2014. "Kenya: National Emergency Response Plan and Standard Operating Procedures (SOPs)". [<https://www.refworld.org/docid/5b682fa14.html>]. Accessed 10 October 2020.

[3] World Security Index. March 2019. "Border Security Management: The Kenyan Experience". [<http://www.worldsecurity-index.com/shareDir/documents/15537992400.pdf>]. Accessed 12 October 2020.

[4] Ministry of Interior and Coordination of National Government. [<https://www.interior.go.ke/>]. Accessed 12 October 2020.

[5] Ministry of Health. "International Travelers Health Surveillance Form" [[https://ears.health.go.ke/airline\\_registration/](https://ears.health.go.ke/airline_registration/)]. Accessed 26 June 2021.

## 2.6 EPIDEMIOLOGY WORKFORCE

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

#### 2.6.1a

Does the country meet one of the following criteria?

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

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

**Current Year Score: 1**

Kenya has an applied epidemiology training program available in-country. The government provides salary for staff as well as training infrastructure while donors fund the operational costs for the training. The Kenya Field Epidemiology and Laboratory Training Program (FELTP) began in 2004 and is mandated to train field epidemiologists for the ministries in charge of animal and human health. The FELTP is offered by the Ministry of Health in connection with the US Centers for Disease Control and Prevention (CDC) and the Moi University School of Public Health. [1,2] According to the Joint External Evaluation (JEE) Mission Report of 2017, all three tiers of the FELTP are operational, including advanced level 2-year Master's in field epidemiology with an estimated 189 graduates by 2019; intermediate level 6-month on-job training with 60 staff trained; and a basic level 3-month on-job training with over 354 staff currently trained. [3] There is no publicly available evidence indicating that the Kenyan government sends citizens to another country to participate in applied epidemiology training programs according to the JEE Mission Report of 2017, the Kenya Field Epidemiology and Laboratory Training Program and the Ministry of Health. [1,2,3,4]

[1] Kenyan Field Epidemiology and Laboratory Training Program. "About Us". [<https://feltp.or.ke/>]. Accessed December 13 2018.

[2] Training Programs in Epidemiology and Public Health Interventions Network. "Kenya Field Epidemiology and Laboratory Training Program". [<https://www.tephinet.org/training-programs/kenya-field-epidemiology-and-laboratory-training-program>]. Accessed 10 October 2020.

[3] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 10 October 2020.

[4] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 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**

The Kenya Field Epidemiology and Laboratory Training Program (FELTP) includes the training of animal health professionals according to the Joint External Evaluation (JEE) Mission Report of 2017. The program offers training to field veterinarians as well as field medical officers. [1,2] This has helped ensure an integrated response to investigating outbreaks specifically in anthrax, rift valley fever and rabies. [1] The candidate target groups include veterinarians, nurses, doctors and public health practitioners with two years of experience. [3] Additionally, in 2018, the FAO and the Institute for Infectious Animal Diseases (IIAD) at Texas A&M AgriLife Research launched the In-Service Applied Veterinary Epidemiology (ISAVET) program in 14 countries, including Kenya. [4,5] The program was a four-month frontline field epidemiology program to train veterinary field epidemiologists. [6]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 10 October 2020.

[2] Training Programs in Epidemiology and Public Health Interventions Network. "Kenya Field Epidemiology and Laboratory Training Program". [<https://www.tephinet.org/training-programs/kenya-field-epidemiology-and-laboratory-training-program/>]. Accessed 10 October 2020.

[3] Kenya Field Epidemiology and Laboratory Training Program. "Program Description" [<https://feltp.or.ke/program-description/>]. Accessed 10 October 2020.

[4] Food and Agriculture Organisation (FAO) of the United Nations. October 2018. "New training for veterinarians in 14 African countries to help combat infectious diseases." [<http://www.fao.org/emergencies/fao-in-action/stories/stories-detail/en/c/1161401>]. Accessed 10 October 2020.

[5] Institute for Infectious Animal Diseases. "Frontline ISAVET." [<https://iiad.tamu.edu/frontline-isavet/>]. Accessed 10 October 2020.

[6] Food and Agriculture Organisation (FAO) of the United Nations. October 2019. "First FAO ISAVET training programme held in Uganda." [<http://www.fao.org/resilience/news-events/detail/en/c/1171750>]. Accessed 10 October 2020.

## 2.6.2 Epidemiology workforce capacity

### 2.6.2a

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

Yes = 1 , No = 0

**Current Year Score: 1**

2020

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

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

### 3.1 EMERGENCY PREPAREDNESS AND RESPONSE PLANNING

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

##### 3.1.1a

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

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

**Current Year Score: 2**

Kenya has an overarching national public health emergency response plan in place which addresses planning for multiple communicable diseases with pandemic potential according to the Joint External Evaluation (JEE) Mission Report of 2017. [1] The Kenyan National Disaster Response Plan of 2009 provides guidelines for inter-agency coordination and response for all emergencies and disasters, including the outbreak of multiple communicable diseases with pandemic potential and is owned by the Ministry for State for Special Programmes in collaboration with the National Disaster Operation Centre. [2] In addition to the Kenyan National Disaster Response Plan, Kenya has also developed disease specific multi-sectoral plans for the animal and human health sectors according to the JEE Mission Report of 2017. The Multi-sectoral Cholera Prevention and Control Plan 2013-2018 is an example that takes a multi-sector approach with well-coordinated roles and functions of different partners in response to fighting cholera. [3] Kenya also has a National Emergency Response Plan and Standard Operating Procedures (SOPs) of 2014, and although it has the strategic objective "Communicable Diseases are Controlled", it mostly addressed access to information and services that prevent common and high impact communicable diseases and does not mention whether this includes diseases with pandemic potential. [4]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 10 October 2020.

[2] National Disaster Response Plan. 2009. [<http://www.ifrc.org/docs/idrl/857EN.pdf>]. Accessed 10 October 2020.

[3] Ministry of Health. "Multi-Sectoral Cholera Prevention and Control Plan 2013-2018." [[https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/cholera\\_plan-final\\_21\\_11.pdf](https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/cholera_plan-final_21_11.pdf)]. Accessed 10 October 2020.

[4] RefWorld. June 2014. "Kenya: National Emergency Response Plan and Standard Operating Procedures (SOPs)". [<https://www.refworld.org/docid/5b682fa14.html>]. Accessed 10 October 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 available evidence that the 2009 National Disaster Response Plan has been updated in the past three years according to the Ministry of Interior and Coordination of the Government, the Ministry of Devolution and Planning, the Ministry of Health and the Joint External Evaluation (JEE) Mission Report of 2017. [1,2,3,4] Disease specific plans in the

animal sector require updating according to the JEE Mission Report of 2017, although the report does not specify how frequently updates are required and whether they actually take place. [4]

[1] Ministry of Interior and Coordination of the Government. [<http://www.interior.go.ke/index.php/aboutinterior>]. Accessed 11 October 2020.

[2] Ministry of Devolution and Planning. [<https://www.kenyans.co.ke/government/ministry-devolution-planning>]. Accessed 11 October 2020.

[3] Ministry of Health. [<http://www.health.go.ke>]. Accessed 11 October 2020.

[4] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 11 October 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**

The Kenya National Disaster Response Plan of 2009 does not include special considerations for paediatric and other vulnerable populations. The plan promises to target and prioritise humanitarian assistance services to the most vulnerable members of the population but does not explicitly mention how paediatric and other vulnerable populations will be treated.

[1] The Health Sector Disaster Risk Management Strategic Plan 2014 - 2018, designed to provide a framework for implementing disaster risk management in the health sector, provides recommendations for enhancing the systems that support vulnerable groups (including women, children, the elderly etc.) but there is no public evidence that these recommendations have been incorporated into the broader National Disaster Response Plan. [2] Finally, Kenya's National Emergency Response Plan and Standard Operating Procedures (SOPs) of 2014, makes mention of vulnerable populations in general terms but does not provide details about special considerations to support these populations. [3] There is no further information available on websites of the Ministry of Health, Ministry of Interior and Coordination of the Government, the Ministry of Devolution and Planning, the Ministry of Health and the Joint External Evaluation (JEE) Mission Report of 2017. [4,5,6,7]

[1] National Disaster Response Plan. 2009. [<http://www.ifrc.org/docs/idrl/857EN.pdf>]. Accessed 11 October 2020.

[2] Health Sector Disaster Risk Management Strategic Plan. 2014 - 2018. [<https://afro.who.int/publications/kenya-health-sector-disaster-risk-management-strategic-plan-2014-2018>]. Accessed 11 October 2020.

[3] RefWorld. June 2014. "Kenya: National Emergency Response Plan and Standard Operating Procedures (SOPs)". [<https://www.refworld.org/docid/5b682fa14.html>]. Accessed 10 October 2020.

[4] Ministry of Health. [<http://www.health.go.ke>]. Accessed 11 October 2020.

[5] Ministry of Interior and Coordination of the Government. [<http://www.interior.go.ke/index.php/aboutinterior>]. Accessed 11 October 2020.

[6] Ministry of Devolution and Planning. [<https://www.kenyans.co.ke/government/ministry-devolution-planning>]. Accessed 11 October 2020.

[7] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 11 October 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**

Although the Kenya National Disaster Response Plan of 2009 does include the private sector as a main participant, there is no evidence that there are established mechanisms in place. According to the plan, "the private sector may need to respond on short notice to provide timely and effective assistance to the State." [1] Additionally, the Health Sector Disaster Risk Management Strategic Plan of 2014 - 2018 mentions that public-private partnerships have been strengthened in regards to the Disaster Risk Management although does not provide any specific detail on these partnerships. [2] More recently, there is evidence that the private sector is stepping up in its involvement in addressing COVID-19 pandemic, suggesting that there was no such mechanism previously. [3] There is no specific mention of a mechanism for engaging with the private sector in the Joint External Evaluation Mission Report of 2017 or via the Ministry of Health. [4,5]

[1] National Disaster Response Plan. 2009. [<http://www.ifrc.org/docs/idrl/857EN.pdf>]. Accessed 10 October 2020.

[2] Health Sector Disaster Risk Management Strategic Plan. 2014 - 2018. [<https://afro.who.int/publications/kenya-health-sector-disaster-risk-management-strategic-plan-2014-2018>]. Accessed 10 October 2020.

[3] Institut Montaigne. April 2020. "Africa and Coronavirus - in Kenya, the Private Sector Is Taking Action". [<https://www.institutmontaigne.org/en/blog/africa-and-coronavirus-kenya-private-sector-taking-action>]. Accessed 10 October 2020.

[4] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 10 October 2020.

[5] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.

### 3.1.3 Non-pharmaceutical interventions planning

#### 3.1.3a

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

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

**Current Year Score: 0**

There is no evidence that Kenya has a policy, plan and/or guidelines in place to implement non-pharmaceutical interventions (NPIs) during an epidemic or pandemic according to the Ministry of Health, the National Public Health Laboratory or its

accompanying strategy, the Joint External Evaluation (JEE) of Kenya 2017, the 2009 National Disaster Response Plan, or the Health Sector Disaster Risk Management Strategic Plan 2014-2018. [1,2,3,4,5,6] Contact tracing has recently been used to respond to the COVID-19 pandemic to identify individuals and health care facilities that those who have contracted the virus have been in touch with. [7] As well, when the first case of COVID-19 was reported in March 2020, Kenya was able to shift into response mode with the help of the World Health Organization (WHO) and the Field Epidemiology Lab Training Program (FELTP), who supported the country with putting into place Rapid Response Teams, setting up a hotline, establishing isolation and treatment units at the Kenyatta National Referral Hospital, and to scale up contact tracing capabilities. [8,9]

[1] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.

[2] National Public Health Laboratory. [<http://nphl.go.ke/>]. Accessed 12 October 2020.

[3] National Public Health Laboratory Strategic Plan 2016-2020. [<https://nphl.go.ke/wp-content/uploads/2018/10/NPHL-Strategic-Plan-2016-2020.pdf>]. Accessed 12 October 2020.

[4] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[5] National Disaster Response Plan. 2009. [<http://www.ifrc.org/docs/idrl/857EN.pdf>]. Accessed 12 October 2020.

[6] Health Sector Disaster Risk Management Strategic Plan 2014-2018. [<https://afro.who.int/publications/kenya-health-sector-disaster-risk-management-strategic-plan-2014-2018>]. Accessed 12 October 2020.

[7] Ministry of Health. April 2020. "Govt extends quarantine period for 14 days Nairobi, Saturday April 4, 2020".

[<https://www.health.go.ke/govt-extends-quarantine-period-for-14-days-nairobi-saturday-april-4-2020/>]. Accessed 12 October 2020.

[8] World Health Organization (WHO). March 2020. "Scaling up contact tracing to combat COVID-19 in Kenya".

[<https://www.who.int/news-room/feature-stories/detail/scaling-up-contract-tracing-to-combat-covid-19-in-kenya>]. Accessed 12 October 2020.

[9] Centers for Disease Control and Prevention (CDC). "Kenya: FELTP Activated for Emergency Response".

[<https://www.cdc.gov/globalhealth/healthprotection/fetp-40th-anniversary/stories/kenya-feltp-response.html>]. Accessed 12 October 2020.

## 3.2 EXERCISING RESPONSE PLANS

### 3.2.1 Activating response plans

#### 3.2.1a

Does the country meet one of the following criteria?

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

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

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

**Current Year Score: 1**

There is no evidence that Kenya has activated its national emergency response plan for an infectious disease outbreak in the past year, however there is evidence that Kenya has completed a national-level biological threat-focused exercise (either with WHO or separately) in the past year. Although Kenya did not activate its national emergency response plan, it did activate the national emergency response committee on Coronavirus on 28 February 2020. On this same day, Kenya "declared the Coronavirus (COVID-19) a Public Health Emergency of International Concern" (PHEIC). The executive order

declaring the activation of the committee and the coronavirus a PHEIC, provides a list of responsibilities for the committee. [1,2] According to the World Health Organization (WHO), Kenya has also participated in two simulation exercises in the past year: one in June 2019 which "assessed and further enhanced multi-sectorial outbreak preparedness and response in East African Community (EAC) region under multi-sectorial One Health Approach", and another one in February 2020 to "examine and strengthen existing plans, procedures and capabilities to manage COVID-19 on a flight or international airport". [3,4] No further evidence was available via the Ministry of Health. [5]

[1] Good Governance Africa (GGA). June 2020. "COVID-19: In Kenya, confusion and corruption while politicians flout lockdowns". [<https://gga.org/tag/national-emergency-response-committee-on-coronavirus/>]. Accessed 12 October 2020.

[2] Executive Office of the President State House. February 2020. "National Emergency Response Committee on Coronavirus". [[https://www.health.go.ke/wp-content/uploads/2020/06/Executive-Order-No-2-of-2020\\_National-Emergency-Response-Committee-on-Coronavirus-28.2.20.pdf](https://www.health.go.ke/wp-content/uploads/2020/06/Executive-Order-No-2-of-2020_National-Emergency-Response-Committee-on-Coronavirus-28.2.20.pdf)]. Accessed 12 October 2020.

[3] World Health Organization (WHO). "Health Security Calendar". [[https://extranet.who.int/sph/calendar/2019?1&type=All&field\\_region\\_tid=All&country\\_tid=227](https://extranet.who.int/sph/calendar/2019?1&type=All&field_region_tid=All&country_tid=227)]. Accessed 12 October 2020.

[4] WHO. August 2019. "Cross border disease outbreak simulation exercise reinforces preparedness in East Africa". [<https://www.who.int/news-room/feature-stories/detail/cross-border-disease-outbreak-simulation-exercise-reinforces-preparedness-in-east-africa>]. Accessed 12 October 2020.

[5] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 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 Kenya 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 International Health Regulation (IHR) exercise with the World Health Organization (WHO) according to the WHO Strategic Partnership for IHR and Health Security and the Ministry of Health. [1,2] Kenya has undergone a Red Cross cholera response after-action review in 2015, however, there is no evidence that they conducted a similar exercise with the WHO in the past year. There is no evidence of an after-action response with the WHO in the Joint External Evaluation (JEE) Mission Report of 2017 or on the WHO country and regional pages. [3,4,5]

[1] World Health Organization (WHO). Strategic Partnership for International Health Regulation (2005) and Health Security (SPH). "After Action Review." [<https://extranet.who.int/sph/after-action-review>]. Accessed 12 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.

[3] WHO 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[4] WHO. "Kenya" [<https://www.who.int/countries/ken/en/>]. Accessed 12 October 2020.

[5] WHO. "Africa". [<http://www.afro.who.int/>]. Accessed 12 October 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 evidence that Kenya, in the past year, has undergone a national-level biological threat-focused exercise that has included private sector representatives. According to the World Health Organization (WHO), Kenya has participated in two simulation exercises in the past year: one in June 2019 which "assessed and further enhanced multi-sectorial outbreak preparedness and response in East African Community (EAC) region under multi-sectorial One Health Approach", and another one in February 2020 to "examine and strengthen existing plans, procedures and capabilities to manage COVID-19 on a flight or international airport". [1,2] Both of these exercises provide general information as to who attended, however, in neither list are private sector representatives included. No further evidence was available via the Ministry of Health. [3]

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

[[https://extranet.who.int/sph/calendar/2019?1&type=All&field\\_region\\_tid=All&country\\_tid=227](https://extranet.who.int/sph/calendar/2019?1&type=All&field_region_tid=All&country_tid=227)]. Accessed 12 October 2020.

[2] WHO. August 2019. "Cross border disease outbreak simulation exercise reinforces preparedness in East Africa".

[<https://www.who.int/news-room/feature-stories/detail/cross-border-disease-outbreak-simulation-exercise-reinforces-preparedness-in-east-africa>]. Accessed 12 October 2020.

[3] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.

## 3.3 EMERGENCY RESPONSE OPERATION

### 3.3.1 Emergency response operation

#### 3.3.1a

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

Yes = 1 , No = 0

**Current Year Score: 1**

Kenya has an Emergency Operations Center (EOC) in place. According to the Joint External Evaluation (JEE) Mission Report of 2017, the EOC in Kenya has a strong ongoing monitoring capacity as well as a system for collecting and analysing data which has led to better coordination and improved response in emergency situations. [1] The EOC was founded in 2016 by the Ministry of Health with support from the CDC and one of its primary mandates is to collect and analyse event-based data. The EOC has the capacity to collect data from a variety of sources including social media, text / SMS etc. Data is collected and shared with other key stakeholders and organisations that can act on the information, including the Disease Surveillance and Response Unit. [1,2]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya".

[<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 10 October 2020.

[2] Center for Disease Control and Prevention. "Improving Emergency Preparedness and Response"

[<https://www.cdc.gov/globalhealth/countries/kenya/what/improving.htm>]. Accessed 10 October 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 indicating that the Emergency Operations Center (EOC) is required to conduct a drill at least once a year according to the Joint External Evaluation (JEE) Mission Report of 2017, the Ministry of Health and the Ministry of the Interior and Coordination of Government [1,2,3]. Similarly, the Health Sector Disaster Risk Management Plan 2014 - 2018 notes that there is no established routine of carrying out simulations and drills to enhance preparedness. [4] The JEE Mission Report recommends yearly testing of the emergency response plan and increased training using multi-sectoral exercises and tabletop drills for International Health Regulations (IHR) -related hazard control but there is no evidence that these activities have been implemented. [1] No further evidence was found of an updated Risk Management Plan and no further information was available on the Ministry of Health website and the Emergency Operations Center (EOC) does not have an online presence. [2]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 10 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.

[3] Ministry of Interior and Coordination of the Government. "About Us". [<http://www.interior.go.ke/index.php/aboutinterior>]. Accessed 10 October 2020.

[4] Health Sector Disaster Risk Management Strategic Plan 2014-2018. [<https://afro.who.int/publications/kenya-health-sector-disaster-risk-management-strategic-plan-2014-2018>]. Accessed 10 October 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 evidence to suggest that the Emergency Operation Center (EOC) can conduct, or has conducted, a coordinated emergency response or emergency response exercise within 120 minutes of the identification of a public health emergency/scenario according to the Joint External Evaluation (JEE) Mission Report for Kenya of 2017, the Ministry of Health and the Ministry of Interior and Coordination with Government. [1,2,3] The JEE report states that there is "limited financial and human resource capacity to respond to large-scale emergencies, especially to meet the standard of mounting a response within 120 hours". [1] On February 28, 2020 Kenya activated its national emergency response committee on Coronavirus and "declared the Coronavirus (COVID-19) a Public Health Emergency of International Concern" (PHEIC), however nowhere in the document or in a media search is there mention of responding to the pandemic within 120 minutes. [4,5]

[1] World Health Organization (WHO) 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.

[3] Ministry of Interior and Coordination of the Government. [<http://www.interior.go.ke/index.php/aboutinterior>]. Accessed 12 October 2020.

[4] Good Governance Africa (GGA). June 2020. "COVID-19: In Kenya, confusion and corruption while politicians flout lockdowns". [<https://gga.org/tag/national-emergency-response-committee-on-coronavirus/>]. Accessed 12 October 2020.

[5] Executive Office of the President State House. February 2020. "National Emergency Response Committee on Coronavirus". [[https://www.health.go.ke/wp-content/uploads/2020/06/Executive-Order-No-2-of-2020\\_National-Emergency-Response-Committee-on-Coronavirus-28.2.20.pdf](https://www.health.go.ke/wp-content/uploads/2020/06/Executive-Order-No-2-of-2020_National-Emergency-Response-Committee-on-Coronavirus-28.2.20.pdf)]. Accessed 12 October 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**

Although there are draft standard operating procedures and guidelines between the public health and national security authorities to respond to a potential deliberate biological event, there is insufficient evidence that these are as of yet in place. According to the Joint External Evaluation (JEE) Mission Report for Kenya of 2017, "the legal framework necessary to cover interagency cooperation (security services and public health) and coordination on public health emergencies is in place and well understood by the relevant sectors, and includes specific provisions under the Public Health Act, the Security Laws Amendment Act, the Food, Drugs and Chemicals Substances Act, the Meat Control Act and the Animal Diseases Control Act."

[1] Furthermore, the JEE notes that "Draft plans for an all-hazards emergency response and for chemical, biological, radiological, nuclear, and explosives (CBRNE) events also include clear roles and links for public health and security authorities", but does not indicate if these plans are finalised and in place. [1,2] No evidence was found of updated or finalized plans. In 2015, a workshop was held to finalize the Kenyan CBRNE National Action Plan, and in 2017, the United States provided support to help improve CBRNE response capabilities in Kenya, however, again no evidence was found of specific standard operating procedures as a result of either of these events. [3,4] Public health authorities are also connected with security authorities through the Border Control and Operations Coordinating Committee which consists of representatives from the Port Health Services, the Kenya Plant Health Inspectorate Service, the Pharmacy and Poisons Board, the Department of Veterinary Services as well as a number of security representatives. [5] There is no publicly available evidence indicating that public health and national security authorities have carried out an exercise to respond to a potential deliberate biological event (i.e. bioterrorism attack) according to the JEE Mission Report of 2017, the Ministry of Health or the Ministry of Interior and Coordination of the Government. [1,6,7]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[2] National Disaster Response Plan. 2009. [<http://www.ifrc.org/docs/idrl/857EN.pdf>]. Accessed 12 October 2020.

[3] United Nations Interregional Crime and Justice Research Institute (UNICRI). February 2015. "Final Workshop for the preparation of the Kenyan CBRN national Action Plan". [[http://www.unicri.it/news/article/2015-02-25\\_Kenyan\\_NAP\\_Final\\_Workshop](http://www.unicri.it/news/article/2015-02-25_Kenyan_NAP_Final_Workshop)]. Accessed 12 October 2020.

[4] Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) CENTRAL. February 2017. "U.S. Helps Improve CBRN Response Capabilities in Kenya". [<https://cbrnecentral.com/u-s-helps-build-cbrn-response-capability-kenya/10567/>]. Accessed 12 October 2020.

[5] USAID. 2013. "Joint Border Committees: A look at Malaba Border, Kenya" [[http://d3n8a8pro7v7hmx.cloudfront.net/eatradehub/pages/41/attachments/original/1376400076/Malaba\\_JBC\\_Case\\_Study\\_rebranded\\_June\\_2013.pdf?1376400076](http://d3n8a8pro7v7hmx.cloudfront.net/eatradehub/pages/41/attachments/original/1376400076/Malaba_JBC_Case_Study_rebranded_June_2013.pdf?1376400076)]. Accessed 12 October 2020.

[6] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.

[7] The Presidency Ministry of Interior & Coordination of National Government. "National Disaster Operation Center." [<http://www.interior.go.ke/index.php/2015-03-02-08-32-27>]. Accessed 12 October 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 indicating that Kenya has a risk preparedness strategy that outlines how messages will reach populations and sectors with different communications needs (e.g., different languages, location within country, media reach etc.). The 2009 National Disaster Response Plan and the 2014 National Emergency Response Plan and Standard Operating Procedures (SOPs) do not account for reaching populations with different communications needs. [1,2] No updated plans were found. No information on such a plan is available via the Joint External Evaluation (JEE) Mission Report of 2017, the Ministry of Health, the Ministry of Agriculture, Livestock, Fisheries and Irrigation and the Ministry of Interior and Coordination of the Government. [3,4,5,6] According to the JEE 2017, the Ministry of Health has draft guidelines on risk communication at the national level that are awaiting printing. In addition, the report further states that "the communications unit carries out rapid assessments to gauge audiences segmentation and messages development based on geographic and ethnic specificities," but there is no mention of if this is guided by a strategy. [3] However, the draft guideline on risk communication as well as the health sector disaster risk management communication plan referenced in the Health Sector Disaster Risk Management Plan 2014-2018 is not publicly available. [7]

[1] National Disaster Response Plan. 2009. [<http://www.ifrc.org/docs/idrl/857EN.pdf>]. Accessed 10 October 2020.

[2] RefWorld. June 2014. "Kenya: National Emergency Response Plan and Standard Operating Procedures (SOPs)". [<https://www.refworld.org/docid/5b682fa14.html>]. Accessed 10 October 2020.

[3] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 10 October 2020.

[4] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.

[5] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 10 October 2020.

[6] Ministry of Interior and Coordination of the Government. [<http://www.interior.go.ke/index.php/aboutinterior>]. Accessed 10 October 2020.

[7] World Health Organization (WHO). "Kenya Health Sector Disaster Risk Management Strategic Plan 2014-2018". [<https://afro.who.int/sites/default/files/2017-05/drm-2014---2018.pdf>]. Accessed 10 October 2020.

### 3.5.1 Risk communication planning

#### 3.5.1a

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

Yes = 1, No = 0

Current Year Score: 0

There is no evidence that Kenya has a risk communication plan specifically intended for use during a public health emergency. The 2009 National Disaster Response Plan makes some mention of risk communications planning noting that the National Disaster Operations Centre will serve as "the command centre for all communications and information relating to response operation" and will "liaison with line ministries on national response efforts on private companies' equipment hiring and compensation." However, there is no evidence of an extensive risk communications plan. [1] No evidence of an updated plan was found. The Joint External Evaluation (JEE) report of 2017 confirms this, noting "provision is made for risk communication in the National Disaster Response Plan, although it is limited in content and is yet to be embedded." The report further states that "no comprehensive multisectoral risk communications plan currently exists," but that "units for coordination of communication activities are available in the Ministry of Health and the Ministry of Agriculture, Livestock and Fisheries". [2] The 2014 National Emergency Response Plan and Standard Operating Procedures (SOPs) makes no mention of risk communication. [3] According to the JEE 2017, the Ministry of Health has draft guidelines on risk communication at the national level that are awaiting printing. [2] However, the draft guideline on risk communication as well as the health sector disaster risk management communication plan referenced in the Health Sector Disaster Risk Management Plan 2014-2018 is not publicly available. [4] There is no evidence of the publication of a risk communications strategy via the Ministry of Health, the Ministry of Agriculture, Livestock, Fisheries and Irrigation and the Ministry of Interior and Coordination with Government. [5,6,7]

[1] National Disaster Response Plan. 2009. [<http://www.ifrc.org/docs/idrl/857EN.pdf>]. Accessed 10 October 2020.

[2] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 10 October 2020.

[3] RefWorld. June 2014. "Kenya: National Emergency Response Plan and Standard Operating Procedures (SOPs)". [<https://www.refworld.org/docid/5b682fa14.html>]. Accessed 10 October 2020.

[4] World Health Organization (WHO). "Kenya Health Sector Disaster Risk Management Strategic Plan 2014-2018." [<https://afro.who.int/sites/default/files/2017-05/drm-2014---2018.pdf>]. Accessed 10 October 2020.

[5] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.

[6] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 10 October 2020.

[7] Ministry of Interior and Coordination of the Government. [<http://www.interior.go.ke/index.php/aboutinterior>]. Accessed 10 October 2020.

#### 3.5.1c

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

Yes = 1, No = 0

Current Year Score: 0

There is no evidence that a specific position within the government is designated to serve as the primary spokesperson to the public during a public health emergency per a risk communication plan, since there is no evidence that Kenya has a risk communication plan in place. The 2009 National Disaster Response Plan makes some mention of risk communications planning, and does designate responsible agencies to certain objectives in the event of an emergency, however no where is an agency made responsible for communication. [1] No evidence of an updated plan was found. The Joint External Evaluation (JEE) report of 2017 confirms this in their recommendation to "build the capacity of existing communications officers at national and subnational levels with reinforced knowledge and skills in risk communication as part of the IHR (2005). This includes the training of designated spokespersons". [2] The 2014 National Emergency Response Plan and Standard Operating Procedures (SOPs) makes no mention of spokespersons with regards to risk communication. [3] There is no other available evidence of a designated spokesperson via the Ministry of Health, the Ministry of Agriculture, Livestock, Fisheries and Irrigation and the Ministry of Interior and Coordination with Government. [5,6,7]

[1] National Disaster Response Plan. 2009. [<http://www.ifrc.org/docs/idrl/857EN.pdf>]. Accessed 10 October 2020.

[2] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 10 October 2020.

[3] RefWorld. June 2014. "Kenya: National Emergency Response Plan and Standard Operating Procedures (SOPs)". [<https://www.refworld.org/docid/5b682fa14.html>]. Accessed 10 October 2020.

[4] World Health Organization (WHO). "Kenya Health Sector Disaster Risk Management Strategic Plan 2014-2018." [<https://afro.who.int/sites/default/files/2017-05/drm-2014---2018.pdf>]. Accessed 10 October 2020.

[5] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.

[6] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 10 October 2020.

[7] Ministry of Interior and Coordination of the Government. [<http://www.interior.go.ke/index.php/aboutinterior>]. Accessed 10 October 2020.

## 3.5.2 Public communication

### 3.5.2a

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

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

**Current Year Score: 2**

In the past year, there is evidence that Kenya's 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 rumors, misinformation or disinformation. Most recently, the Ministry of Health uses both Facebook and Twitter to reinforce messages and information on COVID-19 number of cases and number of deaths. The information is shared on an almost daily basis and in some cases posts are made multiple times a day. These two social media sites also use the space to share information about other health concerns most commonly on the international day to recognize the health concern, such as, breast cancer, lost of eye sight, mental health, among others. [1,2] The Ministry of Health website also has a COVID-19-specific section that provides daily, weekly, and total updates on the number of new cases, deaths, and total confirmed cases for Kenya and globally. COVID-19 press releases are also shared on the front page of the website, and so are protocols, campaigns posters, guidelines, and situation reports. [3]

[1] Facebook. "Ministry of Health" [<https://www.facebook.com/pages/category/Government-Organization/The-Ministry-of-Health-1126847717360250/>]. Accessed 11 October 2020.

[2] Twitter. "Ministry of Health"

[[https://twitter.com/MOH\\_Kenya?ref\\_src=twsrc%5Egoogle%7Ctwcamp%5Eserp%7Ctwgr%5Eauthor](https://twitter.com/MOH_Kenya?ref_src=twsrc%5Egoogle%7Ctwcamp%5Eserp%7Ctwgr%5Eauthor)]. Accessed 11 October 2020.

[3] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 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: 0

There is evidence that Kenyan senior leaders (president or ministers) have shared misinformation or disinformation on infectious diseases (in the past two years). According to Africa Check, an international fact-checking organization established in Kenya in 2016, health misinformation, especially during the COVID-19 pandemic, have threatened putting people's lives at risk. In the early months of the COVID-19 pandemic, Mike Sonko, the governor of Nairobi "distribut[ed] packages of food to families as restrictions on movement to slow the spread of COVID-19" were enforced. In some of his packages, he also included bottles of Hennessy (a brand of cognac), explaining that "the research which has been conducted by the World Health Organization and various health organizations has revealed that alcohol plays a very major role in killing the coronavirus or any sort of virus". He further stated that the alcohol "should act as a throat sanitizer. It kills the virus. In case the virus is somewhere in the throat, it kills". [1,2] Organizations and individuals such as Africa Check or Red Cross volunteers have been working towards eliminating the rumors, which in some cases have also started due to "people not understanding [government directives and public announcements], or misinterpretation of the directive". [2,3] Despite fake news being an issue with regards to the COVID-19 pandemic, it has been an issue that Kenya has tried to address for already several years. In 2018, "Kenya's President, Uhuru Kenyatta, signed into law a bill that criminalizes abuse on social media and the spread of false information. According to Reuters, the bill allows for a fine of up to \$50,000, two years of jail time, or both, to be imposed on any person who intentionally publishes false information". [4] The efforts to stop the spread of false information increased following the most recent 2017 elections, when rumors started to spread. In one case, rumors were accusations that the leader of the Democratic Movement had "defected to the rival political party". [5] Several efforts have been put into place since then: The Communications Authority of Kenya issued "guidelines that include provisions on the responsibility of mobile network operators and mobile virtual network operators to vet political messages they transmit"; the United States Embassy in Kenya "launched a one-year media literacy campaign aimed at countering the spread of false information in Kenya"; and Kenya "maintains an information portal, Kenya Law, for the dissemination of accurate and authoritative legal information, including legislation, parliamentary debates, and case law". [6]

[1] Africa Check. April 2020. "Nairobi governor Sonko puts families at risk with 'coronavirus-busting' alcohol in food packs". [<https://africacheck.org/spot-check/nairobi-governor-sonko-puts-families-at-risk-with-coronavirus-busting-alcohol-in-food-packs/>]. Accessed 12 October 2020.

[2] Meedan. June 2020. "False health information in Kenya". [<https://meedan.com/reports/false-health-information-in-kenya/#fn1>]. Accessed 12 October 2020.

[3] Aljazeera. April 2020. "Stamping out misinformation in Kenya's COVID-19 fight".

[<https://www.aljazeera.com/news/2020/4/25/stamping-out-misinformation-in-kenyas-covid-19-fight>]. Accessed 12 October 2020.

[4] National Public Radio (NPR). May 2018. "Kenya's Crackdown on Fake News Raises Questions About Press Freedom".

[<https://www.npr.org/sections/thetwo-way/2018/05/19/612649393/kenyas-crackdown-on-fake-news-raises-questions->

about-press-freedom]. Accessed 12 October 2020.

[5] Columbia Journalism Review. October 2017. "Kenyans need more than fact-checking tips to resist misinformation". [https://www.cjr.org/innovations/kenya-election-fake-news.php]. Accessed 12 October 2020.

[6] Library of Congress. April 2019. "Initiatives to Counter Fake News: Kenya". [https://www.loc.gov/law/help/fake-news/kenya.php]. Accessed 12 October 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: 22.57

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: 103.77

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: 19

2019

Gallup; Economist Impact calculation

## 3.7 TRADE AND TRAVEL RESTRICTIONS

### 3.7.1 Trade restrictions

#### 3.7.1a

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

Yes = 0 , No = 1

Current Year Score: 0

In the past year, there is evidence that Kenya has issued a restriction, without international/bilateral support, on the export/import of medical goods (eg: medicines, oxygen, medical supplies, PPE) due to an infectious disease outbreak. With regards to COVID-19, although Kenya did not report the pandemic to the WHO, it did activate the national emergency response committee on Coronavirus with an executive order on 28 February 2020 and also "declared the Coronavirus (COVID-19) a Public Health Emergency of International Concern". [3,4] On March 3, 2020, Kenya banned all exportation of face masks. This ban has not yet been lifted. [5] No disease outbreaks were reported to the World Health Organization (WHO) since 2018. Despite these 2018 incidences of Rift Valley fever and Chikungunya, the WHO did not recommend any restrictions for Kenya. [1] Additionally, according to the World Organization for Animal Health (OIE), local incidences of Rift Valley fever, Blue tongue, Foot and Mouth disease, in animal populations in Kenya resulted in domestic control of animal movement however Kenya did not issue a restriction on the export/import of medical goods from another country as a result. [2] No other news has been reported in relevant media outlets (local press, BBC, etc.). No other evidence of disease outbreaks is available on the websites of the Ministry of Health and of the Ministry of Agriculture. [6,7]

[1] World Health Organization (WHO). "Emergency Preparedness Response"

[<https://www.who.int/csr/don/archive/country/ken/en/>]. Accessed 12 October 2020.

[2] World Organization for Animal Health (OIE). WAHIS Interface. "Weekly Disease Information"

[[https://www.oie.int/wahis\\_2/public/wahid.php/Diseaseinformation/WI](https://www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/WI)]. Accessed 12 October 2020.

[3] Good Governance Africa (GGA). June 2020. "COVID-19: In Kenya, confusion and corruption while politicians flout lockdowns". [<https://gga.org/tag/national-emergency-response-committee-on-coronavirus/>]. Accessed 12 October 2020.

[4] Executive Office of the President State House. February 2020. "National Emergency Response Committee on Coronavirus". [[https://www.health.go.ke/wp-content/uploads/2020/06/Executive-Order-No-2-of-2020\\_National-Emergency-Response-Committee-on-Coronavirus-28.2.20.pdf](https://www.health.go.ke/wp-content/uploads/2020/06/Executive-Order-No-2-of-2020_National-Emergency-Response-Committee-on-Coronavirus-28.2.20.pdf)]. Accessed 12 October 2020.

[5] Africa Check. April 2020. "Nairobi governor Sonko puts families at risk with 'coronavirus-busting' alcohol in food packs". [<https://africacheck.org/spot-check/nairobi-governor-sonko-puts-families-at-risk-with-coronavirus-busting-alcohol-in-food-packs/>]. Accessed 12 October 2020.

[6] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.

[7] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 12 October 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: 0**

There is evidence that Kenya, in the past year, has issued a restriction, without international/bilateral support, on the export/import of non-medical goods (eg: food, textiles, etc) due to an infectious disease outbreak. Most recently, on March 12, 2020, the Kenya Bureau of Standards (KEBS) issued a "ban on the importation of secondhand textiles [clothes] and shoes", which was then lifted on August 16, 2020. [1] No disease outbreaks were reported to the World Health Organization (WHO) since 2018. Despite these 2018 incidences of Rift Valley fever and Chikungunya, the WHO did not recommend any restrictions for Kenya. [2] Additionally, according to the World Organization for Animal Health (OIE), local incidences of Rift Valley fever, Blue tongue, Foot and Mouth disease, in animal populations in Kenya resulted in domestic control of animal movement however Kenya did not issue a restriction on the export/import of non-medical goods from another country as a result. [3] No other news has been reported in relevant media outlets (local press, BBC, etc.). No evidence of disease outbreaks is available on the websites of the Ministry of Health and of the Ministry of Agriculture. [4,5]

[1] Market Access Map. "COVID-19 Temporary Trade Measures". [<https://www.macmap.org/covid19>]. Accessed 12 October 2020.

[2] World Health Organization (WHO). "Emergency Preparedness Response" [<https://www.who.int/csr/don/archive/country/ken/en/>]. Accessed 12 October 2020.

[3] World Organization for Animal Health (OIE). WAHIS Interface. "Weekly Disease Information" [[https://www.oie.int/wahis\\_2/public/wahid.php/Diseaseinformation/WI](https://www.oie.int/wahis_2/public/wahid.php/Diseaseinformation/WI)]. Accessed 12 October 2020.

[4] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.

[5] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 12 October 2020.

## 3.7.2 Travel restrictions

### 3.7.2a

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

Yes = 0 , No = 1

**Current Year Score: 0**

There is evidence that Kenya, in the past year, has implemented a ban, without international/bilateral support, on travelers arriving from a specific country or countries due to an infectious disease outbreak. On March 13, in response to the coronavirus (COVID-19), the Kenyan president activated the Public Order Act, which put into place "measures aimed at curbing the spread of the coronavirus, such as requiring face masks to be worn at all times, vehicles to run at half capacity, and the closure of religious centers, schools, and 'non-essential' businesses". A travel ban was also put into place at this time. [1,2] In July 2020, Kenya announced that it would ease its COVID-19 travel restrictions. On August 1st, it resumed international flights under new regulations that stated that "all passengers arriving from countries deemed to be low-to-medium risk coronavirus disease (COVID-19) transmission areas will be exempt from having to quarantine upon arrival,

provided they produce proof of testing negative for COVID-19 using a polymerase chain reaction (PCR) test no earlier than 96 hours before arrival". [3] Previous to this, no disease outbreaks were reported to the World Health Organization (WHO) since 2018 and even for the incidences that occurred in 2018, the WHO did not recommend any restrictions for Kenya. [4]

[1] The New York Review of Books. July 2020. "Kenya Turns Its Covid-19 Crisis into a Human Rights Emergency". [<https://www.nybooks.com/daily/2020/07/22/kenya-turns-its-covid-19-crisis-into-a-human-rights-emergency/>]. Accessed 12 October 2020.

[2] Strathmore University. "Should the Kenyan Government Declare a State of Emergency?". [<https://www.strathmore.edu/news/should-the-kenyan-government-declare-a-state-of-emergency/>]. Accessed 12 October 2020.

[3] WorldAware. July 2020. "COVID-19 Alert: Kenya Issues Entry Directives for Arriving Passengers for Planned Aug. 1 Int'l Commercial Flight Resumption". [<https://www.worldaware.com/covid-19-alert-kenya-issues-entry-directives-arriving-passengers-planned-aug-1-intl-commercial/>]. Accessed 12 October 2020.

[4] World Health Organization (WHO). "Emergency Preparedness Response". [<https://www.who.int/csr/don/archive/country/ken/en/>]. Accessed 12 October 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: 15.65

2018

WHO; national sources

##### 4.1.1b

Nurses and midwives per 100,000 people

Input number

Current Year Score: 116.56

2018

WHO; national sources

#### 4.1.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

Kenya has a public workforce strategy in place to identify fields where there is insufficient workforce and strategies, however it has not been updated within the past five years. Kenya's current strategy, the Health Sector Human Resources Strategy 2014-2018, was published in December 2014. It is designed to provide a roadmap for improving the health services industry. According to the Joint External Evaluation (JEE) Mission Report of 2017, Kenya faces the following human resources challenges in the health sector: "staff shortages, inequitable distribution, high attrition especially in hard-to-reach areas, and out-migration of health staff especially nurses and doctors". [1] Some of the strategies the Kenyan Ministry of Health has proposed for addressing staff shortages in particular, include: increasing the attractiveness of work conditions, making the workplace safer, improving staff wellness and welfare, increasing the attractiveness of marginalised areas and improving performance management. [2] There is no evidence that this strategy has been updated. [3]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 10 October 2020.

[2] Health Sector Human Resources Strategy. 2014 - 2018. [<http://www.health.go.ke/wp-content/uploads/2016/04/Kenya-HRH-Strategy-2014-2018.pdf>]. Accessed 10 October 2020.

[3] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.

### 4.1.2 Facilities capacity

#### 4.1.2a

**Hospital beds per 100,000 people**

Input number

**Current Year Score: 140**

2010

WHO/World Bank; national sources

#### 4.1.2b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient evidence to confirm that Kenya has the capacity to isolate patients with highly communicable diseases in a biocontainment patient care unit or patient isolation facility located within the country. There is evidence that Kenya has an isolation facility, but there is not enough publicly available information on its features to confirm that it meets standards for

the containment of highly contagious pathogens. The Joint External Evaluation (JEE) of Kenya 2017, states that the country has an isolation facility at the Kenyatta National Hospital (KNH) that "meets the minimum standards for IPC [infection prevention and control]. The facility is well equipped and has the minimum staff required along with arrangements for surge capacity". However, the JEE also notes that Kenya's isolation facilities are "inadequate", though it does not specify in what way. [1] The website of KNH confirms the existence of the facility, but does not describe features (such as positive/negative ventilation/air conditioning units, a separate entrance for decontamination and storage of personal protective equipment) that would confirm its adequacy. [2] According to media reports, the isolation is a standalone bungalow with 40 beds. It comprises treatment rooms, consultation and changing rooms and a holding room to serve as a temporary mortuary. [3] More recently, the World Health Organization (WHO) and the Field Epidemiology Lab Training Program (FELTP) have supported Kenya in responding to the COVID-19 pandemic by, among other things, establishing isolation and treatment units at the Kenyatta National Referral Hospital. [4,5] No further details were found to describe what kind of units were in place and what capacity they had, especially since in June 2020, reports stated that "Kenya's authorities forcibly quarantined tens of thousands of people in facilities that lacked proper sanitation, were crowded and confined, and did not provide people with personal protective equipment like face masks". In response, the Ministry of Health released guidelines, in accordance with the World Health Organization (WHO) recommendations on how people with mild or asymptomatic cases of COVID-19 could self-isolate at home. [6] There were also reports stating that the Mbagathi District Hospital was "the main isolation and treatment facility in Kenya" in response to the COVID-19 pandemic, however it remains a level-4 hospital, meaning it can only provide basic emergency department facilities. [7] No further evidence on the capacity of this hospital was found. There is no other relevant information shared via a public website by the Ministry of Health. [8]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya".

[<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[2] Kenyatta National Hospital. "Completed projects - Other Partnerships." [<http://knh.or.ke/index.php/projects/>]. Accessed 12 October 2020.

[3] Joy Wanja Miraya. October 18, 2014. "Are our facilities well equipped to combat Ebola?".

[<https://www.standardmedia.co.ke/health/article/2000138646/knh-unveils-kenya-s-first-ebola-isolation-unit>]. Accessed 12 October 2020.

[4] World Health Organization (WHO). March 2020. "Scaling up contact tracing to combat COVID-19 in Kenya".

[<https://www.who.int/news-room/feature-stories/detail/scaling-up-contact-tracing-to-combat-covid-19-in-kenya>]. Accessed 12 October 2020.

[5] Centers for Disease Control and Prevention (CDC). "Kenya: FELTP Activated for Emergency Response".

[<https://www.cdc.gov/globalhealth/healthprotection/fetp-40th-anniversary/stories/kenya-feltp-response.html>]. Accessed 12 October 2020.

[6] Human Rights Watch. July 2020. "Kenya Stops Abusive Forced Quarantine Related to COVID-19".

[<https://www.hrw.org/news/2020/07/31/kenya-stops-abusive-forced-quarantine-related-covid-19>]. Accessed 12 October 2020.

[7] Africa Renewal. August 2020. "Keep safe, observe social distancing and frequent handwashing".

[<https://www.un.org/africarenewal/magazine/august-2020/keep-safe-observe-social-distancing-and-frequent-handwashing>]. Accessed 12 October 2020.

[8] Ministry of Health. [[www.health.go.ke/](http://www.health.go.ke/)]. Accessed 12 October 2020.

#### 4.1.2c

Does the country meet one of the following criteria?

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

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no evidence that Kenya has demonstrated capacity to expand isolation capacity in response to an infectious disease outbreak in the past two years and neither is there evidence that it has developed, updated or tested a plan to expand isolation capacity in response to an infectious disease outbreak in the past two years. There is evidence that Kenya has an isolation facility, although insufficient evidence of plans or capability to expand its capacity. The Joint External Evaluation (JEE) of Kenya 2017, states that the Kenyatta National Hospital (KNH) "meets the minimum standards for IPC [infection prevention and control]. The facility is well equipped and has the minimum staff required along with arrangements for surge capacity". However, the JEE also notes that Kenya's isolation facilities are "inadequate", though it does not specify in what way. [1] The website of KNH confirms the existence of the facility, but does not describe features that would confirm its adequacy or capacity to expand the unit in response to an infectious disease outbreak. [2] According to media reports from 2014, the isolation is a standalone bungalow with 40 beds which was designed to address potential Ebola cases. It comprises treatment rooms, consultation and changing rooms and a holding room to serve as a temporary mortuary. [3] More recently, the World Health Organization (WHO) and the Field Epidemiology Lab Training Program (FELTP) have supported Kenya in responding to the COVID-19 pandemic by, among other things, establishing isolation and treatment units at the Kenyatta National Referral Hospital, suggesting that Kenya did not have internal capacity to do so. [4,5] In June 2020, reports stated that "Kenya's authorities forcibly quarantined tens of thousands of people in facilities that lacked proper sanitation, were crowded and confined, and did not provide people with personal protective equipment like face masks". In response, the Ministry of Health released guidelines, in accordance with the World Health Organization (WHO) recommendations on how people with mild or asymptomatic cases of COVID-19 could self-isolate at home. [6] There were also reports stating that the Mbagathi District Hospital was "the main isolation and treatment facility in Kenya" in response to the COVID-19 pandemic, however it remains a level-4 hospital, meaning it can only provide basic emergency department facilities. [7] No further evidence on the capacity of this hospital was found. There is no other relevant information shared via a public website by the Ministry of Health. [8]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[2] Kenyatta National Hospital. "Completed projects - Other Partnerships." [<http://knh.or.ke/index.php/projects/>]. Accessed 12 October 2020.

[3] Joy Wanja Miraya. October 18, 2014. "Are our facilities well equipped to combat Ebola?". [<https://www.standardmedia.co.ke/health/article/2000138646/knh-unveils-kenya-s-first-ebola-isolation-unit>]. Accessed 12 October 2020.

[4] World Health Organization (WHO). March 2020. "Scaling up contact tracing to combat COVID-19 in Kenya". [<https://www.who.int/news-room/feature-stories/detail/scaling-up-contact-tracing-to-combat-covid-19-in-kenya>]. Accessed 12 October 2020.

[5] Centers for Disease Control and Prevention (CDC). "Kenya: FELTP Activated for Emergency Response". [<https://www.cdc.gov/globalhealth/healthprotection/fetp-40th-anniversary/stories/kenya-feltp-response.html>]. Accessed 12 October 2020.

[6] Human Rights Watch. July 2020. "Kenya Stops Abusive Forced Quarantine Related to COVID-19". [<https://www.hrw.org/news/2020/07/31/kenya-stops-abusive-forced-quarantine-related-covid-19>]. Accessed 12 October 2020.

[7] Africa Renewal. August 2020. "Keep safe, observe social distancing and frequent handwashing". [<https://www.un.org/africarenewal/magazine/august-2020/keep-safe-observe-social-distancing-and-frequent-handwashing>]. Accessed 12 October 2020.

[8] Ministry of Health. [www.health.go.ke/]. Accessed 12 October 2020.

## 4.2 SUPPLY CHAIN FOR HEALTH SYSTEM AND HEALTHCARE WORKERS

### 4.2.1 Routine health care and laboratory system supply

#### 4.2.1a

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

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

**Current Year Score: 1**

There is publicly available evidence suggesting that Kenya has a national procurement protocol in place which can be utilized by the Ministry of Health but not the Ministry of Agriculture for the acquisition of laboratory supplies (e.g. equipment, reagents and media) and medical supplies (e.g. equipment, PPE) for routine needs.

Procurement procedures are guided by the Public Procurement and Disposal Regulations 2006 and the Public Procurement and Disposal Act 2005 which clearly establish the procurement methods to be applied, advertising rules and time limits, the content of tender documents and technical specifications, tender evaluation and award criteria, procedures for submission, receipt and opening of tenders, and the complaints system structure and sequence. It covers goods, works and services for all procurement using national funds. [1,2,3] The Ministry of Health procurement of drugs and medical supplies (including laboratory needs) is done through the Kenya Medical Supplies Authority (KEMSA) a state corporation under the Ministry of Health. KEMSA is guided by the public procurement and disposal regulations and therefore required to publish all medical supplies tender notifications. [4] The Kenya Veterinary Vaccines Production Institute (KEVEVAPI), a parastatal institution based on the merger of three different organisations creating vaccines in Kenya, does procurement including that of laboratory needs in its role of livestock vaccine production, management of zoonotic diseases and control of notifiable and emerging disease outbreaks. [5] The Joint External Evaluation (JEE) Mission Report of 2017, Ministry of Health and the Ministry of Agriculture, Livestock, Fisheries and Irrigation, do not publicly mention a national procurement protocol in place which can be utilised by the Ministries of Health and Agriculture for the acquisition of laboratory or medical needs. [6,7,8]

[1] The Public Procurement and Disposal Regulation 2006. [http://ppra.go.ke/?mdocs-file=949]. Accessed 12 October 2020.

[2] Republic of Kenya. "The Public Procurement and Disposal Act, 2005". [https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/ppp\_testdumb/documents/public\_procurement\_and\_disposal\_act\_2005.pdf]. Accessed 12 October 2020.

[3] Public Procurement Oversight Authority. July 2009. "Public Procurement Manual for Health Sector". [http://ppra.go.ke/?mdocs-file=2971]. Accessed 12 October 2020.

[4] Kenya Medical Supplies Authority. "Business Priorities." [http://www.kemsa.co.ke/business-priorities/]. Accessed 12 October 2020.

[5] Kenya Veterinary Vaccines Production Institute. "About us." [https://kevevapi.org/index.php/about-us]. Accessed 12 October 2020.

[6] World Health Organization (WHO) 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/]. Accessed 12 October 2020.

[7] Ministry of Health. [http://www.health.go.ke]. Accessed 12 October 2020.

[8] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 12 October 2020.

## 4.2.2 Stockpiling for emergencies

### 4.2.2a

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

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

**Current Year Score: 0**

There is no evidence that Kenya has a stockpile of medical supplies (e.g. MCMs, medicines, vaccines, medical equipment, PPE) for national use during a public health emergency. According to the Joint External Evaluation (JEE) Mission Report of 2017, stockpiles of medical supplies are not available and plans for stockpiles have not been developed. [1] Further, there is no evidence of any agreements in place with manufacturers or distributors to procure medical supplies for national use during a public health emergency from the Kenya Medical Supplies Authority (KEMSA) - the state corporation that provides health products and supply chain solutions. [2] There is no evidence that the situation has changed since the JEE Mission Report of 2017 was carried out. [3] There is also no relevant information on the websites of the Ministry of Health and the Ministry of Interior & Coordination of National Government. [4,5]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[2] Kenya Medical Supplies Authority (KEMSA). "Get to know us." [<http://www.kemsa.co.ke>]. Accessed 12 October 2020.

[3] Chemonics. June 2019. "When public health becomes a national security concern". [<https://chemonics.com/blog/when-public-health-becomes-a-national-security-concern/>]. Accessed 12 October 2020.

[4] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.

[5] Ministry of Interior & Coordination of National Government. [<http://www.interior.go.ke/#>]. Accessed 12 October 2020.

### 4.2.2b

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

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

**Current Year Score: 0**

There is no evidence that Kenya has a stockpile of laboratory supplies (e.g. reagents, media) for national use during a public health emergency. According to the Joint External Evaluation (JEE) Mission Report of 2017, laboratory supply stockpiles are not available and plans for stockpiles have not been developed. [1] Further, there is no evidence of any agreements in place with manufacturers or distributors to procure laboratory supplies for national use during a public health emergency from the Kenya Medical Supplies Authority (KEMSA) - the state corporation that provides health products and supply chain solutions. [2] There is no evidence that the situation has changed since the JEE Mission Report of 2017 was carried out. There is also no relevant information on the websites of the Ministry of Health and the Ministry of Interior & Coordination of National Government. [3,4]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[2] Kenya Medical Supplies Authority (KEMSA). "Get to know us." [<http://www.kemsa.co.ke>]. Accessed 12 October 2020.

[3] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.

[4] Ministry of Interior & Coordination of National Government. [<http://www.interior.go.ke/#>]. Accessed 12 October 2020.

#### 4.2.2c

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no evidence that Kenya conducts or requires an annual review of the national stockpile to ensure the supply is sufficient for a public health emergency. According to the Joint External Evaluation (JEE) Mission Report of 2017, laboratory supply stockpiles are not available and plans for stockpiles have not been developed. [1] Further, there is no evidence of any agreements in place with manufacturers or distributors to procure supplies for national use during a public health emergency from the Kenya Medical Supplies Authority (KEMSA) - the state corporation that provides health products and supply chain solutions. [2] There is no evidence that the situation has changed since the JEE Mission Report of 2017 was carried out. [3] There is also no relevant information on conducting or requiring an annual review of national stockpiles on the websites of the Ministry of Health and the Ministry of Interior & Coordination of National Government. [4,5]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[2] Kenya Medical Supplies Authority (KEMSA). "Get to know us." [<http://www.kemsa.co.ke>]. Accessed 12 October 2020.

[3] Chemonics. June 2019. "When public health becomes a national security concern". [<https://chemonics.com/blog/when-public-health-becomes-a-national-security-concern/>]. Accessed 12 October 2020.

[4] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.

[5] Ministry of Interior & Coordination of National Government. [<http://www.interior.go.ke/#>]. Accessed 12 October 2020.

### 4.2.3 Manufacturing and procurement for emergencies

#### 4.2.3a

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

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

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

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

**Current Year Score: 0**

There is no evidence that Kenya has a plan/agreement to leverage domestic manufacturing capacity to produce or to procure medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency. Kenya does have a national procurement protocol in place which can be utilized by the Ministry of Health for the acquisition of medical supplies however it does not specify whether it can be activated to leverage capacity during a public health emergency. Procurement procedures are guided by the Public Procurement and Disposal Regulations 2006 and the Public Procurement and Disposal Act 2005 which clearly establish the procurement methods to be applied, advertising rules and time limits, the content of tender documents and technical specifications, tender evaluation and award criteria, procedures for submission, receipt and opening of tenders, and the complaints system structure and sequence. It covers goods, works

and services for all procurement using national funds. [1,2,3] These also do not provide details in the event of a public health emergency. The Ministry of Health procurement of drugs and medical supplies is done through the Kenya Medical Supplies Authority (KEMSA) a state corporation under the Ministry of Health. KEMSA is guided by the public procurement and disposal regulations and therefore required to publish all medical supplies tender notifications. [4] The Joint External Evaluation (JEE) Mission Report of 2017, Ministry of Health and the Ministry of Agriculture, Livestock, Fisheries and Irrigation, do not publicly mention a national procurement protocol that should be used to leverage production or procurement capacity during an emergency. [5,6,7] No evidence was found that Kenya has a plan to leverage capacity to produce medical supplies either, as evidence suggests that Kenya has minimal production capacity. According to the International Trade Administration Commercial Guide for Kenya, in 2019, it was reported that "Almost all medical devices are imported as domestic production has primarily focused on basic consumable items". [8] However, although there is no plan in place, in response to COVID-19 and the decrease in imports from abroad, "engineers and doctors in Nairobi are now producing essential medical equipment locally", this includes masks and PPE. [9,10]

[1] The Public Procurement and Disposal Regulation 2006. [<http://ppra.go.ke/?mdocs-file=949>]. Accessed 12 October 2020.

[2] Republic of Kenya. "The Public Procurement and Disposal Act, 2005". [[https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/ppp\\_testdumb/documents/public\\_procurement\\_and\\_disposal\\_act\\_2005.pdf](https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/ppp_testdumb/documents/public_procurement_and_disposal_act_2005.pdf)]. Accessed 12 October 2020.

[3] Public Procurement Oversight Authority. July 2009. "Public Procurement Manual for Health Sector". [<http://ppra.go.ke/?mdocs-file=2971>]. Accessed 12 October 2020.

[4] Kenya Medical Supplies Authority. "Business Priorities." [<http://www.kemsa.co.ke/business-priorities/>]. Accessed 12 October 2020.

[5] World Health Organization (WHO) 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[6] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.

[7] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 12 October 2020.

[8] International Trade Administration. October 2019. "Kenya - Commercial Guide". [<https://www.trade.gov/knowledge-product/kenya-medical-equipment>]. Accessed 22 October 2020.

[9] World Bank Blogs. May 2020. "Working with Africa's apparel makers to produce personal protective equipment". [<https://blogs.worldbank.org/nasikiliza/working-africas-apparel-makers-produce-personal-protective-equipment>]. Accessed 22 October 2020.

[10] DW. June 2020. "Kenyans make medical equipment locally as virus spreads". [<https://www.dw.com/en/kenyans-make-medical-equipment-locally-as-virus-spreads/av-53666983>]. Accessed 22 October 2020.

### 4.2.3b

Does the country meet one of the following criteria?

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

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

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

**Current Year Score: 0**

There is no evidence that Kenya has a plan/agreement to procure laboratory supplies (e.g. reagents, media) for national use during a public health emergency, and no evidence that Kenya has a plan in place to leverage domestic manufacturing capacity to produce laboratory supplies during a public health emergency. Kenya has a national procurement protocol in place which can be utilized by the Ministry of Health for the acquisition of laboratory supplies, however it does not provide

details about a plan to leverage capacity to procure supplies during a public health emergency. Procurement procedures are guided by the Public Procurement and Disposal Regulations 2006 and the Public Procurement and Disposal Act 2005 which clearly establish the procurement methods to be applied, advertising rules and time limits, the content of tender documents and technical specifications, tender evaluation and award criteria, procedures for submission, receipt and opening of tenders, and the complaints system structure and sequence. It covers goods, works and services for all procurement using national funds. [1,2,3] These also do not provide details in the event of a public health emergency. The Ministry of Health procurement of laboratory needs is done through the Kenya Medical Supplies Authority (KEMSA) a state corporation under the Ministry of Health. KEMSA is guided by the public procurement and disposal regulations and therefore required to publish all tender notifications. [4] The Kenya Veterinary Vaccines Production Institute (KEVEVAPI), a parastatal institution based on the merger of three different organisations creating vaccines in Kenya, does procurement including that of laboratory needs in its role of livestock vaccine production, management of zoonotic diseases and control of notifiable and emerging disease outbreaks. [5] The Joint External Evaluation (JEE) Mission Report of 2017, Ministry of Health and the Ministry of Agriculture, Livestock, Fisheries and Irrigation, do not publicly mention a national procurement protocol in place to leverage Kenya's capacity to procure or produce laboratory supplies. [6,7,8] Some laboratory equipment suppliers do exist in Kenya, however there is no indication on their websites that they take part in a process to expedite production during an emergency. [9,10,11]

[1] The Public Procurement and Disposal Regulation 2006. [<http://ppra.go.ke/?mdocs-file=949>]. Accessed 12 October 2020.

[2] Republic of Kenya. "The Public Procurement and Disposal Act, 2005". [[https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/ppp\\_testdumb/documents/public\\_procurement\\_and\\_disposal\\_act\\_2005.pdf](https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/ppp_testdumb/documents/public_procurement_and_disposal_act_2005.pdf)]. Accessed 12 October 2020.

[3] Public Procurement Oversight Authority. July 2009. "Public Procurement Manual for Health Sector". [<http://ppra.go.ke/?mdocs-file=2971>]. Accessed 12 October 2020.

[4] Kenya Medical Supplies Authority. "Business Priorities." [<http://www.kemsa.co.ke/business-priorities/>]. Accessed 12 October 2020.

[5] Kenya Veterinary Vaccines Production Institute. "About us." [<https://kevevapi.org/index.php/about-us>]. Accessed 12 October 2020.

[6] World Health Organization (WHO) 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[7] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.

[8] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 12 October 2020.

[9] Detox International Laboratories. [<https://detoxlabs.co.ke/>]. Accessed 22 October 2020.

[10] Dun & Bradstreet. "Advanced Lab Supplies Limited". [[https://www.dnb.com/business-directory/company-profiles/advanced\\_lab\\_supplies\\_limited.5570456da913d683e10095abd60cc932.html](https://www.dnb.com/business-directory/company-profiles/advanced_lab_supplies_limited.5570456da913d683e10095abd60cc932.html)]. Accessed 22 October 2020.

[11] Kobian Scientific. [<https://www.kobianscientific.com/index.php/chemicals>]. Accessed 22 October 2020.

## 4.3 MEDICAL COUNTERMEASURES AND PERSONNEL DEPLOYMENT

### 4.3.1 System for dispensing medical countermeasures (MCM) during a public health emergency

#### 4.3.1a

Does the country have a plan, program, or guidelines in place for dispensing medical countermeasures (MCM) for national use during a public health emergency (i.e., antibiotics, vaccines, therapeutics and diagnostics)?

Yes = 1, No = 0

**Current Year Score: 0**

There is no publicly available evidence that Kenya has in place a plan for dispensing medical countermeasures during a public health emergency. According to the Joint External Evaluation (JEE) Mission Report of 2017, no national countermeasures plan has been drafted and the assessment recommends addressing this gap. [1] There is no evidence that the situation has changed since the JEE Mission Report of 2017 was completed. [2] There is also no relevant information on websites of the Ministry of Health and the Ministry of Interior & Coordination of National Government. [3,4]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[2] Chemonics. June 2019. "When public health becomes a national security concern". [<https://chemonics.com/blog/when-public-health-becomes-a-national-security-concern/>]. Accessed 12 October 2020.

[3] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.

[4] Ministry of Interior & Coordination of National Government. [<http://www.interior.go.ke/#>]. Accessed 12 October 2020.

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

### 4.3.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence of a plan in place to receive health personnel from other countries in order to respond to a public health emergency according to the Joint External Evaluation (JEE) Mission Report of 2017, the Ministry of Health and the Ministry of Interior and Coordination of the Government. [1,2,3] The Emergency Operations Center (EOC) has no online presence. There are no systematic mechanisms to support the deployment of international medical personnel during public health emergencies, although Kenya does have domestic rapid response teams (including epidemiologists) within the Disease Response and Surveillance Unit that are able to provide support during public health emergencies. [1] The JEE Mission Report of 2017 recommends developing systems and plans to support the deployment of international medical personnel although since it's publication, there has been no further evidence that these changes have been implemented by the Ministry of Health. [2]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 10 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.

[3] Ministry of Interior and Coordination of the Government. "About Us". [<http://www.interior.go.ke/index.php/aboutinterior>]. Accessed 10 October 2020.

## 4.4 HEALTHCARE ACCESS

### 4.4.1 Access to healthcare

#### 4.4.1a

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

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

**Current Year Score: 2**

2020

World Policy Analysis Center

#### **4.4.1b**

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

Input number

**Current Year Score: 61.8**

2014

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

#### **4.4.1c**

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

Input number

**Current Year Score: 38.03**

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 public evidence that the government of Kenya has issued legislation, a policy or a public statement committing to provide prioritized health care services to healthcare workers who become sick as a result of responding to a public health emergency according to the Ministry of Health, the Ministry of Interior and Coordination of the Government and the Joint External Evaluation (JEE) Mission Report of 2017. [1,2,3] The National Emergency Plan and SOP's for National Disaster Management Unit (NDMU), which describe the country's emergency response plan, do not mention prioritized emergency services to healthcare workers either. [4] The health care workers protection against occupational hazards are covered under the Occupational Safety and Health Policy Guidelines for the Health Sector in Kenya 2014. However, these guidelines are not specific to public health emergency responses. [5]

[1] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.

[2] Ministry of Interior and Coordination of the Government. [<http://www.interior.go.ke/index.php/aboutinterior>]. Accessed 12 October 2020.

[3] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[4] National Disaster Management Unit. "National Emergency Plan and SOP's for NDMU." [<http://www.disastermanagement.go.ke/downloads/>]. Accessed 12 October 2020.

[5] Ministry of Health. "Occupational Safety and Health Policy Guidelines for the Health Sector in Kenya 2014." [<http://www.health.go.ke/wp-content/uploads/2015/09/OCCUPATIONAL%20HEALTH%20AND%20SAFETY%20POLICY%20GUIDELINES%20FOR%20THE%20HEALTH%20SECTOR%20IN%20KENYA.pdf>]. Accessed 12 October 2020.

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

### 4.5.1 Communication with healthcare workers

#### 4.5.1a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no public evidence of a system in place for public health officials and healthcare workers in Kenya to communicate during a public health emergency according to the Joint External Evaluation (JEE) Mission Report of 2017. [1] Currently, a comprehensive risk communication plan in the national preparedness and all-hazards plan is outstanding and there have been no updates since the JEE Mission Report publication in 2017 according to the Ministry of Health. [1,2] The National Emergency Response Plan and Standard Operating Procedures (SOPs) of 2014 for the National Disaster Management Unit (NDMU), which describes the country's emergency response plan, while addressing communication, does not mention a specific plan for health officials and healthcare workers. [3,4] The Health Sector Disaster Risk Management Strategic Plan 2014-2018 also does not mention a specific communication plan for health officials and healthcare workers. [5]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 11 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 11 October 2020.

[3] National Disaster Management Unit. "National Emergency Plan and SOP's for NDMU."

[<http://www.disastermanagement.go.ke/downloads/>]. Accessed 11 October 2020.

[4] RefWorld. June 2014. "Kenya: National Emergency Response Plan and Standard Operating Procedures (SOPs)".

[<https://www.refworld.org/docid/5b682fa14.html>]. Accessed 10 October 2020.

[5] World Health Organization (WHO) Publications. "Ministry of Health Kenya Health Sector Disaster Risk Management Strategic Plan 2014-2018." [<https://afro.who.int/sites/default/files/2017-05/drm-2014---2018.pdf>]. Accessed 11 October 2020.

#### 4.5.1b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no public evidence of a system in place for public health officials and healthcare workers in both the public and private sectors in Kenya to communicate during a public health emergency according to the Joint External Evaluation (JEE) Mission Report of 2017, the Ministry of Health and the Ministry of Interior and Coordination of the Government. [1,2,3] Currently, a comprehensive risk communication plan in the national preparedness and all-hazards plan is outstanding and there have been no updates since the JEE Mission Report publication in 2017 according to the Ministry of Health. [1,2] The National Emergency Response Plan and Standard Operating Procedures (SOPs) of 2014 for National Disaster Management Unit (NDMU), which describes the country's emergency response plan, while addressing communication, does not mention a specific communication plan for health officials and healthcare workers in the public and private sectors. [4,5] The Health Sector Disaster Risk Management Strategic Plan 2014-2018 also does not mention a specific communication plan for health officials and healthcare workers in the public and private sectors. [6]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya".

[<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 11 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 11 October 2020.

[3] Ministry of Interior and Coordination of the Government. [<http://www.interior.go.ke/index.php/aboutinterior>]. Accessed 11 October 2020.

[4] National Disaster Management Unit. "National Emergency Plan and SOP's for NDMU."

[<http://www.disastermanagement.go.ke/downloads/>]. Accessed 11 October 2020.

[5] RefWorld. June 2014. "Kenya: National Emergency Response Plan and Standard Operating Procedures (SOPs)".

[<https://www.refworld.org/docid/5b682fa14.html>]. Accessed 10 October 2020.

[6] World Health Organization (WHO). Publications. "Ministry of Health Kenya Health Sector Disaster Risk Management Strategic Plan 2014-2018." [<https://afro.who.int/sites/default/files/2017-05/drm-2014---2018.pdf>]. Accessed 11 October 2020.

## 4.6 INFECTION CONTROL PRACTICES AND AVAILABILITY OF EQUIPMENT

### 4.6.1 Healthcare associated infection (HCAI) prevention and control programs

#### 4.6.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is no public evidence that the national public health system is monitoring for and tracking the number of healthcare-associated infections (HAI) that take place in healthcare facilities according to the Joint External Evaluation (JEE) Mission Report of 2017, the Ministry of Health and the National Strategic Plan for Infections Prevention and Control. [1,2,3] This includes tracking the number of COVID-19 cases among health care workers (HCW) specifically. There is a national Infection Prevention Control (IPC) programme which includes the surveillance of HAI in the strategic objectives, however, there is no publicly available evidence indicating that these policies have been implemented according to the Ministry of Health. [2] The JEE Mission Report of 2017 also makes further recommendations to strengthen the programme by putting in place a national reporting system for HAI for correct monitoring of surveillance activities and results. [1] No updated evidence was found since the report was written.

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 11 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 11 October 2020.

[3] Ministry of Health. Guidelines, Standards & Policies Portal. "National Strategic Plan For Infections Prevention and Control (IPC) For Health Care Services in Kenya." [<http://guidelines.health.go.ke/#/category/16/137/meta>]. Accessed 12 October 2020.

## 4.7 CAPACITY TO TEST AND APPROVE NEW MEDICAL COUNTERMEASURES

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

#### 4.7.1a

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

Yes = 1 , No = 0

Current Year Score: 1

In Kenya, there is a national requirement for ethical review before beginning a clinical trial. The Pharmacy and Poisons Board (PPB) is the authority mandated by the Pharmacy and Poisons Act of parliament (Cap 244 Laws of Kenya) to regulate clinical trials in addition to the Scientific and Ethics Review Unit within the Kenya Medical Research Institute. [2] The Expert Committee on Clinical Trials (ECCT) of the PPB developed guidelines to assist clinicians, researchers, the pharmaceutical

industry, sponsors and investigators to easily navigate the Kenyan clinical trial authorisation process (ethical review). The guidelines provide information on the current minimum requirements for authorisation to conduct clinical studies involving investigational drugs, medical devices or herbal drugs. It provides an application form and specifies procedures for approval of protocol amendments. Successful applications will address the following ethical clearance requirements: information patient consent, treatment of diseases post-trial, patient confidentiality, post-trial follow-up, insurance and indemnity measures, material transfer agreements (if needed), data confidentiality etc. [1]

[1] Kenya Pharmacy and Poisons Board. "Guidelines for Conduct of Clinical Trials in Kenya 2016."  
[<https://pharmacyboardkenya.org/downloads>]. Accessed 11 October 2020.

[2] KEMRI Scientific and Ethics Review Unit. [<https://www.kemri.org/index.php/blog/2015-07-06-18-01-18>]. Accessed 11 October 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: 1**

There is evidence of an expedited process for approving clinical trials for unregistered medical countermeasures to treat ongoing pandemics. Specifically, the Kenya Medical Research Institute (KEMRI) Scientific and Ethics Review Units (SERU), expedites the review process if a proposal requires a faster than usual review due to a major public health concern such as an epidemic. [1] The Expert Committee on Clinical Trials (ECCT) of the Pharmacy and Poisons Board (PPB) developed guidelines to assist clinicians, researchers, pharmaceutical industry, sponsors and investigators to easily navigate the Kenyan clinical trial authorisation process (ethical review). The guidelines provide information on the current minimum requirements for authorisation to conduct clinical studies involving investigational drugs, medical devices or herbal drugs. It provides an application form and specifies procedures for approval of protocol amendments. However, there is no evidence of an expedited process in this particular guideline.[2] There is no publicly available evidence on an expedited process for approving clinical trial for unregistered medical countermeasures to treat ongoing pandemics on the Ministry of Health website. [3]

[1] Kenya Medical Research Institute. "Scientific and Ethics Review Unit - SERU FAQs."  
[<https://www.kemri.org/index.php/blog/2015-07-06-18-01-18?limit=2&start=4>]. Accessed 12 October 2020.

[2] Kenya Pharmacy and Poisons Board. "Guidelines for Conduct of Clinical Trials in Kenya 2016."  
[<https://pharmacyboardkenya.org/downloads>]. Accessed 12 October 2020.

[3] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 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**

The Kenya Pharmacy and Poisons Board is responsible for approving new medical countermeasures for humans. The Agency implements the appropriate regulatory measures to achieve the highest standards of safety, efficacy and quality to ensure

the protection of the consumer as envisaged by the laws regulating drugs in force in Kenya. [1] The Agency also publishes guidelines and policies for stakeholders on how to get medical product licenses and approvals. [2]

[1] Kenya Pharmacy and Poisons Board. [<https://pharmacyboardkenya.org/about-us>]. Accessed 11 October 2020.

[2] Kenya Pharmacy and Poisons Board. "Guidelines, Policies, Strategies". [<https://pharmacyboardkenya.org/downloads>]. Accessed 11 October 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 of an expedited process for approving medical countermeasures in Kenya for human use during public health emergencies. There is no relevant information shared by the Joint External Evaluation (JEE) Mission Report of 2017, the Ministry of Health, or the Expert Committee on Clinical Trials of the Pharmacy and Poisons Board. [1,2,3] The national body responsible for carrying out health research in Kenya, Kenya Medical Research Institute (KEMRI) Scientific and Ethics Review Units (SERU), can expedite the review process if a proposal requires a faster than usual review due to a major public health concern such as an epidemic, however, this organization does not regulate the approval of new medical countermeasures nationally. [4]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 11 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 11 October 2020.

[3] Pharmacy and Poisons Board. "Clinical Trials" [<https://www.pharmacyboardkenya.org/clinical-trials>]. Accessed 12 October 2020.

[4] Kenya Medical Research Institute. "Scientific and Ethics Review Unit - SERU FAQs."

[<https://www.kemri.org/index.php/blog/2015-07-06-18-01-18?limit=2&start=4>]. Accessed 12 October 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

There is evidence that epidemics and pandemics are integrated into the national risk reduction strategy. Kenya's strategy is called the Health Sector Disaster Risk Management Strategic Plan 2014 - 2018 and when defining risk management and reduction, lists epidemics as one of the risks the strategy attempts to address. [1] The strategy includes risk reduction components such as outputs like "Risk reduction, Emergency and Disaster preparedness capacity in community units strengthened", and was developed partly in response to Kenya's involvement in the "third world conference on disaster risk reduction, held in Sendai Japan in March 2015", where it committed "to disaster risk reduction and the building of resilience to disasters." The strategy is implemented by the division of health emergencies and Disaster Risk Management (DRM), which includes two units: the Emergency Preparedness and Disaster Risk Reduction unit and the Pre-Hospital Care and Emergency Medical Response unit. [1] In 2018, there was a follow-up movement to strengthen Kenya's disaster risk reduction capacity through the initiation of a "reform programme to improve the country's capacity to reduce disaster risks and mitigate the socioeconomic and fiscal impact of disasters". Included in the reform program, and in line with recommendations made in the Sendai Framework, was the development of the global roadmap for disaster risk reduction - a National Disaster Risk Management Policy, which was adopted by the cabinet in August 2017, along with a Disaster Risk Management Bill (2018), which was issued in March 2018. [2,3] No further evidence was available on the Ministry of Health website and the Emergency Operations Center (EOC) does not have an online presence. [4]

[1] World Health Organization (WHO). Publications. "Ministry of Health Kenya Health Sector Disaster Risk Management Strategic Plan 2014-2018." [<https://afro.who.int/sites/default/files/2017-05/drm-2014---2018.pdf>]. Accessed 10 October 2020.

[2] ReliefWeb. September 2018. "Kenya boosts risk reduction capacity". [<https://reliefweb.int/report/kenya/kenya-boosts-risk-reduction-capacity>]. Accessed 23 October 2020.

[3] Kenya Private Sector Alliance (KEPSA). "Senate finally publishes the disaster risk management bill, 2017". [<https://kepsa.or.ke/senate-finally-publishes-the-disaster-risk-management-bill-2017/>]. Accessed 23 October 2020.

[4] Ministry of Health. [<http://www.health.go.ke>]. Accessed 10 October 2020.

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

### 5.2.1 Cross-border agreements

#### 5.2.1a

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

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

**Current Year Score: 2**

Kenya has cross-border agreements with neighbouring countries with regards to public health emergencies according to the Joint External Evaluation (JEE) Mission Report of 2017. [1] These memorandum of understanding (MOU)'s primarily focus on the recent Ebola outbreak and include an MOU with the African Union from December 2014 entitled: African Union to Support to Ebola Outbreak in West Africa (ASEOWA). Kenya also sent 171 medical volunteers to Liberia and Sierra Leone under the auspices of ASEOWA in January 2015. [1] Additionally, as a participant in the African Public Health Laboratories Network (APHLN) - a network of laboratories delivering clinical and public health services across the continent - Kenya has committed to sharing surveillance data with other African countries, specifically to aid in disaster response in the case of a public health emergency. [2] Other agreements that the JEE Mission Report mentions are: Kenya/United States of America agreement on Biological Threat Reduction, 2015; East African Community (EAC) One Stop Border Posts Act, 2016 - created by EAC Heads of State for border operations, including surveillance within five countries in the EAC region; Kenya/Israel MOU on health cooperation - for human resources capacity-building on disaster management and emergency medicines, 2016; Kenya/Liberia - Letter of Intent from Liberia requesting specialized clinical and public health resources to work in their health system. This entails capacity-building of human resources for health in specialized clinical and public health services, and information sharing on capacity-building in outbreaks, preparedness and response in line with the IHR, September 2016. [1] No further evidence is available on the Ministry of Health website. [3]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 11 October 2020.

[2] African Society for Laboratory Medicine. "About Us" [<http://www.aslm.org/who-we-are/>]. Accessed 12 October 2020.

[3] Ministry of Health. [<http://www.health.go.ke>]. Accessed 11 October 2020.

#### 5.2.1b

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

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

**Current Year Score: 0**

There is insufficient publicly available evidence to confirm that Kenya has cross-border agreements, protocols or MOUs with neighbouring countries, or as part of a regional group, with regards to animal health emergencies. Kenya is part of the Eastern Africa Regional Animal Health Network (RAHN), which brings together chief veterinary officers, epidemiologists and laboratory professionals to promote information sharing on transboundary animal diseases and zoonoses as well as strengthen coordination and collaboration for effective and efficient control of these TADs and zoonoses in the region. While these activities are relevant to responding to animal health emergencies, there is no evidence that the network has specific agreements or protocols related to emergencies. [1] There is no publicly available evidence on the specific MOU's Kenya has

with neighbouring countries with regards to animal health emergencies shared by the Ministry of Agriculture, Livestock, Irrigation and Fisheries, the World Organization for Animal Health (OIE), or the Food and Agriculture Organisation of the United Nations (FAO). [2,3,4]

[1] IGAD Center for Pastoral Areas and Livestock Development. "East Africa Regional Animal Health Networks." [https://icpald.org/projects-programs/rahn/]. Accessed 12 October 2020.

[2] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [http://www.kilimo.go.ke]. Accessed 12 October 2020.

[3] World Organization for Animal Health. "About Us" [http://www.oie.int/en/]. Accessed 12 October 2020.

[4] Food and Agriculture Organisation of the United Nations. "About FAO" [http://www.fao.org/home/en/]. Accessed 12 October 2020.

## 5.3 INTERNATIONAL COMMITMENTS

### 5.3.1 Participation in international agreements

#### 5.3.1a

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

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

**Current Year Score: 2**

2021

Biological Weapons Convention

#### 5.3.1b

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

Yes = 1, No = 0

**Current Year Score: 1**

2021

Biological Weapons Convention

#### 5.3.1c

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

Yes = 1, No = 0

**Current Year Score: 1**

2021

Biological Weapons Convention

### 5.3.1d

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

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

Current Year Score: 1

2021

Biological Weapons Convention

## 5.3.2 Voluntary memberships

### 5.3.2a

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

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

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

Current Year Score: 1

2021

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

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

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

#### 5.4.1a

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

Yes = 1 , No = 0

Current Year Score: 1

2021

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

#### 5.4.1b

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

Yes = 1 , No = 0

Current Year Score: 0

2021

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

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

#### 5.4.2a

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

Yes = 1 , No = 0

Current Year Score: 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

No evidence was found that Kenya has allocated national funds to improve capacity to address future epidemic threats within the past three years via the Joint External Evaluation (JEE) Mission Report of Kenya 2017, Ministry of Health, Ministry

of Agriculture, the President's website or through a media search. [1,2,3,4] A report published by Development Initiatives in July 2020, explains that "the national government has earmarked KES1,752 billion (roughly 16M USD), for its ministries, departments, and agencies - a decrease of 6.8% compared with the 2019/2020 allocation". Despite this decrease, the allocation to the Ministry of Health has increased by 10.3% to KES114 billion (roughly 1billion USD) compared with 2019/20. "The allocation to the Ministry of Health will go mainly to the National Referral and Specialized Services Program and the Health Policy, Standards, and Regulation Programs" - there is no mention that the funds will go to pandemic threats, however the report does state that KES2.7 billion (roughly 25M USD) have been reserved for COVID-19 Emergency Response Project. [5] No further evidence was found on the National Treasury website or in the budget reports that were available for the last three years. [6]

[1] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 12 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke>]. Accessed 12 October 2020.

[3] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 12 October 2020.

[4] Republic of Kenya President. [<https://big4.president.go.ke/>]. Accessed 12 October 2020.

[5] Development Initiatives. July 2020. "Kenya's COVID-19 budget: Funding for health and welfare".

[<https://devinit.org/resources/kenyas-covid-19-budget-funding-for-health-and-welfare/>]. Accessed 22 October 2020.

[6] The National Treasury. [<https://www.treasury.go.ke/budget.html>]. Accessed 23 October 2020.

## 5.5.2 Financing under Joint External Evaluation (JEE) and Performance of Veterinary Services (PVS) reports and gap analyses

### 5.5.2a

**Does the Joint External Evaluation (JEE) report, National Action Plan for Health Security (NAPHS), and/or national GHSA roadmap allocate or describe specific funding from the national budget (covering a time-period either in the future or within the past five years) to address the identified gaps?**

Yes = 1 , No/country has not conducted a JEE = 0

**Current Year Score: 0**

2021

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

### 5.5.2b

**Does the Performance of Veterinary Services (PVS) gap analysis and/or PVS assessment allocate or describe specific funding from the national budget (covering a time-period either in the future or within the past five years) to address the identified gaps?**

Yes = 1 , No/country has not conducted a PVS = 0

**Current Year Score: 0**

2021

OIE PVS assessments

### 5.5.3 Financing for emergency response

#### 5.5.3a

Is there a publicly identified special emergency public financing mechanism and funds which the country can access in the face of a public health emergency (such as through a dedicated national reserve fund, an established agreement with the World Bank pandemic financing facility/other multilateral emergency funding mechanism, or other pathway identified through a public health or state of emergency act)?

Yes = 1, No = 0

**Current Year Score: 1**

Kenya, as an eligible IDA borrowing country, can access the World Bank's Pandemic Emergency Financing Facility, which was introduced in 2017 to provide financial support to low-income countries with disease outbreak from one of the six viruses: Orthomyxoviruses (new influenza pandemic virus A), Coronaviridae (SARS, MERS), Filoviridae (Ebola, Marburg) and other zoonotic diseases (Crimean Congo, Rift Valley, Lassa fever). [1,2] At the national level, the National Emergency Plan and SOPs for National Disaster Management Unit (NDMU), which includes epidemics as a type of disaster, mentions that the government through the relevant Ministries will fund the operations of the unit. The unit shall from time to time mobilize resources from stakeholders to address disaster risk management issues. Requests for international assistance funds (contingency funds) will be facilitated by the Principal Secretary, Ministry of Interior and Coordination of National Government based on established modalities with the Ministry of Devolution and Planning and National Treasury. [3]

[1] World Bank. "Borrowing Countries". [<http://ida.worldbank.org/about/borrowing-countries>]. Accessed 12 October 2020.

[2] World Bank. "Pandemic Emergency Financing Facility: Frequently Asked Questions".

[<http://www.worldbank.org/en/topic/pandemics/brief/pandemic-emergency-facility-frequently-asked-questions>]. Accessed 12 October 2020.

[3] National Disaster Management Unit. "National Emergency Plan and SOP's for NDMU."

[<http://www.disastermanagement.go.ke/downloads/>]. Accessed 12 October 2020.

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

#### 5.5.4a

Is there evidence that senior leaders (president or ministers), in the past three years, have made a public commitment either to:

- Support other countries to improve capacity to address epidemic threats by providing financing or support?
- Improve the country's domestic capacity to address epidemic threats by expanding financing or requesting support to improve capacity?

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

**Current Year Score: 0**

There is insufficient evidence to confirm that senior Kenyan leaders have, in the past three years, made a public commitment either to invest finances (from donors or national budget) or provide technical support to improve Kenya's own domestic capacity to address epidemic threats, or to support other countries to improve capacity to address epidemic threats. There is evidence that Kenya has requested support to improve its own domestic capacity to address epidemic threats. Kenya's Global Health Security Agenda roadmap for 2015-2020 requests technical assistance from the US Centers for Disease Control, the United States Agency for International Development (USAID) and the US Department of Defence on topics such as antimicrobial resistance and zoonotic disease. According to the roadmap, these requests fall under the broader goal of

"prevent avoidable epidemics". [1] However, there is no evidence that senior Kenyan leaders have made a public commitment in relation to these requests. There is also no mention of these requests on the publicly available websites of the Ministry of Health, the Ministry of Agriculture, Livestock, Fisheries, and Irrigation, or the Office of the President. [2,3,4] No other evidence was found of commitments to invest finances or provide technical support to improve Kenya's own domestic capacity to address epidemic threats through a media search.

[1] Kenya GHSA 5 Year Roadmap. [<https://www.ghsagenda.org/docs/default-source/ghsa-roadmaps/ghsa-kenya-roadmap.pdf>]. Accessed 12 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke/>]. Accessed 12 October 2020.

[3] Ministry of Agriculture, Livestock, Fisheries, and Irrigation. [<http://www.kilimo.go.ke/>]. Accessed 12 October 2020.

[4] Presidency of Kenya. [<http://www.president.go.ke/>]. Accessed 12 October 2020.

### 5.5.4b

**Is there evidence that the country has, in the past three years, either:**

- **Provided other countries with financing or technical support to improve capacity to address epidemic threats?**
- **Requested financing or technical support from donors to improve the country's domestic capacity to address epidemic threats?**

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

**Current Year Score: 1**

There is evidence that Kenya has, in the past three years, requested financing or technical support from donors to improve the country's domestic capacity to address epidemic threats although there is no evidence that the country has provided other countries with financing or technical support to improve capacity to address epidemic threats. There is evidence via the Global Health Security Funding Tracker that Kenya has invested donor finances to improve domestic capacity to address epidemic threats. The tracker notes that Kenya has received funding from multiple donors to enhance their capacity on global security preparedness, including just over US\$2.3m from Denmark to support a programme to contribute to the development of national biosecurity and biopreparedness systems. [1] According to the Georgetown Global Health Security Tracking, zero funds were distributed to epidemic threats since 2014, where as Kenya received 5.58 billion USD since 2014. There is no evidence from the tracker that the country has provided other countries with financing or technical support to improve capacity to address epidemic threats. [1] In April 2020, Kenya received \$50 Million USD from the World Bank Group to address COVID-19 pandemic which was said to be for "emergency funding for medical diagnostic services, surveillance and response, capacity building, quarantine, isolation and treatment centers, medical waste disposal, risk communications and community engagement as well as for strengthening of the country's capacity to provide safe blood services". [2] Despite responding to the pandemic, there is no evidence that these funds were allocated to improving capacity to respond to public health emergencies. A report published by Development Initiatives in July 2020, explains that "the national government has earmarked KES1,752 billion (roughly 16M USD), for its ministries, departments, and agencies - a decrease of 6.8% compared with the 2019/2020 allocation". Despite this decrease, the allocation to the Ministry of Health has increased by 10.3% to KES114 billion (roughly 1billion USD) compared with 2019/20. "The allocation to the Ministry of Health will go mainly to the National Referral and Specialized Services Program and the Health Policy, Standards, and Regulation Programs" - there is no mention that the funds will go to improving capacity to address epidemic threats, however the report does reiterate that KES2.7 billion (roughly 25M USD) have been reserved for COVID-19 Emergency Response Project. [3] No further evidence was found on the National Treasury website or in the budget reports that were available for the last three years. [4]

[1] Georgetown Infectious Disease Atlas (GIDA) Global Health Security Tracker.

[<https://tracking.ghscosting.org/explore/map>]. Accessed 12 October 2020.

[2] World Bank. April 2020. "Kenya Receives \$50 Million World Bank Group Support to Address COVID-19 Pandemic".

[<https://www.worldbank.org/en/news/press-release/2020/04/02/kenya-receives-50-million-world-bank-group-support-to-address-covid-19-pandemic>]. Accessed 12 October 2020.

[3] Development Initiatives. July 2020. "Kenya's COVID-19 budget: Funding for health and welfare".

[<https://devinit.org/resources/kenyas-covid-19-budget-funding-for-health-and-welfare/>]. Accessed 22 October 2020.

[4] The National Treasury. [<https://www.treasury.go.ke/budget.html>]. Accessed 23 October 2020.

### 5.5.4c

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

Yes = 1 , No = 0

**Current Year Score: 1**

2021

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

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

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

#### 5.6.1a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence of a plan or policy for Kenya to share genetic data, clinical specimens or isolated specimens beyond influenza with international entities according to the National Public Health Laboratory, the Ministry of Health, the Ministry of Defence, the Ministry of Agriculture, Livestock, Irrigation and Fisheries, and the website of the Republic of Kenya Zoonotic Disease Unit was not accessible at the time of research. [1,2,3,4,5] However, Kenya has committed to sharing surveillance data with other African countries, including in a public health emergency. It participates in the African Public Health Laboratories Network (APHLN), which provide lab assistance and information sharing during public health emergencies. [6] It has also committed via the East African Community (EAC) One Stop Border Posts Act, 2016 - created by EAC Heads of State for border operations, including surveillance within five countries in the EAC region. [7] Kenya is also committed to sharing surveillance data through the African Field Epidemiology Network (AFENET), though not specifically during a public health emergency. [8]

[1] National Public Health Laboratory Services. [<http://nphl.go.ke/>]. Accessed 10 October 2020.

[2] Ministry of Health. [<http://www.health.go.ke/>]. Accessed 10 October 2020.

[3] Republic of Kenya Zoonotic Disease Unit (ZDU). [<http://zdukenya.org/about-zdu/>]. Accessed 10 October 2020.

[4] Kenyan Ministry of Defence. [[http://www.mod.go.ke/?page\\_id=338](http://www.mod.go.ke/?page_id=338)]. Accessed 10 October 2020.

[5] Ministry of Agriculture, Livestock, Fisheries and Irrigation. [<http://www.kilimo.go.ke>]. Accessed 10 October 2020.

[6] African Public Health Laboratories Network (APHLN). [<http://www.aslm.org/what-we-do/aphln/>]. Accessed 10 October 2020.

[7] World Health Organization (WHO). 2017. "Joint External Evaluation of IHR Core Capacities of the Republic of Kenya". [<http://www.who.int/ihr/publications/WHO-WHE-CPI-REP-2017.44/en/>]. Accessed 10 October 2020.

[8] African Field Epidemiology Network (AFENET). [<http://www.afenet.net/>]. Accessed 10 October 2020.

### 5.6.1b

**Is there public evidence that the country has not shared samples in accordance with the Pandemic Influenza Preparedness (PIP) framework in the past two years?**

Yes = 0 , No = 1

**Current Year Score: 1**

There is no public evidence that Kenya has not shared samples in accordance with the PIP framework in the past two years. The World Health Organisation has not reported any non-compliance in the past year by Kenya.[1] There is also no evidence via the media that suggests non-compliance.

[1] World Health Organisation. "Virus sharing." [[http://www.who.int/influenza/pip/virus\\_sharing/en/](http://www.who.int/influenza/pip/virus_sharing/en/)]. Accessed 10 October 2020.

### 5.6.1c

**Is there public evidence that the country has not shared pandemic pathogen samples during an outbreak in the past two years?**

Yes = 0 , No = 1

**Current Year Score: 1**

There is no public evidence that Kenya has not shared pandemic pathogen samples during an outbreak in the past two years. There is no information available via the World Health Organisation or via any media articles that suggest Kenya has not shared samples. [1] There has also not been any reporting of not sharing in the context of Covid-19.

[1] World Health Organisation. "Countries - Kenya." [<http://www.who.int/countries/ken/en/>] Accessed 10 October 2020.

## Category 6: Overall risk environment and vulnerability to biological threats

### 6.1 POLITICAL AND SECURITY RISK

#### 6.1.1 Government effectiveness

##### 6.1.1a

Policy formation (Economist Intelligence score; 0-4, where 4=best)

Input number

Current Year Score: 3

2020

Economist Intelligence

### 6.1.1b

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

Input number

Current Year Score: 0

2020

Economist Intelligence

### 6.1.1c

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

Input number

Current Year Score: 1

2020

Economist Intelligence

### 6.1.1d

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

Input number

Current Year Score: 1

2020

Economist Intelligence

### 6.1.1e

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

Input number

Current Year Score: 31

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: 1**

2020

Economist Intelligence

## 6.1.2 Orderly transfers of power

### 6.1.2a

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

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

**Current Year Score: 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: 3**

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: 1

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: 1

2020

UN Office of Drugs and Crime (UNODC)

### 6.1.4c

How high is the risk of organized criminal activity to the government or businesses in the country?

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

Current Year Score: 1

2021

Economist Intelligence

## 6.1.5 Armed conflict

### 6.1.5a

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

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

Current Year Score: 2

2021

Economist Intelligence

## 6.1.6 Government territorial control

### 6.1.6a

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

Yes = 1, No = 0

Current Year Score: 1

2021

Economist Intelligence

## 6.1.7 International tensions

### 6.1.7a

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

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

Current Year Score: 1

2021

Economist Intelligence

## 6.2 SOCIO-ECONOMIC RESILIENCE

### 6.2.1 Literacy

#### 6.2.1a

Adult literacy rate, population 15+ years, both sexes (%)

Input number

Current Year Score: 81.53

2018

United Nations Development Programme (UNDP); United Nations Educational, Scientific and Cultural Organization (UNESCO);  
The Economist Intelligence Unit

### 6.2.2 Gender equality

#### 6.2.2a

United Nations Development Programme (UNDP) Gender Inequality Index score

Input number

Current Year Score: 0.45

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: 11.7**

2015

World Bank; Economist Impact

### 6.2.3b

#### Share of employment in the informal sector

Greater than 50% = 2, Between 25-50% = 1, Less than 25% = 0

**Current Year Score: 2**

According to the World Bank report on informal enterprises in Kenya, the Kenya National Bureau of Statistics (NBS) estimated that, "as of 2014, the informal sector represented 82.7 percent of employment". [1] In 2019, the Kenya NBS reported that the informal sector accounted for 83.6 percent of Kenya's total employment in 2018. [2] No further evidence was found of the share of employment on the World Bank employment statistics webpage or the International Labor Organization (ILOSTAT) database. [3,4]

[1] The World Bank. January 2016. "Informal Enterprises in Kenya".

[<http://documents1.worldbank.org/curated/en/262361468914023771/pdf/106986-WP-P151793-PUBLIC-Box.pdf>]. Accessed 21 October 2020.

[2] Kenya National Bureau of Statistics. 2019. "Economic Survey 2019". [<https://s3-eu-west-1.amazonaws.com/s3.sourceafrica.net/documents/119074/Kenya-National-Bureau-of-Statistics-Economic.pdf>]. Accessed 21

October 2020.

[3] International Labor Organization (ILOSTAT). "Country Profiles". [<https://ilostat.ilo.org/data/country-profiles/>]. Accessed 10 October 2020.

[4] The World Bank. "Informal Employment (% total of non-agricultural employment)".

[<https://data.worldbank.org/indicator/SL.ISV.IFRM.ZS?locations=KE>]. Accessed 10 October 2020.

### 6.2.3c

#### Coverage of social insurance programs (% of population)

Scored in quartiles (0-3, where 3=best)

**Current Year Score: 0**

2016, or latest available

World Bank; Economist Impact calculations

## 6.2.4 Public confidence in government

### 6.2.4a

Level of confidence in public institutions

Input number

Current Year Score: 1

2021

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: 0.41

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: 0

2021

Economist Intelligence

### 6.3.2 Adequacy of airports

#### 6.3.2a

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

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

Current Year Score: 1

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: 27.51

2019

World Bank

### 6.4.2 Land use

#### 6.4.2a

Percentage point change in forest area between 2006–2016

Input number

Current Year Score: -0.13

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: 2

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: 66.34

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: 587.1

2019

WHO

#### 6.5.1c

Population ages 65 and above (% of total population)

Input number

Current Year Score: 2.42

2019

World Bank

### **6.5.1d**

**Prevalence of current tobacco use (% of adults)**

Input number

Current Year Score: 11.8

2018

World Bank

### **6.5.1e**

**Prevalence of obesity among adults**

Input number

Current Year Score: 7.1

2016

WHO

## **6.5.2 Access to potable water and sanitation**

### **6.5.2a**

**Percentage of homes with access to at least basic water infrastructure**

Input number

Current Year Score: 58.92

2017

UNICEF; Economist Impact

### **6.5.2b**

**Percentage of homes with access to at least basic sanitation facilities**

Input number

Current Year Score: 29.05

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: 75.5

2018

WHO Global Health Expenditure database

### 6.5.4 Trust in medical and health advice

#### 6.5.4a

Trust medical and health advice from the government

Share of population that trust medical and health advice from the government , More than 80% = 2, Between 60-80%, or no data available = 1, Less than 60% = 0

Current Year Score: 1

2018

Wellcome Trust Global Monitor 2018

#### 6.5.4b

Trust medical and health advice from medical workers

Share of population that trust medical and health advice from health professionals , More than 80% = 2, Between 60-80%, or no data available = 1, Less than 60% = 0

Current Year Score: 1

2018

Wellcome Trust Global Monitor 2018