

# Pakistan

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

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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**

Pakistan has a national AMR plan for the surveillance, detection, and reporting of priority AMR pathogens.

The WHO Library of national action plans contains an AMR plan for Pakistan. [1] The plan, overseen by Pakistan's National Institute of Health (NIH), was published in May 2017 and follows the guidelines established by the World Health Organisation's (WHO) World Action Plan. It has five strategic objectives: improving understanding of AMR, strengthening scientific knowledge, reducing the incidence of infections, appropriate use of antimicrobial medications, and making economic arguments in favour of sustainable investment in healthcare. The plan addresses the issues of surveillance, detection, and reporting on AMR pathogens by establishing the AMR coordinating centres and reference laboratories for AMR surveillance in all sectors (Health, Veterinary, Agriculture & Environment). The plan also created the disease detection and response guidelines and food testing laboratories to perform antimicrobial residues detection. Moreover, the plan set up a common dashboard for data sharing among public and private stakeholders at the district, provincial, and national levels, and the development and implementation of mechanisms for data collection, reporting, and data sharing in each sector. [2]

Pakistan's National AMR plan was approved and published after the completion of the Joint External Evaluation (JEE) report, in May 2016. The development of a national AMR plan was recommended as a priority action in the JEE report.[3]

[1] World Health Organisation. "Library of national action plans". 2020. [<https://www.who.int/antimicrobial-resistance/national-action-plans/library/en/>]. Accessed 1 December 2020.

[2] Government of Pakistan. The National Institute of Health (NIH). 2020. "AMR National Action Plan Pakistan". [<https://www.nih.org.pk/amr-national-action-plan-pakistan/>]. Accessed 1 December 2020.

[3] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 1 December 2020.

##### 1.1.1b

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

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

**Current Year Score: 1**

There is publicly available evidence of a national laboratory system which tests for only one of the priority AMR pathogens in Pakistan.

There is evidence that the Aga Khan University Hospital laboratory is able to conduct Mycobacterium tuberculosis testing.[1] According to the Joint External Evaluation (JEE) report for Pakistan, conducted in May 2016, although the country has a national laboratory system in place, the capacity to perform, report, and share AMR testing is not widely available. Pakistan also has sentinel sites in both the public and private health sector.[2]

The National AMR Action Plan for Pakistan which was published in May 2017 noted that the country has "no national proficiency scheme for standardised AMR testing in public (human and animal health sectors), however, some laboratories in academic institutes and private sector have advance research facilities" and there are 4 sentinel sites (2 each in Sindh and Punjab).[3]

JEE report states that "there are facilities for testing some priority pathogens especially at universities and tertiary care hospitals, such as multi drug resistance testing under the National Tuberculosis Control Programme".[2]

[1] The National Centre for Biotechnology Information. September 2010. "Extensively Drug-Resistant Tuberculosis, Pakistan". [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3294979/]. Accessed 1 December 2020.

[2] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf]. Accessed 1 December 2020.

[3] World Health Organisation (WHO). Library of National Action Plans. May 2017. "Antimicrobial Resistance National Action Plan Pakistan". [https://www.who.int/antimicrobial-resistance/national-action-plans/library/en/]. Accessed 1 December 2020.

### 1.1.1c

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no evidence that the Government of Pakistan conducts detection or surveillance activities (e.g. in soil, waterways, etc.) for antimicrobial residues or AMR organisms.

The 2016 Joint External Evaluation for Pakistan does not mention any governmental surveillance activities for antimicrobial residues or AMR organisms. [1]

There is no evidence of conducting detection or surveillance activities for antimicrobial residues or AMR organisms from the websites of Ministry of National Health Services Regulations & Coordination and Environmental Protection Agency. [2,3]

The AMR National Action Plan for Pakistan which was published in May 2017, states that one of the country's priority intervention is to establish AMR coordinating centres for AMR surveillance in all sectors; Health, Veterinary, Agriculture and Environment. [4]

According to the 2017-2018 Global Database for Antimicrobial Resistance Country Self Assessment on the national surveillance system for antimicrobial resistance (AMR) in animals, plants, foods and environment, although some AMR data is

collected locally but it lacks a standardised approach, national coordination or quality management. [5]

According to one study which was carried out by the Global Antibiotic Resistance Partnership (GARP) and the Centre For Disease Dynamics, Economics & Policy (CDDEP) on antibiotic residues in poultry and waterways in Pakistan in 2018, 49 mg/L of several antimicrobials were found in waterways downstream of formulation facilities. [6]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 2 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk/index>]. Accessed 2 December 2020.

[3] Government of Pakistan. Ministry of Climate Change. Pakistan Environmental Protection Agency. 2020. "Policies and Strategies". [<http://environment.gov.pk/desc.php?page=policies>]. Accessed 2 December 2020.

[4] Government of Pakistan. The National Institute of Health (NIH). 2017. "AMR National Action Plan Pakistan". [<https://www.nih.org.pk/amr-national-action-plan-pakistan/>]. Accessed 2 December 2020.

[5] Global Database for Antimicrobial Resistance Country Self Assessment. 2020. "Pakistan". [<https://amrcountryprogress.org/>]. Accessed 2 December 2020.

[6] The Global Antibiotic Resistance Partnership (GARP). 2018. "Situation Analysis Report on Antimicrobial Resistance in Pakistan". [<https://cddep.org/wp-content/uploads/2018/03/Situational-Analysis-Report-on-Antimicrobial-Resistance-in-Pakistan.pdf>]. Accessed 2 December 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: 0**

There is no evidence that Pakistan has in place national legislation or regulation requiring prescriptions for antibiotic use for humans.

The 2016 Joint External Evaluation for Pakistan states that the country should put in place regulations to monitor and control the use of antibiotics in humans.[1]

The Pakistan's AMR National Action Plan, which was published in May 2017, expressly noted that there exists an irrational use of antibiotics which is more common among General Physicians (GPs) and public sector hospitals, and that antibiotics are available over the counter without prescription. Only a few institutions have full or partial institutional policies on prescription of antibiotics.[2]

There is no evidence of such a legislation from the Websites of Ministry of National Health Services Regulations & Coordination or Drug Regulatory Authority of Pakistan. [3,4] Also, there is no such a requirement in the 2012 Drug Regulatory Authority of Pakistan Act.[5]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 2 December 2020.

[2] Government of Pakistan. The National Institute of Health (NIH). 2017. "AMR National Action Plan Pakistan". [<https://www.nih.org.pk/amr-national-action-plan-pakistan/>]. Accessed 2 December 2020.

[3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk/>]. Accessed 2 December 2020.

[4] Government of Pakistan. Drug Regulatory Authority of Pakistan. 2020. "Important Documents". [<http://www.dra.gov.pk/Home/DownloadsAllDocs>]. Accessed 2 December 2020.

[5] Government of Pakistan. Accessed 2 December 2020. "Drug Regulatory Authority of Pakistan". [<http://www.dra.gov.pk/docs/DRAP%20Act.pdf>]. Accessed 2 December 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: 0**

There is no evidence that Pakistan has in place national legislation or regulation requiring prescriptions for antibiotic use for animals.

The 2016 Joint External Evaluation for Pakistan states that the country should put in place regulations to monitor and control the use of antibiotics in animals.[1]

The Pakistan's AMR National Action Plan which was published in May 2017 noted that easy accessibility to antibiotics and overuse of antibiotics in veterinary sector is responsible for drug resistance in humans.[2]

There is no evidence of such legislation on the websites of the Ministry of National Health Services Regulations & Coordination, Drug Regulatory Authority of Pakistan, or the Ministry of National Food Security & Research. [3,4,5]

According to the 2017-2018 Global Database for Antimicrobial Resistance Country Self Assessment, Pakistan has "a agreed plan for monitoring quantities of antimicrobials sold for/used in animals, based on OIE standards". However, this plan has not been found.[6]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 2 December 2020.

[2] Government of Pakistan. The National Institute of Health (NIH). 2017. "AMR National Action Plan Pakistan". [<https://www.nih.org.pk/amr-national-action-plan-pakistan/>]. Accessed 2 December 2020.

[3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk/index>]. Accessed 2 December 2020.

[4] Government of Pakistan. Drug Regulatory Authority of Pakistan. 2020. "Important Documents". [<http://www.dra.gov.pk/Home/DownloadsAllDocs>]. Accessed 2 December 2020.

[5] Government of Pakistan. Ministry of National Food Security & Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 2 December 2020.

[6] Global Database for Antimicrobial Resistance Country Self Assessment. 2020. " Pakistan,7.2 National monitoring system for antimicrobials intended to be used in animals (sales/use)". [<https://amrcountryprogress.org/>]. Accessed 2 December 2020.

## 1.2 ZONOTIC DISEASE

### 1.2.1 National planning for zoonotic diseases/pathogens

#### 1.2.1a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has a national law, plan, or equivalent strategy document, on zoonotic disease.

According to the 2016 Joint External Evaluation (JEE) for Pakistan, one of the priority actions for the government is to "develop and implement necessary legal instruments and coordination mechanisms to adopt a One Health approach for zoonotic disease management".[1]

Although the country does not have a national law on zoonotic disease, there exists a list of priority diseases which was published by the Ministry of National Health Services Regulations & Coordination in December 2017; it includes rabies, brucellosis, Crimean-Congo haemorrhagic fever, influenza, salmonellosis, and anthrax.[2]

In 2018, the country set up a One Health Hub to prevent and control the zoonotic diseases of national and international concern. [3]

The Centres for Disease Control and Prevention (CDC) and the United States Department of Agriculture (USDA) supported the Government of Pakistan with technical assistance in developing a One Health Strategic Plan to prevent, detect and respond to infectious disease outbreaks in Pakistan.[4]

An overall law, plan, or strategy was not available on the websites of the Ministry of National Health Services Regulations & Coordination or the Ministry of National Food Security & Research.[5,6]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 2 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination. 17 December 2017. "Notification, Priority diseases". [<https://www.nih.org.pk/wp-content/uploads/2018/11/Notification-of-Priority-Diseases-in-Pakistan.pdf>]. Accessed 2 December 2020.

[3] Government of Pakistan. The National Institute of Health (NIH). 2020. "Field Epidemiology & Disease Surveillance Division (FE&DSD)". [<https://www.nih.org.pk/field-epidemiology-disease-surveillance-division-fedsd/>]. Accessed 2 December 2020.

[4] U.S. Embassy in Pakistan. 20 July 2018. "U.S. Experts Help Develop Plan to Control Zoonotic Diseases in Pakistan". [<https://pk.usembassy.gov/u-s-experts-help-develop-plan-to-control-zoonotic-diseases-in-pakistan/>]. Accessed 2 December 2020.

[5] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk/index>]. Accessed 2 December 2020.

[6] Government of Pakistan. Ministry of National Food Security & Research. 2020. "Policies and Plans". [<http://www.mnfsr.gov.pk/policiesDetails.aspx>]. Accessed 2 December 2020.

### 1.2.1b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has legislation, plans, or strategies for risk identification and reduction of zoonotic disease spillover events from animals to humans.

According to the 2016 Joint External Evaluation (JEE) for Pakistan, one of the priority actions for the government is to "conduct systematic surveillance at the human-animal interface using a One Health approach for priority zoonotic diseases".[1]

There exists a list of priority diseases which was published by the Ministry of National Health Services Regulations & Coordination in December 2017. It includes rabies, brucellosis, Crimean-Congo haemorrhagic fever (CCHF), influenza, salmonellosis and anthrax. [2]

The Pakistan Agricultural Research Council has a Animal Health Program, which includes studying selected zoonotic diseases.[3]

In 2018, the country following the recommendation of JEE, set up a One Health Hub to prevent and control the zoonotic diseases of national and international concern. [4]

The country also has an ongoing project on surveillance of CCHF and brucellosis which involves two districts within each of two provinces in Pakistan; Baluchistan and Khyber Pakhtunkhwa.[5]

The Centres for Disease Control and Prevention (CDC) and the United States Department of Agriculture (USDA) supported the Government of Pakistan with technical assistance in developing a One Health Strategic Plan to prevent, detect and respond to infectious disease outbreaks in Pakistan.[6]

There is no evidence of a law, guideline, or strategy for risk identification and reduction for zoonotic disease spillover events from animals to humans on the websites of the Ministry of National Health Services Regulations & Coordination, and the Ministry of National Food Security & Research.[7,8]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 2 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination. 17 December 2017. "Notification, Priority diseases". [<https://www.nih.org.pk/wp-content/uploads/2018/11/Notification-of-Priority-Diseases-in-Pakistan.pdf>]. Accessed 2 December 2020.

[3] Pakistan Agricultural Research Council. 2020. "Animal Health Program". [<http://www.parc.gov.pk/index.php/en/faqy/131-narc/animal-sciences-institute/603-asi-animal-health>]. Accessed 2 December 2020.

[4] Government of Pakistan. The National Institute of Health (NIH). 2020. "Field Epidemiology & Disease Surveillance Division (FE&DSD)". [<https://www.nih.org.pk/field-epidemiology-disease-surveillance-division-fedsd/>]. Accessed 2 December 2020.

[5] One Health network, South East Asia. 2019. "Pakistan: Crimean Congo haemorrhagic fever and brucellosis in human and livestock populations". [<http://www.onehealthnetwork.asia/node/112>]. Accessed 2 December 2020.



[6] U.S. Embassy in Pakistan. 20 July 2018. "U.S. Experts Help Develop Plan to Control Zoonotic Diseases in Pakistan". [<https://pk.usembassy.gov/u-s-experts-help-develop-plan-to-control-zoonotic-diseases-in-pakistan/>]. Accessed 2 December 2020.

[7] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk/index>]. Accessed 2 December 2020.

[8] Government of Pakistan. Ministry of National Food Security & Research. 2020. "Policies and Plans". [<http://www.mnfsr.gov.pk/policiesDetails.aspx>]. Accessed 2 December 2020.

### 1.2.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has national legislation, plans, or guidelines that account for the surveillance and control of multiple zoonotic pathogens of public health concern.

According to the 2016 Joint External Evaluation (JEE) for Pakistan, one of the priority actions for the government is to "Develop and implement necessary legal instruments and coordination mechanisms to adopt a One Health approach for zoonotic disease management".[1]

Although the country does not have a national law for the surveillance and control of multiple zoonotic pathogens of public health concern, there exists a list of priority diseases which was published by the Ministry of National Health Services Regulations & Coordination in December 2017. It includes rabies, brucellosis, Crimean-Congo haemorrhagic fever (CCHF), influenza, salmonellosis and anthrax. [2]

The Pakistan Agricultural Research Council has a Animal Health Program, which includes studying selected zoonotic diseases.[3]

In 2018, the country following the recommendation of JEE, set up a One Health Hub to prevent and control the zoonotic diseases of national and international concern. [4]

The country also has an ongoing project on surveillance of CCHF and brucellosis which involves two districts within each of two provinces in Pakistan; Baluchistan and Khyber Pakhtunkhwa.[5]

The Centres for Disease Control and Prevention (CDC) and the United States Department of Agriculture (USDA) supported the Government of Pakistan with technical assistance in developing a One Health Strategic Plan to prevent, detect and respond to infectious disease outbreaks in Pakistan.[6]

There is no evidence of a law, guideline, or strategy for the surveillance and control of multiple zoonotic pathogens of public health concern on the websites of the Ministry of National Health Services Regulations & Coordination, and the Ministry of National Food Security & Research.[7,8]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 2 December 2020.

- [2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination. 17 December 2017. "Notification, Priority diseases". [<https://www.nih.org.pk/wp-content/uploads/2018/11/Notification-of-Priority-Diseases-in-Pakistan.pdf>]. Accessed 2 December 2020.
- [3] Pakistan Agricultural Research Council. 2020. "Animal Health Program". [<http://www.parc.gov.pk/index.php/en/faqy/131-narc/animal-sciences-institute/603-asi-animal-health>]. Accessed 2 December 2020.
- [4] Government of Pakistan. The National Institute of Health (NIH). 2020. "Field Epidemiology & Disease Surveillance Division (FE&DSD)". [<https://www.nih.org.pk/field-epidemiology-disease-surveillance-division-fedsd/>]. Accessed 2 December 2020.
- [5] One Health network, South East Asia. 2019. "Pakistan: Crimean Congo haemorrhagic fever and brucellosis in human and livestock populations". [<http://www.onehealthnetwork.asia/node/112>]. Accessed 2 December 2020.
- [6] U.S. Embassy in Pakistan. 20 July 2018. "U.S. Experts Help Develop Plan to Control Zoonotic Diseases in Pakistan". [<https://pk.usembassy.gov/u-s-experts-help-develop-plan-to-control-zoonotic-diseases-in-pakistan/>]. Accessed 2 December 2020.
- [7] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk/index>]. Accessed 2 December 2020.
- [8] Government of Pakistan. Ministry of National Food Security & Research. 2020. "Policies and Plans". [<http://www.mnfsr.gov.pk/policiesDetails.aspx>]. Accessed 2 December 2020.

### 1.2.1d

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has a department, agency or similar unit dedicated to zoonotic disease that functions across ministries. The 2016 Joint External Evaluation (JEE) for Pakistan states that there is an informal committee for coordination between animal and public health sectors in the province of Khyber Pakhtunkhwa. The JEE report also mentioned the notification of the establishment of the National Zoonoses Surveillance and Research Unit (NaZSRU). [1] There is no publicly available evidence on this unit and its structure or functioning. In the 2016 online Journal of Infection Ecology & Epidemiology, there is a mention of this Unit working on Surveillance for brucellosis, Crimean-Congo hemorrhagic fever (CCHF), and avian influenza in 37 districts of Pakistan, the Field Epidemiology & Laboratory Training Program (FELTP) (human and animal disease) which was funded by US Government. [2] In November 2017, Pakistan Agricultural Research Council and National Institute of Health (NIH) signed a Memorandum of Understanding (MoU) to strengthen cooperation in One Health initiative for National Health Security. The objective of the MoU was to share surveillance data and information related to zoonotic diseases and coordinating the response to reduce the eventual risk to human, animal and environment health. However, as of 2020 the MoU has not led to the creation of a dedicated unit for this purpose.[3] In November 2018, NIH in collaboration with the FELTP of the Directorate General of Health Services has established a Disease Surveillance and Response Units (DSRUs) in provinces of Azad Jammu and Kashmir (AJK), Gilgit-Baltistan (GB), Federally Administered Tribal Areas (FATA) and Karachi for prevention and control of Dengue and Congo fevers.[4] However, there is no evidence that this unit functions across ministries. According to a study published in 2017, "there is need of collaboration among various institutions like Livestock and Dairy Development Research, Livestock and Agriculture, Animal Quarantine Department, and Directorate of Health Services." [5] There is no evidence of such a department or unit dedicated to zoonotic diseases that functions across ministries, on the websites of the Ministry of National Health Services Regulations & Coordination and the Ministry of National Food Security & Research.[6,7]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 3 December 2020.

- [2] Infection Ecology & Epidemiology. 29 November 2016. "One Health research and training and government support for One Health in South Asia". [<https://biblio.ugent.be/publication/8558282/file/8558283.pdf>]. Accessed 3 December 2020.
- [3] Pakistan Agricultural Research Council (PARC). 21 December 2017. "Pakistan Agricultural Research Council and National Institute of Health signs MoU to Enhance Cooperation in One Health Initiative for National Health Security". [<http://www.parc.gov.pk/index.php/en/component/content/article/168-parc-flash-news-2018/1424-pakistan-agricultural-research-council-and-national-institute-of-health-signs-mou-to-enhance-cooperation-in-one-health-initiative-for-national-health-security>]. Accessed 3 December 2020.
- [4] The News. 12 November 2018. "NIH sets up disease surveillance and response units". [<https://www.thenews.com.pk/print/392679-nih-sets-up-disease-surveillance-and-response-units>]. Accessed 3 December 2020.
- [5] Ullah Khan. Amir. Nawaz Jaspal. Zafar. 2017. "Health Security Governance and Zoonotic Diseases in Pakistan: The International Health Regulations (2005) Angle". [<http://www.ipripak.org/wp-content/uploads/2017/04/Article-No.-6w17.pdf>]. Accessed 3 December 2020.
- [6] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk/index>]. Accessed 4 March 2019.
- [7] Government of Pakistan. Ministry of National Food Security & Research. 2020. "Policies and Plans". [<http://www.mnfsr.gov.pk/policiesDetails.aspx>]. Accessed 3 December 2020.

## 1.2.2 Surveillance systems for zoonotic diseases/pathogens

### 1.2.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has a national mechanism (either voluntary or mandatory) for owners of livestock to conduct and report on disease surveillance to a central government agency.

According to the Joint External Evaluation (JEE) report for Pakistan, conducted in May 2016, the country lacks any legislation for notifiable diseases.[1]

There is no available evidence of such a mechanism on the websites of the Ministry of National Food Security & Research and one of its department the Livestock and Dairy Development Board, Pakistan Agricultural Research Council, or the Ministry of National Health Services Regulations & Coordination.[2,3,4,5]

The reporting of animal diseases was not mentioned in Pakistan Animal Quarantine Ordinance 1979 which noted animal diseases in general.[6]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 3 December 2020.

[2] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 3 December 2020.

[3] Government of Pakistan. Livestock and Dairy Development Board. 2020. [<http://lddb.org.pk/>]. Accessed 3 December 2020.

[4] Government of Pakistan. Pakistan Agricultural Research Council. 2020. [<http://www.parc.gov.pk/index.php/en/>]. Accessed 3 December 2020.

[5] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk/index>]. Accessed 3 December 2020.

[6] The Gazette of Pakistan, 17 September 1979. "The Pakistan Animal Quarantine (Import and Export of Animal and Animal Products) Ordinance 1979".

[[http://www.vertic.org/media/National%20Legislation/Pakistan/PK\\_Animal\\_Quarantine\\_Ordinance\\_1979.pdf](http://www.vertic.org/media/National%20Legislation/Pakistan/PK_Animal_Quarantine_Ordinance_1979.pdf)]. Accessed 3 December 2020.

### 1.2.2b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that Pakistan has laws or guidelines that safeguard the confidentiality of information generated through surveillance activities for animals (for owners).

According to the Joint External Evaluation (JEE) report for Pakistan, conducted in May 2016, the country lacks any legislation for notifiable diseases.[1]

There is no available evidence from the websites of the Ministry of National Food Security & Research and one of its department the Livestock and Dairy Development Board, Pakistan Agricultural Research Council and Ministry of National Health Services Regulations & Coordination.[2,3,4,5]

The confidentiality of information generated through surveillance activities for animals was not mentioned in Pakistan Animal Quarantine Ordinance 1979 which noted the animal disease in general.[6]

The United Nations Conference on Trade and Development (UNCTAD) data protection database was also consulted and no evidence was found.[7]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 3 December 2020.

[2] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 3 December 2020.

[3] Government of Pakistan. Livestock and Dairy Development Board. 2020. [<http://lddb.org.pk/>]. Accessed 3 December 2020.

[4] Government of Pakistan. Pakistan Agricultural Research Council. 2020. [<http://www.parc.gov.pk/index.php/en/>]. Accessed 3 December 2020.

[5] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk/index>]. Accessed 3 December 2020.

[6] The Gazette of Pakistan, 17 September 1979. "The Pakistan Animal Quarantine (Import and Export of Animal and Animal Products) Ordinance 1979".

[[http://www.vertic.org/media/National%20Legislation/Pakistan/PK\\_Animal\\_Quarantine\\_Ordinance\\_1979.pdf](http://www.vertic.org/media/National%20Legislation/Pakistan/PK_Animal_Quarantine_Ordinance_1979.pdf)]. Accessed 3 December 2020.

[7] UNCTAD. 2019. "Data Protection and Privacy Legislation Worldwide". [[https://unctad.org/en/Pages/DTL/STI\\_and\\_ICTs/ICT4D-Legislation/eCom-Data-Protection-Laws.aspx](https://unctad.org/en/Pages/DTL/STI_and_ICTs/ICT4D-Legislation/eCom-Data-Protection-Laws.aspx)]. Accessed 3 December 2020.

### 1.2.2c

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

Yes = 1 , No = 0

**Current Year Score: 1**

There is evidence that Pakistan conducts surveillance of zoonotic disease in wildlife.

In Pakistan, systematic surveillance in wildlife has been conducted on wild birds. The 2016 Joint External Evaluation for Pakistan noted that Pakistan's National Programme for the Control and Prevention of Avian Influenza was established in 2006 and animal health and public health authorities "conduct routine surveillance for influenza viruses in their respective populations of interest as well as wild birds".[1]

There have been studies that show the surveillance of wild animal exist in Pakistan, although none is an ongoing project by the government. For example, Rabies virus surveillance in bats was performed in Lahore, Pattoki, Sheikhupura, Bahawalpur and Bahawalnagar of Punjab province during 2009 and 2010 [2] or Mosquito surveillance project during the Human West Nile Virus disease outbreak in five study sites throughout the Sindh province in Pakistan in 2015-2016.[3]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 3 December 2020.

[2] Shahin, Farzanah. January 2014. "Surveillance of Insectivorous Bat Population for Rabies Virus in Pakistan". Journal of Infection and Molecular Biology.

[[https://www.researchgate.net/publication/275574071\\_Surveillance\\_of\\_Insectivorous\\_Bat\\_Population\\_for\\_Rabies\\_Virus\\_in\\_Pakistan](https://www.researchgate.net/publication/275574071_Surveillance_of_Insectivorous_Bat_Population_for_Rabies_Virus_in_Pakistan)]. Accessed 3 December 2020.

[3] Khan, E., Barr, K. L., Farooqi, J. Q., Prakoso, D., Abbas, A., Khan, Z. Y., Ashi, S., Imtiaz, K., Aziz, Z., Malik, F., Lednicky, J. A., Long, M. T. 2019. "Human West Nile Virus Disease Outbreak in Pakistan, 2015-2016". Frontiers in Public Health. [<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6362614/>]. Accessed 3 December 2020.

## 1.2.3 International reporting of animal disease outbreaks

### 1.2.3a

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

Yes = 1 , No = 0

**Current Year Score: 0**

2019

OIE WAHIS database

## 1.2.4 Animal health workforce

### 1.2.4a

**Number of veterinarians per 100,000 people**

Input number

**Current Year Score: 6.11**

2018

OIE WAHIS database

### 1.2.4b

**Number of veterinary para-professionals per 100,000 people**

Input number

**Current Year Score: 6.98**

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 evidence that Pakistan has a national plan on zoonotic disease or other legislation, regulation or plan include mechanisms for working with the private sector in controlling or responding to zoonoses.

According to the Joint External Evaluation (JEE) report for Pakistan, conducted in May 2016, "there is strong public-private sector interaction has been built up in the area of poultry zoonoses". [1]

The collaboration is mainly between private and public laboratories. For example, there are joint trainings between the National Reference Laboratory for Poultry Diseases and private sectors to achieve an efficient avian disease reporting and response network and Public Health Laboratories Division (PHLD) providing laboratory support to the public and private sectors for timely detection, prevention and control of infectious diseases during outbreaks and epidemics which includes zoonotic disease.[2,3] However there is no evidence of any plans or formal agreements between these two sectors.

There is no publicly available evidence of a national plan or law in this regard, on the websites of the Ministry of National Health Services Regulations & Coordination, the Ministry of National Food Security & Research, or the National Institute of Health (NIH).[4,5,6]

- [1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 3 December 2020.
- [2] Pakistan Agricultural Research Council. National Reference Laboratory for Poultry Diseases. 2020. "Achievements". [<http://parc.gov.pk/index.php/en/faqy/159-narc/animal-sciences-institute/nrlpd>]. Accessed 3 December 2020.
- [3] Government of Pakistan. National Institute of Health. 2020. "Public Health Laboratories Division (PHLD)". [<https://www.nih.org.pk/public-health-laboratories-division-phld/>]. Accessed 3 December 2020.
- [4] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsrsc.gov.pk/index>]. Accessed 3 December 2020.
- [5] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 3 December 2020.
- [6] Government of Pakistan. The National Institute of Health (NIH). 2019. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 3 December 2020.

## 1.3 BIOSECURITY

### 1.3.1 Whole-of- government biosecurity systems

#### 1.3.1a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has a record of facilities in which especially dangerous pathogens and toxins are stored or processed.

According to the Joint External Evaluation (JEE) report for Pakistan, conducted in May 2016, Pakistan has a limited capacity to process the inventory and monitoring of pathogens. The consolidation of dangerous pathogens and toxins at a limited number of facilities is inadequate. The country is developing a process to monitor dangerous pathogens and toxins and a comprehensive national biosafety and biosecurity legislation. [1] However, there is no update available on any progress in this area.

In April 2018, Pakistan's Biosafety officers attended a four days workshop which "was organised by WHO in collaboration with U.S. Centres for Disease Control and Prevention (CDC) in partnership with the Association of Public Health Laboratories (APHL)" to address the critical gaps which have been identified in the comprehensive biosafety and biosecurity legislation, laboratory licensing, updated record and inventory of dangerous pathogens and toxins. At the end of this workshop an implementation road map was developed.[2]

There is no further evidence provided on the websites of Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research, Ministry of Defence and National Institute of Health.[3,4,5,6]

Pakistan as a party to the Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the BWC. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens

stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[7] No such information was available on the VERTIC database. [8]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 3 December 2020.

[2] World Health Organisation. Regional Office for Eastern Mediterranean. 23 September 2018. "Biosafety in laboratories working with influenza in EMR ". [[http://applications.emro.who.int/docs/epi/2018/Epi\\_Monitor\\_2018\\_11\\_38.pdf?ua=1](http://applications.emro.who.int/docs/epi/2018/Epi_Monitor_2018_11_38.pdf?ua=1)]. Accessed 3 December 2020.

[3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk/index>]. Accessed 3 December 2020.

[4] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 3 December 2020.

[5] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 3 December 2020.

[6] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 3 December 2020.

[7] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 3 December 2020.

[8] Verification Research, Training and Information Centre (VERTIC). 2020. "BWC Legislation Database - Pakistan". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/p/>]. Accessed January 20 2021.

### 1.3.1b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has legislation or regulations related to biosecurity which address requirements such as physical containment, operation practices, failure reporting systems and/or cybersecurity of facilities in which especially dangerous pathogens and toxins are stored or processed.

The Joint External Evaluation (JEE) report of 2016 expressly states that the country suffers from the lack of biosecurity legislation and that there is no systematic inventory of biohazards.[1]

There is no further evidence provided on the websites of the Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research, Ministry of Defence, and the National Institute of Health.[2,3,4,5]

Pakistan as a party to Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the Biological Weapons Convention. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[6] There are no relevant laws listed in the VERTIC database.[7]



- [1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 3 March 2020.
- [2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2019. "Functions". [<http://www.nhsr.gov.pk/index>]. Accessed 3 March 2020.
- [3] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 3 March 2020.
- [4] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 3 March 2020.
- [5] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 3 March 2020.
- [6] United Nation. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 3 March 2020.
- [7] Verification Research, Training and Information Centre (VERTIC). 2020. "Pakistan". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/p/>]. Accessed 10 January 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 that Pakistan has an established agency responsible for the enforcement of biosecurity legislation and regulations.

The Joint External Evaluation (JEE) report of 2016 expressly states that the country suffers from the lack of biosecurity legislation and there is no systematic inventory of biohazards.[1]

After the recommendations of the JEE, the Ministry of National Health Services Regulations and Coordination (NHSR&C) published the National Biosafety and Biosecurity Policy in December 2017. This policy describes fundamental elements that are required for "implementing a comprehensive and legally embedded national biosafety and biosecurity programme". This policy noted the lack of a representative in biosafety and biosecurity programmes and states that the National Biosafety Committee will be established.[2] However, there is no publicly available evidence that this Committee exists.

There is no further evidence provided on the websites of Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research, Ministry of Defence and National Institute of Health.[3,4,5,6]

Pakistan as a party to Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the Biological Weapons Convention. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[7]

A non-profit organization called the Pakistan Biological Safety Association is currently active, with the aim of enhancing knowledge of biosafety issues, but this is not a government agency.[8] No evidence was available on the VERTIC database. [9]

- [1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 5 December 2020.
- [2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). December 2017. "National Biosafety and Biosecurity Policy". [<https://www.nih.org.pk/wp-content/uploads/2018/06/Biosafety-Policy-NLWG.pdf>]. Accessed 5 December 2020.
- [3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 5 December 2020.
- [4] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 5 December 2020.
- [5] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 5 December 2020.
- [6] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 5 December 2020.
- [7] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 5 December 2020.
- [8] Pakistan Biological Safety Association. 2020. "Vision Statement". [<http://pbsa.org.pk/mission-vision/>]. Accessed 5 December 2020.
- [9] Verification Research, Training and Information Centre (VERTIC). 2020. "BWC Legislation Database - Pakistan". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/p/>]. Accessed January 20 2021.

### 1.3.1d

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that shows Pakistan has taken action to consolidate its inventories of especially dangerous pathogens and toxins into a minimum number of facilities.

According to the 2016 Joint External Evaluation (JEE) report, "there is inadequate consolidation of dangerous pathogens and toxins at a limited number of facilities". There is no evidence that the country has taken any steps after the JEE report conducted in 2016.

There is no further evidence provided on the websites of Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research, Ministry of Defence and National Institute of Health.[2,3,4,5]

Pakistan as a party to Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the Biological Weapons Convention. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[6] No evidence was available on the VERTIC database.[7]

- [1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 5 December 2020.

- [2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 5 December 2020.
- [3] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 5 December 2020.
- [4] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 5 December 2020.
- [5] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 5 December 2020.
- [6] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 5 December 2020.
- [7] Verification Research, Training and Information Centre (VERTIC). 2020. "BWC Legislation Database - Pakistan". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/p/>]. Accessed January 20 2021.

### 1.3.1e

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no public evidence of Pakistan having in-country capacity to conduct Polymerase Chain Reaction (PCR)-based diagnostic testing for anthrax or Ebola, which would preclude culturing a live pathogen.

The country's laboratory system is capable of conducting Polymerase Chain Reaction (PCR) but not for anthrax or Ebola. The National Reference Laboratory for Poultry Diseases is capable of conducting PCR for diagnosis of Avian influenza.[1]

The department of Virology of the Armed Forces Institute of Pathology (AFIP) of Rawalpindi is able to conduct PCR based diagnostic testing for viral haemorrhagic fever, Dengue, Crimean-Congo haemorrhagic fever (CCHF).[2]

There is no mention of PCR -based diagnostic testing for Ebola or Anthrax on the website of these laboratories. There is no further evidence provided on the websites of Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research, Ministry of Defence and National Institute of Health.[3,4,5,6]

The 2016 Joint External Evaluation report for Pakistan does not provide any information of such a capacity.[7]

Pakistan as a party to Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the Biological Weapons Convention. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[8]

[1] Pakistan Agriculture Research Council. The National Reference Laboratory for Poultry Diseases. 2020. "Facilities". [<http://parc.gov.pk/index.php/en/nrlpd-facilities>]. Accessed 5 December 2020.

[2] The Armed Forces Institute of Pathology. Rawalpindi Pakistan. 2020. "Virology". [[https://afip.gov.pk/index.php?page=department\\_details&dept=17](https://afip.gov.pk/index.php?page=department_details&dept=17)]. Accessed 5 December 2020.

[3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 5 December 2020.

[4] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 5 December 2020.

[5] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 5 December 2020.

[6] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 5 December 2020.

[7] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 5 December 2020.

[8] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 5 December 2020.

## 1.3.2 Biosecurity training and practices

### 1.3.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan requires biosecurity training, using a standardised, required approach, for personnel working in facilities housing or working with especially dangerous pathogens.

Pakistan's 2016 Joint External Evaluation (JEE) report expressly states that the country has not yet implemented comprehensive training or a common training curriculum, but has conducted a training needs assessment. The country also does not have any academic training in institutions that train personnel who maintain or work with dangerous pathogens and toxins.[1]

Although the country had not yet developed biosecurity legislation or implemented requirements for biosecurity training, since the 2016 JEE report, several training programmes and workshops were held in the country. Pakistan Biological Safety Association (PBSA) which is a non-profit, non-governmental professional organisation, regularly holds biosafety and biosecurity workshops. For example in November 2017 the PBSA in collaboration with the Fogarty International Centre (FIC) at National Institute of Health, USA, "planned to set a series of workshops for training laboratory professionals on biorisk management". [2,3]

According to the National Institute of Health (NIH), European Union's Chemical, Biological, Radiological and Nuclear (CBRN) Centre of Excellence Initiative launched Project 53 in November 2018 for "strengthening the National Legal Framework and Provision of Specialised Training on Bio-safety and Bio-security in Central Asian Countries" and Pakistan National Institute of Health hosted Project 53 "Biosafety & Biosecurity: Train the Trainer Course" for a three-day biosafety and biosecurity input and a subsequent two day train the trainer (TTT) course.[4]

There is no further evidence provided on the websites of Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research, Ministry of Defence and National Institute of Health.[5,6,7,8]

There are no relevant laws listed in the VERTIC database.[9]

Pakistan as a party to Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the Biological Weapons Convention. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[10]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 5 December 2020.

[2] Pakistan Biological Safety Association. 2020. "Happenings". [<http://pbsa.org.pk/events-pbsa/>]. Accessed 5 December 2020.

[3] COMSTECH. 2017. "Train the Trainer Workshop for Biosafety & Biosecurity: An Advanced Biological Risk Mitigation Training Program". [<https://www.comstech.org/train-the-trainer-workshop-for-biosafety-biosecurity-an-advanced-biological-risk-mitigation-training-program/>]. Accessed 5 December 2020.

[4] Government of Pakistan. The National Institute of Health (NIH). 2018. "Biosafety And Biosecurity Training Course". [<https://www.nih.org.pk/events/2018/11/biosafety-and-biosecurity-training-course/>]. Accessed 5 December 2020.

[5] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 5 December 2020.

[6] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 5 December 2020.

[7] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 5 December 2020.

[8] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 5 December 2020.

[9] Verification Research, Training and Information Centre (VERTIC). 2020. "BWC Legislation Database - Pakistan". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/p/>]. Accessed January 20 2021.

[10] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 5 December 2020.

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

#### 1.3.3a

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

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

**Current Year Score: 0**

There is no evidence that Pakistan has 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. According to the Joint External Evaluation (JEE) report of May 2016, Pakistan had not yet developed biosecurity legislation or implemented requirements for personnel checks. [1] After the recommendations of the JEE, the Ministry of National Health Services Regulations and Coordination (NHSR&C) published the National Biosafety and Biosecurity Policy in December 2017. This policy describes fundamental elements that are required for "implementing a comprehensive and legally embedded national biosafety and

biosecurity programme". This policy noted the lack of competency assessments for laboratory personnel and in section 3.5 states that "background checks shall be performed before hiring staff for specific (like BSL 3) laboratories". [2] There is no available evidence that this policy has been encated into law. There is no further evidence provided on the websites of Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research, Ministry of Defence and National Institute of Health.[3,4,5,6] The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[7] There are no laws listed in the VERTIC database.[8] Pakistan as a party to Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the Biological Weapons Convention. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[9]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 5 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). December 2017. "National Biosafety and Biosecurity Policy". [<https://www.nih.org.pk/wp-content/uploads/2018/06/Biosafety-Policy-NLWG.pdf>]. Accessed 5 December 2020.

[3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 5 December 2020.

[4] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 5 December 2020.

[5] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 5 December 2020.

[6] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 5 December 2020.

[7] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 5 December 2020.

[8] Verification Research, Training and Information Centre (VERTIC). 2020. "BWC Legislation Database - Pakistan". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/p/>]. Accessed January 20 2021.

[9] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 5 December 2020.

## 1.3.4 Transportation security

### 1.3.4a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient evidence that Pakistan has national regulations on the safe and secure transport of infectious substances (Categories A and B).

The Operating Regulations regarding Air Cargo Operations was published in 2015 by Pakistan Civil Aviation Authority which is

a public sector autonomous body that regulates all aspects of civil aviation in Pakistan. The regulation sets out the provisions in which the dangerous goods can be transported by air. The classification of dangerous goods is set out in chapter 3 and conforms with the International Air Transport Association (IATA) Regulations. Dangerous goods has been divided into nine classes and "class 6" includes "toxin and infectious substances". Chapter four of the Operating Regulations regarding Air Cargo Operations sets out the limitations and exceptions of transportation of dangerous goods by air. However, none of these documents directly mentions the Categories A and B.

The Operating Regulations in part 11.4.3.1 state that the Category B substances maybe accepted by mail only if packed and marked in accordance with Technical Instructions.[1,2]

Pakistan as a party to Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the Biological Weapons Convention. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[3]

There are no relevant laws listed in the VERTIC database.[4] No further evidence available from the websites of Pakistan Civil Aviation Authority, Ministry of National Health Services Regulations and Coordination, Ministry of Defence and Ministry of National Food Security and Research.[5,6,7,8]

[1] Pakistan Civil Aviation Authority. 31 August 2015. "The Operating Regulations-Air Cargo Operations".

[<https://www.caapakistan.com.pk/upload/DAAR/AIR%20CARGO%20OPERATIONS.pdf>]. Accessed 6 December 2020.

[2] International Air Transport Association (IATA). 2020. "Infectious Substances Shipping Guidelines (ISSG)".

[<https://www.iata.org/en/publications/store/infectious-substances-shipping-guidelines/>]. Accessed 6 December 2020.

[3] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan".

[<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 6 December 2020.

[4] Verification Research, Training and Information Centre (VERTIC). 2020. "BWC Legislation Database - Pakistan".

[<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/p/>]. Accessed January 20 2021.

[5] Pakistan Civil Aviation Authority. 2020. [<https://www.caapakistan.com.pk/>]. Accessed 6 December 2020.

[6] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020.

[<http://www.nhsr.gov.pk>]. Accessed 6 December 2020.

[7] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 6 December 2020.

[8] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 6 December 2020.

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

### 1.3.5a

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

Yes = 1 , No = 0

**Current Year Score: 1**

There is evidence that Pakistan has a national legislation in place to oversee the cross-border transfer and end-user screening of especially dangerous pathogens, toxins and pathogens with pandemic potential.

The Government of Pakistan in 2004 established an Act on "Export Control on Goods, Technologies, Material and Equipment related to Nuclear and Biological Weapons to control exports of sensitive goods and technologies particularly related to Nuclear and Biological Weapons and their means of delivery, and enables governmental controls over export, re-export, transit, and transshipment of goods, technologies, material and equipment related therewith".[1]

In 2005, the Government of Pakistan notified national Control List of Goods, Technologies, Materials and Equipment related to Nuclear and Biological Weapons and their Delivery Systems. The classification system of the Control List is based on the European Union's integrated list which was subsequently revised in 2011, 2015, 2016 and 2018.

In 2007, the Strategic Export Control Division (SECDIV) was established as part of the Ministry of Foreign Affairs. The SECDIV "formulates and enforces rules and regulations for the implementation of export controls, and also acts as a licensing body". [2,3] SECDIV publishes the latest control list on its website. The 2018 revised list includes multiple human and animal pathogenic viruses, bacteria and toxins from influenza, Ebola, salmonella to ricin. Anyone seeking to export an item on the controlled substance list is required to apply for a license to SECDIV.[4]

According to the 2016 Policy Guidelines on Strategic Export Controls, the export of control list items shall be authorised only upon explicit end user assurances which is endorsed by recipient's relevant authorities that the item will be used only for peaceful purposes only. [5]

The SECDIV also in collaboration with Pakistan Customs has devised WeBOC, which is an online Customs filling and clearance system. "WeBOC will help to provide real time information sharing between Customs and the SECDIV. Red flag and risk assessment of dual use items, goods, and technologies are the inbuilt features of the WeBOC. SECDIV also has an independent Licensing and Information Management System(SLIMS). The SLIMS is an electronic licensing and data management system for streamlining registration and licensing process and end user risk assessment.[6]

Pakistan as a party to Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the Biological Weapons Convention. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[7]

[1] Strategic Export Control Division (SECDIV). 2020. "STRATEGIC EXPORT CONTROL DIVISION (SECDIV)".

[<http://www.secdiv.gov.pk/>]. Accessed 6 December 2020.

[2] IAEA. 30 November 2011. "Communication of 17 October 2011 from the Permanent Mission of Pakistan to the Agency concerning the export control policies of the Government of Pakistan and a Statutory Regulatory Order".

[[https://www.nti.org/media/pdfs/infcirc832.pdf?\\_=1327706995](https://www.nti.org/media/pdfs/infcirc832.pdf?_=1327706995)]. Accessed 6 December 2020.

[3] The Express Tribune. 20 December 2018. "Pakistan notifies revised control lists under the Export Control Act of 2004".

[<https://tribune.com.pk/story/1871131/1-pakistan-notifies-revised-control-lists-export-control-act-2004/>]. Accessed 6 December 2020.

[4] The Gazette of Pakistan. 18 July 2018. " Amended Control Lists of Goods, Technologies, Material and Equipment related to Nuclear and Biological Weapons and their Delivery Systems". [[http://www.secdiv.gov.pk/uploads/Control\\_Lists\\_4th-f55d.pdf](http://www.secdiv.gov.pk/uploads/Control_Lists_4th-f55d.pdf)]. Accessed 6 December 2020.

[5] The Gazette of Pakistan.25 May 2016. "Policy Guidelines on Strategic Export Controls".

[[http://www.secdiv.gov.pk/uploads/Policy\\_Guidelines\\_on\\_Strategic\\_Export%20Controls-5d22.pdf](http://www.secdiv.gov.pk/uploads/Policy_Guidelines_on_Strategic_Export%20Controls-5d22.pdf)]. Accessed 6 December 2020.

[6] Malik Qasim Mustafa. Ghazala Yasmin. Tahir Mahmood Azad. August 2016. "Pakistan's Export Control Regime". Institute



of Strategic Studies, Islamabad. [<http://issi.org.pk/wp-content/uploads/2016/11/Final-Islamabad-Nuclear-Series-No.-5.pdf>]. Accessed 6 December 2020.

[7] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 6 December 2020.

## 1.4 BIOSAFETY

### 1.4.1 Whole-of-government biosafety systems

#### 1.4.1a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient evidence that Pakistan has in place national biosafety legislation or regulations.

Pakistan's biosafety regulations include the 2005 Biosafety Rules and the 2005 National Biosafety Guidelines, both falling under the Ministry of Environment, that do not address human and animal health laboratories. [1,2]

According to the Joint External Evaluation (JEE) report for Pakistan, conducted in May 2016, the 2005 Rules and Guidelines "only regulate genetically modified objects and do not cover naturally occurring infectious agents". [3]

The Ministry of National Health Services Regulations & Coordination published the National Biosafety and Biosecurity Policy in 2017. This policy includes ten areas on biosafety and biosecurity and the detailed strengths, weaknesses, opportunities, and threats analysis was performed for each policy topic. In this policy, it was noted that there is a need for national biosafety legislations and guidelines to help human and animal health laboratories implement proper biosafety and biosecurity practices.[4]

There is no further evidence provided on the websites of Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research, Ministry of Defence and National Institute of Health.[5,6,7,8]

Pakistan as a party to Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the Biological Weapons Convention. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[9]

There are no relevant laws listed in the VERTIC database.[10]

[1] Verification Research, Training and Information Centre (VERTIC). 2020. "Pakistan Biosafety Rules". [[http://www.vertic.org/media/National%20Legislation/Pakistan/PK\\_Biosafety\\_Rules\\_2005.pdf](http://www.vertic.org/media/National%20Legislation/Pakistan/PK_Biosafety_Rules_2005.pdf)]. Accessed 6 December 2020.

[2] Verification Research, Training and Information Centre (VERTIC). 2020. "2005 National Biosafety Guidelines". [[http://www.vertic.org/media/National%20Legislation/Pakistan/PK\\_Biosafety\\_Guidelines\\_2005.pdf](http://www.vertic.org/media/National%20Legislation/Pakistan/PK_Biosafety_Guidelines_2005.pdf)]. Accessed 6 December 2020.

[3] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI->

2017.9-eng.pdf]. Accessed 6 December 2020.

[4] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). December 2017. "National Biosafety and Biosecurity Policy ". [<https://www.nih.org.pk/wp-content/uploads/2018/06/Biosafety-Policy-NLWG.pdf>]. Accessed 6 December 2020.

[5] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 6 December 2020.

[6] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 6 December 2020.

[7] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 6 December 2020.

[8] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 6 December 2020.

[9] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 6 December 2020.

[10] Verification Research, Training and Information Centre (VERTIC). 2020. "BWC Legislation Database - Pakistan". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/p/>]. Accessed January 20 2021.

#### 1.4.1b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has an established agency responsible for the enforcement of biosafety legislation and regulations.

Pakistan's biosafety regulations include the 2005 Biosafety Rules and the 2005 National Biosafety Guidelines, both falling under the Ministry of Environment, that do not address human and animal health laboratories. [1,2]

According to the Joint External Evaluation (JEE) report for Pakistan, conducted in May 2016, the 2005 Rules and Guidelines "only regulate genetically modified objects and do not cover naturally occurring infectious agents". [3]

The Ministry of National Health Services Regulations & Coordination published the National Biosafety and Biosecurity Policy in 2017. This policy includes ten areas on biosafety and biosecurity and the detailed strengths, weaknesses, opportunities, and threats analysis was performed for each policy topic. In this policy it was noted that there is a need for national biosafety legislations and guidelines to help human and animal health laboratories implement their biosafety and biosecurity practices.[4]

There is no further evidence provided on the websites of Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research, Ministry of Defence and National Institute of Health.[5,6,7,8]

Pakistan as a party to Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the Biological Weapons Convention. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[9]

There are no further relevant laws listed in the VERTIC database.[10]

- [1] Verification Research, Training and Information Centre (VERTIC). 2020. "Pakistan Biosafety Rules". [[http://www.vertic.org/media/National%20Legislation/Pakistan/PK\\_Biosafety\\_Rules\\_2005.pdf](http://www.vertic.org/media/National%20Legislation/Pakistan/PK_Biosafety_Rules_2005.pdf)]. Accessed 6 December 2020.
- [2] Verification Research, Training and Information Centre (VERTIC). 2020. "2005 National Biosafety Guidelines". [[http://www.vertic.org/media/National%20Legislation/Pakistan/PK\\_Biosafety\\_Guidelines\\_2005.pdf](http://www.vertic.org/media/National%20Legislation/Pakistan/PK_Biosafety_Guidelines_2005.pdf)]. Accessed 6 December 2020.
- [3] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 6 December 2020.
- [4] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). December 2017. "National Biosafety and Biosecurity Policy". [<https://www.nih.org.pk/wp-content/uploads/2018/06/Biosafety-Policy-NLWG.pdf>]. Accessed 6 December 2020.
- [5] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 6 December 2020.
- [6] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 6 December 2020.
- [7] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 6 December 2020.
- [8] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 6 December 2020.
- [9] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 6 December 2020.
- [10] Verification Research, Training and Information Centre (VERTIC). 2020. "BWC Legislation Database - Pakistan". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/p/>]. Accessed January 20 2021.

## 1.4.2 Biosafety training and practices

### 1.4.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan requires biosafety training 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.

According to the Joint External Evaluation (JEE) report of May 2016, Pakistan had not yet developed a comprehensive training approach or a common curriculum for biosafety training, however some "biosafety personnel are trained at academic and international organisations". [1]

Although the country does not have a formal protocol on biosafety training, informal training sessions have taken place. Pakistan Biological Safety Association (PBSA) is a non-profit, non-governmental professional organisation that regularly holds biosafety and biosecurity workshops. For example, in November 2017 the PBSA in collaboration with the Fogarty

International Centre (FIC) at the National Institute of Health, USA, "planned to set a series of workshops for training laboratory professionals on biorisk management". [2,3]

According to the National Institute of Health (NIH), the European Union's Chemical, Biological, Radiological and Nuclear (CBRN) Centre of Excellence Initiative launched Project 53 in November 2018 for "strengthening the National Legal Framework and Provision of Specialised Training on Bio-safety and Bio-security in Central Asian Countries" and Pakistan National Institute of Health hosted Project 53 "Biosafety & Biosecurity: Train the Trainer Course" for a three-day biosafety and biosecurity input and a subsequent two day train the trainer (TTT) course.[4] There is no evidence that this course was repeated in subsequent years.

There is no further evidence provided on the websites of Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research and National Institute of Health.[5,6,7] There are no relevant laws listed in the VERTIC database.[8] Pakistan as a party to Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the Biological Weapons Convention. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[9] No further evidence available from the website of Ministry of Defence.[10]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 6 December 2020.

[2] Pakistan Biological Safety Association. 2020. "Happenings". [<http://pbsa.org.pk/events-pbsa/>]. Accessed 6 December 2020.

[3] COMSTECH. 2017. "Train the Trainer Workshop for Biosafety & Biosecurity: An Advanced Biological Risk Mitigation Training Program". [<https://www.comstech.org/train-the-trainer-workshop-for-biosafety-biosecurity-an-advanced-biological-risk-mitigation-training-program/>]. Accessed 6 December 2020.

[4] Government of Pakistan. The National Institute of Health (NIH). 2018. "Biosafety And Biosecurity Training Course". [<https://www.nih.org.pk/events/2018/11/biosafety-and-biosecurity-training-course/>]. Accessed 6 December 2020.

[5] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk/index>]. Accessed 6 December 2020.

[6] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 6 December 2020.

[7] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 6 December 2020.

[8] Verification Research, Training and Information Centre (VERTIC). 2020. "BWC Legislation Database - Pakistan". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/p/>]. Accessed January 20 2021.

[9] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 6 December 2020.

[10] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 6 December 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 publicly available evidence that Pakistan 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.

There is no evidence provided on the websites of Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research, Ministry of Defence and National Institute of Health.[1,2,3,4]

Pakistan as a party to Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the Biological Weapons Convention. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[5]

There are no relevant laws listed in the VERTIC database.[6]

According to a 2015 study on "Dual-Use Education Concerns in Biotechnology Pakistani Perspective" which evaluates the policies of Government of Pakistan with regards to Dual-Use research, Pakistan is "in an urgent need for biosecurity and bioterrorism legislation and oversight and monitoring are needed for Dual-Use research, human resources and selected lists of globally agreed-upon pathogens".[7] No further is evidence available from the 2016 Joint External Evaluation for Pakistan. [8]

[1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 6 December 2020.

[2] Government of Pakistan. Ministry of National Food Security and Research.2020. [<http://www.mnfsr.gov.pk/>]. Accessed 6 December 2020.

[3] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 6 December 2020.

[4] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 6 December 2020.

[5] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 6 December 2020.

[6] Verification Research, Training and Information Centre (VERTIC). 2020. "BWC Legislation Database - Pakistan". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/p/>]. Accessed January 20 2021.

[7] Department of Biotechnology, Quaid-i-Azam University and Pakistan Academy of Sciences. December 2015. "Dual-Use Education Concerns in Biotechnology Pakistani Perspective". [[https://www.researchgate.net/publication/310613767\\_Dual-Use\\_Education\\_Concerns\\_in\\_Biotechnology\\_Pakistani\\_Perspective](https://www.researchgate.net/publication/310613767_Dual-Use_Education_Concerns_in_Biotechnology_Pakistani_Perspective)]. Accessed 6 December 2020.

[8] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 6 December 2020.

### 1.5.1b

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no publicly available evidence that Pakistan has a national policy requiring oversight of dual use research, such as research with especially dangerous pathogens, toxins, and/or pathogens with pandemic potential.

There is no evidence provided on the websites of Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research, Ministry of Defence and National Institute of Health.[1,2,3,4]

Pakistan as a party to Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the Biological Weapons Convention. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[5]

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According to a 2015 study on "Dual-Use Education Concerns in Biotechnology Pakistani Perspective" which evaluates the policies of Government of Pakistan with regards to Dual-Use research, Pakistan is "in an urgent need for biosecurity and bioterrorism legislation and oversight and monitoring are needed for Dual-Use research, human resources and selected lists of globally agreed-upon pathogens".[7] No further is evidence available from the 2016 Joint External Evaluation for Pakistan. [8]

[1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 6 December 2020.

[2] Government of Pakistan. Ministry of National Food Security and Research.2020. [<http://www.mnfsr.gov.pk/>]. Accessed 6 December 2020.

[3] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 6 December 2020.

[4] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 6 December 2020.

[5] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 6 December 2020.

[6] Verification Research, Training and Information Centre (VERTIC). 2020. "BWC Legislation Database - Pakistan". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/p/>]. Accessed January 20 2021.

[7] Department of Biotechnology, Quaid-i-Azam University and Pakistan Academy of Sciences. December 2015. "Dual-Use Education Concerns in Biotechnology Pakistani Perspective". [[https://www.researchgate.net/publication/310613767\\_Dual-Use\\_Education\\_Concerns\\_in\\_Biotechnology\\_Pakistani\\_Perspective](https://www.researchgate.net/publication/310613767_Dual-Use_Education_Concerns_in_Biotechnology_Pakistani_Perspective)]. Accessed 6 December 2020.

[8] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of

Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 6 December 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 that Pakistan has an agency responsible for oversight of research with especially dangerous pathogens, pathogens with pandemic potential, and/or other dual use research.

There is no evidence provided on the websites of Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research, Ministry of Defence and National Institute of Health.[1,2,3,4]

Pakistan as a party to Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the Biological Weapons Convention. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[5]

There are no relevant laws listed in the VERTIC database.[6]

According to a 2015 study on "Dual-Use Education Concerns in Biotechnology Pakistani Perspective" which evaluates the policies of Government of Pakistan with regards to Dual-Use research, Pakistan is "in an urgent need for biosecurity and bioterrorism legislation and oversight and monitoring are needed for Dual-Use research, human resources and selected lists of globally agreed-upon pathogens".[7]

No further is evidence available from the 2016 Joint External Evaluation for Pakistan. [8]

[1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 6 December 2020.

[2] Government of Pakistan. Ministry of National Food Security and Research.2020. [<http://www.mnfsr.gov.pk/>]. Accessed 6 December 2020.

[3] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 6 December 2020.

[4] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 6 December 2020.

[5] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 6 December 2020.

[6] Verification Research, Training and Information Centre (VERTIC). 2020. "BWC Legislation Database - Pakistan". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/p/>]. Accessed January 20 2021.

[7] Department of Biotechnology, Quaid-i-Azam University and Pakistan Academy of Sciences. December 2015. "Dual-Use Education Concerns in Biotechnology Pakistani Perspective". [[https://www.researchgate.net/publication/310613767\\_Dual-Use\\_Education\\_Concerns\\_in\\_Biotechnology\\_Pakistani\\_Perspective](https://www.researchgate.net/publication/310613767_Dual-Use_Education_Concerns_in_Biotechnology_Pakistani_Perspective)]. Accessed 6 December 2020.

[8] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of

Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 6 December 2020.

## 1.5.2 Screening guidance for providers of genetic material

### 1.5.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has a national legislation, regulation, policy, or other guidance, requiring the screening of synthesized DNA before it is sold.

Pakistan ratified the Cartagena Protocol on Biosafety which aims to ensure the safe handling, transport and use of living modified organisms resulting from modern biotechnology. However, the Cartagena Protocol does not have any rule on screening of synthesised DNA before it is sold. Pakistan notified the Pakistan Biosafety rules on 21st April 2005 and after that the Biosafety guidelines were developed which underline the procedures to undertake all related activities. [1]

The 2005 National Biosafety Guidelines, in chapter five has established the National Biosafety Committee (NBC) which is responsible for implementation of bio-safety practices. Among its functions is "to ban or restrict import, export, sale, purchase or trading of any living modified organism causing or likely to cause risk to public health, safety or environment". The National Biosafety Guidelines does not mention the requirement for the DNA code passing through a screener/code reader which looks for dangerous sequences before sale is authorised. [2]

There is no further evidence provided on the websites of Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research, Ministry of Defence and National Institute of Health.[3,4,5,6]

Pakistan as a party to Biological Weapons Convention (BWC) reported to the United Nations Office at Geneva (UNOG) in 2012, 2019, and 2020 for the "Confidence Building Measure Return", which is a reporting mechanism set by the Biological Weapons Convention. The reporting includes data on Biosafety Level (BSL) facilities, their level, location, floor area of the laboratory, types of pathogens stored and processed, the organisational structure of the facilities, etc. However, Pakistan's report has not been published publicly.[7]

There are no relevant laws listed in the VERTIC database.[8] No further evidence is available from the 2016 Joint External Evaluation for Pakistan. [9]

[1] Gabol Waris, Ali & Gabol, Waris & Ahmed, Aleem & Bux, Hadi & Ahmed, Kaleem & Mahar, Dr. Amanullah & Laghari, Shafiullah & Pharma, Novartis & Pvt, Pakistan & , Ltd & Karachi, Pakistan. 2012. "Genetically modified organisms (GMOs) in Pakistan". African Journal of Biotechnology.

[[https://www.researchgate.net/publication/260923272\\_Genetically\\_modified\\_organisms\\_GMOs\\_in\\_Pakistan](https://www.researchgate.net/publication/260923272_Genetically_modified_organisms_GMOs_in_Pakistan)]. Accessed 6 December 2020.

[2] Government of Pakistan. Pakistan Environmental Protection Agency. May 2005. "National Biosafety Guidelines". [<http://environment.gov.pk/images/PDF/BiosftyGlines2005.pdf>]. Accessed 6 December 2020.

[3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 6 December 2020.



[4] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 6 December 2020.

[5] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 6 December 2020.

[6] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 6 December 2020.

[7] United Nations. Confidence Building Measure Return of the Biological Weapons Convention. 2020. "Pakistan". [<https://bwc-ecbm.unog.ch/state/pakistan>]. Accessed 6 December 2020.

[8] Verification Research, Training and Information Centre (VERTIC). 2020. "BWC Legislation Database - Pakistan". [<https://www.vertic.org/programmes/biological-weapons-and-materials/bwc-legislation-database/p/>]. Accessed January 20 2021.

[9] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 6 December 2020.

## 1.6 IMMUNIZATION

### 1.6.1 Vaccination rates

#### 1.6.1a

##### Immunization rate (measles/MCV2)

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

**Current Year Score: 0**

2019

World Health Organization

#### 1.6.1b

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

Yes = 1 , No = 0

**Current Year Score: 1**

2020

OIE WAHIS database

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

### 2.1 LABORATORY SYSTEMS STRENGTH AND QUALITY

#### 2.1.1 Laboratory testing for detection of priority diseases

##### 2.1.1a

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

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

**Current Year Score: 1**

There is evidence that Pakistan's national laboratory system has the capacity to conduct diagnostic tests for at least 5 of the 10 WHO-defined core tests although specific tests are not mentioned.

According to the 2016 Joint External Evaluation for Pakistan, the country has a developed capacity (score 4) in laboratory testing for detection of priority diseases and "the national laboratory system is capable of conducting 5 or more of the 10 core tests" although no further details are provided.[1]

The Public Health Laboratories Division (PHLD) (a division of the National Institute of Health (NIH) which is a national reference public health laboratory in Pakistan, is capable of rapid diagnostic testing for Malaria, virus culture for Polio, polymerase chain reaction (PCR) for Avian Influenza, microscopy for mycobacterium tuberculosis, and HIV. The type of the testing for HIV is not available from the website of NIH. [2,3] Rapid diagnostic testing for Malaria is available under the Malaria Control Programme of NIH.[4,5]

Aga Khan University Clinical Laboratory, Shaukat Khanum Memorial Cancer Hospital, NTP Laboratory network (National TB control programme) and the national poliovirus laboratory are also among other laboratories with the capacity to conduct microscopy for mycobacterium tuberculosis and virus culture for poliovirus (polio).[6]

There is no evidence of the four country-specific tests from the websites of Ministry of National Health Services Regulations and Coordination and NIH.[7,8]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [ <https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 6 December 2020.

[2] The National Institute of Health (NIH). 2020. "The Public Health Laboratories Division (PHLD)". [ <https://www.nih.org.pk/public-health-laboratories-division-phld/>]. Accessed 6 December 2020.

[3] World Health Organisation. 2009. "Microscopy for mycobacterium tuberculosis ". [ [https://www.who.int/csr/resources/publications/swineflu/InfluenzaLabsWithPCRcapacityToDetectInfluenzaA\\_20090508a.pdf](https://www.who.int/csr/resources/publications/swineflu/InfluenzaLabsWithPCRcapacityToDetectInfluenzaA_20090508a.pdf)]. Accessed 6 December 2020.

[4] Government of Pakistan. The National Institute of Health (NIH). 2020. "Malaria Control Program". [ <https://www.nih.org.pk/malaria-control-program/>]. Accessed 6 December 2020.

[5] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). Directorate of

Malaria Control. 2018. "2018 Annual Malaria Report".

[<http://dmc.gov.pk/documents/pdfs/DOMC%20Malaria%20Annual%20Report%202018.pdf>]. Accessed 6 December 2020.

[6] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 6 December 2020.

[7] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020.

[<http://www.nhsr.gov.pk/>]. Accessed 6 December 2020.

[8] Government of Pakistan. The National Institute of Health (NIH). 2020. [<https://www.nih.org.pk/>]. Accessed 6 December 2020.

### 2.1.1b

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

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

**Current Year Score: 1**

There is evidence of plans to conduct testing for specific diseases during a public health emergency, but there is insufficient evidence that they include considerations for testing for novel pathogens, scaling capacity, and defining goals for testing.

The National Emergency Action Plan for Polio Eradication 2018/19 contains provisions for improving testing as one of its priorities, "Enhance the capacity of the serology lab and prioritize the testing of samples directly contributing to the polio eradication effort." [1]

The National Action Plan for Corona virus disease (COVID-19) Pakistan, launched in 2020, has a detailed testing and sample collection policy. [2] One of its strategic goals was, "Scaling up country response operations, including strengthening readiness capacity to rapidly identify, diagnose and treat cases including identification of contacts with tracing and follow up; and minimizing community spread of virus in Pakistan." However, it did not define scaling capacity and set goals for testing.

Apart from these plans relating to specific diseases, there is no publicly available evidence for the existence of a national plan for multiple disease outbreaks on the websites of the Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research, and National Institute of Health. [3,4,5]

[1] National Emergency Operations Centre. 2018. "The National Emergency Action Plan for Polio Eradication 2018/19".

[<https://www.endpolio.com.pk/images/Stories/NEAP-2018-2019.pdf>] Accessed 14 December 2020.

[2] Ministry of National Health Services, Regulations and Coordination. 2020. "National Action Plan for Corona virus disease (COVID-19) Pakistan". Accessed 14 December 2020. [<https://www.nih.org.pk/wp-content/uploads/2020/04/COVID-19-NAP-V2-13-March-2020-1.pdf>]

[3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020.

[<http://www.nhsr.gov.pk/>]. Accessed 14 December 2020.

[4] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 14 December 2020.

[5] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 14 December 2020.

## 2.1.2 Laboratory quality systems

### 2.1.2a

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

Yes = 1 , No = 0

**Current Year Score: 1**

There is evidence that Pakistan's national laboratory that serves as a reference facility is accredited.

According to the Joint External Evaluation (JEE) report of 2016, the polio, measles, influenza, and TB programmes at the National Institute of Health (NIH) are WHO accredited. [1,2]

According to the National Laboratory Policy which was published in December 2017, Pakistan National Accreditation Council (PNAC) exists that can perform accreditation services for both ISO-15189 and ISO-17025. There are few accredited laboratories in Pakistan. 8 laboratories are ISO-15189 accredited and 24 are ISO17025 accredited. There are also some laboratories that are Joint Commission International (JCI) and the College of American Pathologists (CAP) accredited or are in the process of obtaining this accreditation.[3]

According to the Pakistan National Accreditation Council (PNAC), National Reference Laboratory for Poultry Disease (NRLPD) was accredited ISO/IEC 17025 in 2017.[4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [ <https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 8 December 2020.

[2] Government of Pakistan. The National Institute of Health (NIH). 2020. "Public Health Laboratories Division (PHLD)". [ <https://www.nih.org.pk/public-health-laboratories-division-phld/>]. Accessed 8 December 2020.

[3] Government of Pakistan. Ministry of National Health Services Regulations & Coordination. National Institute of Health. December 2017. " National Laboratory Policy ". Accessed 8 December 2020. [ <https://www.nih.org.pk/wp-content/uploads/2018/06/National-Laboratory-Policy.pdf>].

[4] Pakistan National Accreditation Council (PNAC). 2020. "Testing and Calibration Laboratories". [ <http://www.pnac.gov.pk/TCLA>]. Accessed 8 December 2020.

### 2.1.2b

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

Yes = 1 , No = 0

**Current Year Score: 1**

There is evidence that the national laboratory system in Pakistan is subject to external quality assurance (EQA) review. According to the 2016 Joint External Evaluation (JEE) for Pakistan, "several key laboratories participate in external quality assurance schemes (EQAS), such as TB, measles and rubella, and NRLPD", however, "a nationally coordinated EQAS should be established for all core human tests". Although Pakistan scored 2 in section D.1.4 of the JEE, there is evidence that the situation has changed since 2016. [1] According to the National Laboratory Policy which was published in December 2017, the National External Quality Assurance Programme Pakistan (NEQAPP) exists in the country to objectively assess the quality of results obtained by medical laboratories in Pakistan. [2] The National Laboratory Policy states that the NTP Reference Laboratory Network, a division of National Institute of Health which is a reference laboratory, participates in the international

proficiency testing organised by the Supranational Laboratory in Antwerp, Belgium. This suggests that the reference facility is subject to external quality assurance review. Furthermore, the Tuberculosis (TB) Control Programme's website noted that the reference laboratory has ensured EQA .[3] The Haematology Department of Public Health Laboratories Division in National Institute of Health (reference laboratory) participated in External Quality Assessment Schemes (EQAS) from January 1996 to December 2006.[4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [ <https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 8 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations & Coordination. National Institute of Health. December 2017. " National Laboratory Policy ". [ <https://www.nih.org.pk/wp-content/uploads/2018/06/National-Laboratory-Policy.pdf>]. Accessed 8 December 2020.

[3] Ministry of National Health Services Regulations and Coordination (NHSR&C). National TB Control Programme. 2019. "Progress and achievements of NTP during 2013-14". [ <https://ntp.gov.pk/about-us/>]. Accessed 8 December 2020.

[4] Mazher Kazi, Birjees & Gul Ibrahim, Nazish & Jadoon, Nadira & Nisar, Nadia & Anwar, Masood. 2009. "External Quality Assessment Scheme (IEQAS) in Haematology at National Institute of Health, Islamabad, Pakistan". Journal of the College of Physicians and Surgeons-Pakistan. [ [https://www.researchgate.net/publication/40819144\\_External\\_Quality\\_Assessment\\_Scheme\\_IEQAS\\_in\\_Haematology\\_at\\_National\\_Institute\\_of\\_Health\\_Islamabad\\_Pakistan](https://www.researchgate.net/publication/40819144_External_Quality_Assessment_Scheme_IEQAS_in_Haematology_at_National_Institute_of_Health_Islamabad_Pakistan)]. Accessed 8 December 2020.

## 2.2 LABORATORY SUPPLY CHAINS

### 2.2.1 Specimen referral and transport system

#### 2.2.1a

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has a nationwide specimen transport system.

According to the 2016 Joint External Evaluation (JEE) for Pakistan, "a system is in place to transport specimens to national laboratories for advanced diagnostics from 50-80% of intermediate level/districts". Only the TB and polio sample transportation system is at advanced capacity 4. Although the standard operating procedures (SOPs) and trained staff exist for specimen collection, packaging, and transport, the JEE highlights that the system and domestic regulations for the transportation of samples other than TB and polio need to be improved.[1]

A manual for Specimen Transportation exists for the TB laboratory network detailing the packaging and transportation of specimen procedures. According to this manual, the packaging for transportation contains three levels ; Primary receptacle, secondary packaging and outer packaging. All transportation should be done as soon as possible at the cool temperature in designated fridges. Matching the ID of specimen and container, sealing the container and correctly labelling the container are some of the procedures mentioned in this manual. [2] There is no further publicly available evidence from the websites of the Ministry of National Food Security & Research and one of its department the Livestock and Dairy Development Board, Pakistan Agricultural Research Council and Ministry of National Health Services Regulations & Coordination.[3,4,5,6]

- [1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 8 December 2020.
- [2] Government of Pakistan. National Reference Laboratory. "Specimen Transportation Manual". [<http://phkh.nhsrsrc.pk/sites/default/files/feeds/Specimen%20Transportation%20Manual%20NRL%20NTP%20Pakistan.pdf>]. Accessed 8 December 2020.
- [3] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 3 December 2020.
- [4] Government of Pakistan. Livestock and Dairy Development Board. 2020. [<http://lddb.org.pk/>]. Accessed 3 December 2020.
- [5] Government of Pakistan. Pakistan Agricultural Research Council. 2020. [<http://www.parc.gov.pk/index.php/en/>]. Accessed 3 December 2020.
- [6] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsrsrc.gov.pk/index>]. Accessed 3 December 2020.

## 2.2.2 Laboratory cooperation and coordination

### 2.2.2a

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

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

**Current Year Score: 0**

There is no publicly available evidence of a plan 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 WHO's Joint External Evaluation (JEE) of Pakistan, conducted in 2016, does not mention any mechanism of provision for rapidly authorising or licensing laboratories to scale-up testing during an outbreak.[1]

The National Laboratory Policy of 2017 is the overarching national framework that regulates clinical laboratories in Pakistan. It provides for the creation of licensing bodies at the national and provincial levels, "There shall be a licensing body at federal and/or provincial level for licensing laboratories as well as laboratory workers. All laboratories and laboratory workers (public and private) shall be licensed according to the national standards to ensure quality of services." However, there is no mention in the policy of a provision or procedure to rapidly authorize or license laboratories to scale-up testing during an outbreak.[2]

The Pakistan National Accreditation Council has accredited multiple medical laboratories to ISO standards, but there is no mention of a provision or procedure to rapidly authorize or license laboratories to scale-up testing during an outbreak.[3] No further evidence is available on the websites of the Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security and Research, and National Institute of Health.[4,5,6]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 14 December 2020.

[2] National Institute of Health. December 2017. "National Laboratory Policy". [<https://www.nih.org/wp-content/uploads/2018/06/National-Laboratory-Policy.pdf>] Accessed 14 December 2020.

[3] Pakistan National Accreditation Council. 2020. "Medical Laboratories". [<http://www.pnac.gov.pk/MedicalLabs>]. Accessed 14 December 2020.

[4] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 6 December 2020.

[5] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 6 December 2020.

[6] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 6 December 2020.

## 2.3 REAL-TIME SURVEILLANCE AND REPORTING

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

#### 2.3.1a

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

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

**Current Year Score: 1**

There is evidence that Pakistan has ongoing event-based surveillance, but there is no evidence that the data is being analysed on a daily basis.

According to the 2016 Joint External Evaluation (JEE), Pakistan has a developed capacity (score 3), surveillance is functional, and the event-based surveillance system exists for vaccine preventable disease like acute watery diarrhoea, viral haemorrhagic fever (VHF), and severe acute respiratory infections (SARI). Also, there is a dashboard which is integrated at the Ministry of National Health Services Regulations and Coordination (NHSR&C). The country has a District Health Information System (DHIS) system which reports on communicable diseases and "multiple dashboards available in different provinces and at national level plan to gather surveillance-related information". [1]

The JEE report states that the country has a limited capacity to analyse the data on daily basis and "reports related to data collection are sporadic with delays". Moreover, Pakistan's National Institute of Health (NIH) has a Surveillance & Response Section which "gathers and analyses disease surveillance data from relevant available sources and periodically disseminates the epidemiological information to the relevant stakeholders in order to identify/notify high priority communicable and non-communicable diseases of public health concern for event-based surveillance". [2]

There is no evidence that the data is being analysed on a daily basis in Pakistan from the websites of Ministry of National Health Services Regulations and Coordination, Ministry of National Food Security and Research, National Disaster Management Authority (NDMA) and NIH. [3,4,5,6]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 8 December 2020.

[2] Government of Pakistan. The National Institute of Health (NIH). 2020. "Field Epidemiology & Disease Surveillance Division (FE&DSD)". [<https://www.nih.org.pk/field-epidemiology-disease-surveillance-division-fedsd/>]. Accessed 8 December 2020.

[3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. '

[<http://www.nhsrc.gov.pk/>]. Accessed 8 December 2020.

[4] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 8 December 2020.

[5] Government of Pakistan. National Disaster Management Authority. 2020. [<http://www.ndma.gov.pk/>].

[6] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions".

[<https://www.nih.org.pk/functions/>]. Accessed 8 December 2020.

### 2.3.1b

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

Yes = 1 , No = 0

**Current Year Score: 1**

There is publicly available evidence that Pakistan reported a potential public health emergency of international concern (PHEIC) to the WHO within the last two years.

In November 2019, Pakistan reported an outbreak of circulating vaccine-derived poliovirus type-2 (cVDPV2) to the WHO.[1] In July 2019, it reported a surge in human immunodeficiency virus (HIV) cases among children in Ratodero Taluka, Larkana district, Sindh province, Pakistan to the WHO.[2]

According to the WHO Weekly Epidemiological Monitor (10 February 2019), Pakistan reported cases of multiple drug-resistant Salmonella typhoid (MDR S. Typhi) fever between November 2016 to February 2019.[3]

[1] World Health Organisation. Disease Outbreak News. 28 November 2019. "Circulating vaccine-derived poliovirus type 2 - Pakistan". [<https://www.who.int/csr/don/28-november-2019-polio-pakistan/en/>] Accessed 8 December 2020.

[2] World Health Organisation. Disease Outbreak News. 3 July 2019. "HIV cases-Pakistan". [<https://www.who.int/csr/don/03-july-2019-hiv-cases-pakistan/en/>] Accessed 8 December 2020.

[3] World Health Organisation. 10 February 2019. "Weekly Epidemiological Monitor".

[[https://reliefweb.int/sites/reliefweb.int/files/resources/Epi\\_Monitor\\_2019\\_12\\_6.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/Epi_Monitor_2019_12_6.pdf)]. Accessed 8 December 2020.

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

### 2.3.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has an electronic reporting surveillance system at both the national level and sub national level. There is evidence of an electronic reporting surveillance system at national level only.

According to the 2016 Joint External Evaluation (JEE) for Pakistan, an electronic disease reporting system has been developed and is operational at the federal level which has links to the provincial district health information systems (DHIS). "Data from multiple sources is entered and collected into a central database and visualised through a web-based dashboard-type user interface that has a wide range of descriptive reporting features but fewer analytical functions". The dashboards are available at the federal level as well as in the provinces where DHIS dashboards are operational. JEE recommends that electronic



reporting systems should be expanded in all provinces at the sub national level and be linked with the national dashboard, and IT communication equipment should be enhanced and vertical programme data should be integrated into main surveillance platforms.[1]

In 2010, the electronic Disease Early Warning System (eDEWS) was established by the World Health Organisation (WHO) in Pakistan for early detection of epidemics by using mobile software to capture data dissemination of information by main stakeholders. eDEWS and DHIS are isolated from one another due to different data standards and a lack of tools for exchanging information. Most of the public health data is being received by mail, email or in person and then entered in old databases by district health authorities, which causes many diseases being underreported, inadequately documented or inaccurately recorded. [2]

The country also conducts disease surveillance activities through several vertical health information systems, for diseases such as HIV/AIDS, TB, Dengue and Malaria. [3]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 8 December 2020.

[2] World Health Organisation (WHO). "A National Electronic Disease Surveillance System, Electronic DEWS". [[http://www.emro.who.int/images/stories/pakistan/documents/pak\\_documents/DEWS/Conceptual\\_Paper\\_eDEWS.pdf](http://www.emro.who.int/images/stories/pakistan/documents/pak_documents/DEWS/Conceptual_Paper_eDEWS.pdf)]. Accessed 8 December 2020.

[3] World Health Organisation (WHO). Regional Office for Eastern Mediterranean. 2019. "Pakistan. Health Information System". [<http://www.emro.who.int/pak/programmes/health-managment-information-system.html>]. Accessed 8 December 2020.

### 2.3.2b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan's electronic reporting surveillance system collects ongoing/real time laboratory data.

According to the 2016 Joint External Evaluation (JEE) for Pakistan, public health laboratories in the human and animal sectors are not linked with surveillance system and sub-regional laboratories are not involved in real-time reporting.[1]

Most of the public health data is mostly received by mail, email, or in person and then entered in old databases by district health authorities manually which causes many diseases underreported, inadequately documented or inaccurately recorded. [2]

There is no updated evidence available from the websites of the Ministry of National Health Services Regulations and Coordination and the National Institute of Health. [3,4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 8 December 2020.

[2] World Health Organisation (WHO). "A National Electronic Disease Surveillance System, Electronic DEWS". [[http://www.emro.who.int/images/stories/pakistan/documents/pak\\_documents/DEWS/Conceptual\\_Paper\\_eDEWS.pdf](http://www.emro.who.int/images/stories/pakistan/documents/pak_documents/DEWS/Conceptual_Paper_eDEWS.pdf)].

Accessed 8 December 2020.

[3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020.

[<http://www.nhsrsc.gov.pk/>]. Accessed 8 December 2020.

[4] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>].

Accessed 8 December 2020.

## 2.4 SURVEILLANCE DATA ACCESSIBILITY AND TRANSPARENCY

### 2.4.1 Coverage and use of electronic health records

#### 2.4.1a

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

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

**Current Year Score: 0**

There is no evidence that electronic health records are commonly in use in Pakistan.

There is no publicly available evidence on electronic health records from the websites of the Ministry of National Health Services Regulations and Coordination and the National Institute of Health.[1,2]

According to one study on "Digitisation of the health sector in Pakistan: challenges and opportunities to online health communication" carried out in 2018 by the Institute of Media and Communication Science, digitisation of the health sector in Pakistan is a fairly new concept that encounters many challenges.[3] Another study on electronic health system in Pakistan carried out in 2017 by the Lahore Medical College on "Electronic health record systems; perception and evaluation among physicians in Pakistan" states that the government should encourage adoption of Electronic Health Records in Pakistan by developing a public-private partnership, and proper training is needed for physicians to enable them to operate the system.[4]

[1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020.

[<http://www.nhsrsc.gov.pk/>]. Accessed 8 December 2020.

[2] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>].

Accessed 8 December 2020.

[3] Ittefaq, Muhammad. Iqbal, Azhar. 23 July 2018. "Digitization of the health sector in Pakistan: challenges and opportunities to online health communication: A case study of MARHAM social and mobile media".

[<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6058414/>]. Accessed 8 December 2020.

[4] Mehmood, Hamid & Aslam, Muhammad & Aslam, Sadia & Waqar, Ammara & Khan, Muhammad & Hassan, Yasir & Faryal, Murtaza & , Cheema & Mujtaba, Hassan. 2017. "ELECTRONIC HEALTH RECORD SYSTEMS; PERCEPTION AND EVALUATION AMONG PHYSICIANS IN PAKISTAN". The Professional Medical Journal.

[[https://www.researchgate.net/publication/316472341\\_ELECTRONIC\\_HEALTH\\_RECORD\\_SYSTEMS\\_PERCEPTION\\_AND\\_EVALUATION\\_AMONG\\_PHYSICIANS\\_IN\\_PAKISTAN\\_ORIGINAL\\_PROF-3213](https://www.researchgate.net/publication/316472341_ELECTRONIC_HEALTH_RECORD_SYSTEMS_PERCEPTION_AND_EVALUATION_AMONG_PHYSICIANS_IN_PAKISTAN_ORIGINAL_PROF-3213)]. Accessed 8 December 2020.

#### 2.4.1b

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no evidence that electronic health records are commonly in use in Pakistan and the national public health system has access to electronic health records of individuals in their country.

The health care system in Pakistan consists of public and private sectors which are jointly administered by the federal and provincial governments. The public sector health care system consists of three levels; Basic Health Units (BHUs) and Rural Health Centres, secondary care, and tertiary care including teaching hospitals. [1]

There is no publicly available evidence on electronic health records in Pakistan from the websites of the Ministry of National Health Services Regulations and Coordination and the National Institute of Health.[2,3]

According to one study on "Digitisation of the health sector in Pakistan: challenges and opportunities to online health communication" carried out in 2018 by the Institute of Media and Communication Science, digitisation of the health sector in Pakistan is a fairly new concept that encounters many challenges.[4] Another study on electronic health system in Pakistan carried out in 2017 by the Lahore Medical College on "Electronic health record systems; perception and evaluation among physicians in Pakistan" states that the government should encourage adoption of Electronic Health Records in Pakistan by developing a public-private partnership, and proper training is needed for physicians to enable them to operate the system.[5]

[1] World Health Organisation. 2020. "Health service delivery,Pakistan".

[<http://www.emro.who.int/pak/programmes/service-delivery.html>]. Accessed 8 December 2020

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020.

[<http://www.nhsr.gov.pk>]. Accessed 8 December 2020.

[3] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 8 December 2020.

[4] Ittefaq, Muhammad. Iqbal, Azhar. 23 July 2018. "Digitization of the health sector in Pakistan: challenges and opportunities to online health communication: A case study of MARHAM social and mobile media".

[<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6058414/>]. Accessed 8 December 2020.

[5] Mehmood, Hamid & Aslam, Muhammad & Aslam, Sadia & Waqar, Ammara & Khan, Muhammad & Hassan, Yasir & Faryal, Murtaza & , Cheema & Mujtaba, Hassan. 2017. "ELECTRONIC HEALTH RECORD SYSTEMS; PERCEPTION AND EVALUATION AMONG PHYSICIANS IN PAKISTAN". The Professional Medical Journal.

[[https://www.researchgate.net/publication/316472341\\_ELECTRONIC\\_HEALTH\\_RECORD\\_SYSTEMS\\_PERCEPTION\\_AND\\_EVALUATION\\_AMONG\\_PHYSICIANS\\_IN\\_PAKISTAN\\_ORIGINAL\\_PROF-3213](https://www.researchgate.net/publication/316472341_ELECTRONIC_HEALTH_RECORD_SYSTEMS_PERCEPTION_AND_EVALUATION_AMONG_PHYSICIANS_IN_PAKISTAN_ORIGINAL_PROF-3213)]. Accessed 8 December 2020.

### 2.4.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that there are data standards to ensure data is comparable as the electronic health records are not commonly in use in Pakistan.

There is no publicly available evidence on electronic health records from the websites of the Ministry of National Health Services Regulations and Coordination and the National Institute of Health.[1,2]

According to one study on "Digitisation of the health sector in Pakistan: challenges and opportunities to online health communication" carried out in 2018 by the Institute of Media and Communication Science, digitisation of the health sector in Pakistan is a fairly new concept that encounters many challenges.[3] Another study on electronic health system in Pakistan carried out in 2017 by the Lahore Medical College on "Electronic health record systems; perception and evaluation among physicians in Pakistan" states that the government should encourage adoption of Electronic Health Records in Pakistan by developing a public-private partnership, and proper training is needed for physicians to enable them to operate the system.[4]

[1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 10 December 2020.

[2] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 10 December 2020.

[3] Ittefaq, Muhammad. Iqbal, Azhar. 23 July 2018. "Digitization of the health sector in Pakistan: challenges and opportunities to online health communication: A case study of MARHAM social and mobile media". [<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6058414/>]. Accessed 10 December 2020.

[4] Mehmood, Hamid & Aslam, Muhammad & Aslam, Sadia & Waqar, Ammara & Khan, Muhammad & Hassan, Yasir & Faryal, Murtaza & , Cheema & Mujtaba, Hassan. 2017. "ELECTRONIC HEALTH RECORD SYSTEMS; PERCEPTION AND EVALUATION AMONG PHYSICIANS IN PAKISTAN". The Professional Medical Journal. [[https://www.researchgate.net/publication/316472341\\_ELECTRONIC\\_HEALTH\\_RECORD\\_SYSTEMS\\_PERCEPTION\\_AND\\_EVALUATION\\_AMONG\\_PHYSICIANS\\_IN\\_PAKISTAN\\_ORIGINAL\\_PROF-3213](https://www.researchgate.net/publication/316472341_ELECTRONIC_HEALTH_RECORD_SYSTEMS_PERCEPTION_AND_EVALUATION_AMONG_PHYSICIANS_IN_PAKISTAN_ORIGINAL_PROF-3213)]. Accessed 10 December 2020.

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

### 2.4.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that there are established mechanisms at the relevant ministries in Pakistan for the sharing of data relevant to animal, human, and wildlife surveillance.

According to the 2016 Joint External Evaluation (JEE) report the country does not have any formal mechanism to share reports, including lab data, among stakeholders. The JEE recommended that the country should establish "platforms for surveillance and response cooperation and data sharing between human health, livestock management, food safety and wildlife sectors at national, provincial and district levels". There is no evidence that since 2016 the situation has changed.[1]

In 2018, Pakistan established a One Health Hub in the National Institute of Health (NIH). Its aim is to prevent and control zoonotic diseases by strengthening event-based surveillance with well-coordinated response by human, animal and environmental departments, in order to enhance capacity for surveillance & field investigation of zoonotic diseases and response. [2] However, additional information is unavailable on what information sharing mechanisms have been formed under One Health Hub. [2] No updated information is available from the websites of Ministry of National Health Services, Regulations and Coordination, Ministry of National Food Security, Pakistan Environmental Protection Agency ( within Ministry of Climate Change) and National Institute of Health.[3,4,5,6]

- [1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 10 December 2020.
- [2] Government of Pakistan. The National Institute of Health (NIH). 2019. "One Health Hub". [<https://www.nih.org.pk/field-epidemiology-disease-surveillance-division-fedsd/>]. Accessed 10 December 2020.
- [3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 10 December 2020.
- [4] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 10 December 2020.
- [5] Government of Pakistan. Ministry of Climate Change. Pakistan Environmental Protection Agency. 2020. "Policies and Strategies". [<http://environment.gov.pk/desc.php?page=polices>]. Accessed 10 December 2020.
- [6] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 10 December 2020.

## 2.4.3 Transparency of surveillance data

### 2.4.3a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient evidence that Pakistan makes de-identified health surveillance data on disease outbreaks publicly available via reports on government websites.

The Ministry of National Health Services Regulations and Coordination (NHSR&C) publishes de-identified health surveillance data on disease outbreaks on an independent website under "Pakistan Health Information System (PHIS) - Integrated health services, logistic and surveillance dashboard" and it includes the following diseases: TB, Malaria, HIV/AIDS, Polio and Hepatitis. Only the link to the "Polio" is functional which leads to "Endpolio" website and has updated information on the number of polio cases in different provinces. The data is de-identified. However, the data is not updated weekly, and is only available on an annual basis, with the latest available for 2020. Other sections of PHIS include information on Mother and Child Health, Nutrition and Immunisations.[1,2]

[1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. "Pakistan Health Information System (PHIS) - Integrated health services, logistic and surveillance dashboard". [<http://nhsr.gov.pk/#>]. Accessed 10 December 2020.

[2] Endpolio- Pakistan. 2020. "POLIO CASES IN PROVINCES". [<http://www.endpolio.com.pk/polioin-pakistan/polio-cases-in-provinces>]. Accessed 10 December 2020.

### 2.4.3b

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

Yes = 1 , No = 0

**Current Year Score: 1**

There is evidence that Pakistan makes de-identified COVID-19 surveillance data (including details such as daily case count, mortality rate, etc) available via daily reports.

In 2020, the government created a dedicated website (<https://covid.gov.pk/>) to disseminate de-identified aggregate data on a daily basis with respect to the Novel Coronavirus (Covid-19) pandemic in Pakistan. The website is updated daily and gives national level data on number of new confirmed cases, number of deaths, tests performed, and ratio of positive samples.[1]

[1] Government of Pakistan. 2020. "Know About Covid-19". [<https://covid.gov.pk/>]. Accessed 14 December 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: 0**

There is no evidence that Pakistan has any laws, regulations, or guidelines that safeguard the confidentiality of identifiable health information for individuals, such as that generated through health surveillance activities.

There is no publicly available evidence from the websites of the Ministry of National Health Services Regulations and Coordination and the National Institute of Health.[1,2]

In 2020, the Ministry of Information Technology and Telecommunication published the latest version of a draft data protection bill, but there is not evidence so far that it has been enacted into law.[3] There is no further evidence available on the United Nations Conference on Trade and Development (UNCTAD) database.[4]

[1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 10 December 2020.

[2] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 10 December 2020.

[3] Government of Pakistan. Ministry of Information Technology and Telecommunication. 2020/ "PERSONAL DATA PROTECTION BILL 2020". [<https://www.moitt.gov.pk/SiteImage/Downloads/Personal%20Data%20Protection%20Bill%202020%20Updated.pdf>] Accessed 10 December 2020.

[4] The United Nations Conference on Trade and Development (UNCTAD). 2020. "Data Protection and Privacy Legislation Worldwide. Pakistan." [[https://unctad.org/en/Pages/DTL/STI\\_and\\_ICTs/ICT4D-Legislation/eCom-Data-Protection-Laws.aspx](https://unctad.org/en/Pages/DTL/STI_and_ICTs/ICT4D-Legislation/eCom-Data-Protection-Laws.aspx)]. [https://unctad.org/en/Pages/DTL/STI\\_and\\_ICTs/ICT4D-Legislation/eCom-Data-Protection-Laws.aspx](https://unctad.org/en/Pages/DTL/STI_and_ICTs/ICT4D-Legislation/eCom-Data-Protection-Laws.aspx). Accessed 10 December 2020.

### 2.4.4b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has the laws, regulations, or guidelines safeguarding the confidentiality of identifiable health information for individuals which include mention of protections from cyber attacks.

There is no publicly available evidence from the websites of the Ministry of National Health Services Regulations and Coordination and the National Institute of Health.[1,2]

In 2020, the Ministry of Information Technology and Telecommunication published the latest version of a draft data protection bill, but there is not evidence so far that it has been enacted into law.[3] There is no further evidence available on the United Nations Conference on Trade and Development (UNCTAD) database.[4]

[1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsrsc.gov.pk>]. Accessed 10 December 2020.

[2] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 10 December 2020.

[3] Government of Pakistan. Ministry of Information Technology and Telecommunication. 2020/ "PERSONAL DATA PROTECTION BILL 2020".

[<https://www.moitt.gov.pk/SiteImage/Downloads/Personal%20Data%20Protection%20Bill%202020%20Updated.pdf>] Accessed 10 December 2020.

[4] The United Nations Conference on Trade and Development (UNCTAD). 2020. "Data Protection and Privacy Legislation Worldwide. Pakistan." [[https://unctad.org/en/Pages/DTL/STI\\_and\\_ICTs/ICT4D-Legislation/eCom-Data-Protection-Laws.aspx](https://unctad.org/en/Pages/DTL/STI_and_ICTs/ICT4D-Legislation/eCom-Data-Protection-Laws.aspx)]. [[https://unctad.org/en/Pages/DTL/STI\\_and\\_ICTs/ICT4D-Legislation/eCom-Data-Protection-Laws.aspx](https://unctad.org/en/Pages/DTL/STI_and_ICTs/ICT4D-Legislation/eCom-Data-Protection-Laws.aspx)]. Accessed 10 December 2020.

## 2.4.5 International data sharing

### 2.4.5a

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

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

**Current Year Score: 0**

There is no evidence that the Pakistan's 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 for one or more diseases.

There is no publicly available evidence from the websites of the Ministry of National Health Services Regulations & Coordination, the National Institute of Health (NIH) and the 2016 Joint External Evaluation for Pakistan. [1,2,3]

The country participates in Acute Flaccid Paralysis (AFP) Surveillance for polio eradication and in collaboration with Afghanistan and Iran with regard to Poliovirus disease outbreak, however there is no evidence of any commitments to share surveillance data during a public health emergency.[4]

During the Covid-19 pandemic in 2020, there is no evidence on the above mentioned official sources that Pakistan shared its

surveillance data with other countries in the region.

- [1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk/index>]. Accessed 10 December 2020.
- [2] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 10 December 2020.
- [3] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 10 December 2020.
- [4] World Health Organisation (WHO). 2000. "Meeting on the coordination of cross-border activities in the framework of operation MECACAR". [[http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0016/240172/E73511.pdf](http://www.euro.who.int/__data/assets/pdf_file/0016/240172/E73511.pdf)]. Accessed 10 December 2020.

## 2.5 CASE-BASED INVESTIGATION

### 2.5.1 Case investigation and contact tracing

#### 2.5.1a

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

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

**Current Year Score: 1**

There is publicly available evidence that a national system exists in Pakistan to provide support at the sub-national level to conduct contact tracing but only in response to active public health emergencies (Covid-19).

Pakistan's Polio Eradication Programme conducts surveillance for acute flaccid paralysis (AFP) on an ongoing basis, in order to detect polio cases throughout the country. AFP surveillance has been ongoing since 1997, and it is operational at the national, provincial, and district levels.[1] In March 2020, this system was redeployed to support Pakistan's response effort to the Novel Coronavirus (Covid-19) pandemic. Working under the National Emergency Operations Centre, the polio-related AFP surveillance assets were re-directed to, among other tasks, carrying out contact tracing activities for Covid-19 cases at the provincial and district levels. During March-April, 16,945 contacts were traced and 1,946 symptomatic travelers were identified and isolated.[2] However, there is no direct evidence that the Polio Eradication Programme is designed to be redeployed to cater to non-polio related public health emergencies. No publicly available evidence was available in this regard on the websites of the Ministry of National Health Services Regulations and Coordination and the National Institute of Health.[3,4].

[1] Pakistan Polio Eradication Programme. 2020. "Surveillance". [<https://www.endpolio.com.pk/polioin-pakistan/surveillance>]. Accessed 14 December 2020.

[2] Reliefweb. 8 May 2020. "Pakistan Polio Eradication Initiative Support to COVID-19 Response". [<https://reliefweb.int/report/pakistan/pakistan-polio-eradication-initiative-support-covid-19-response>]. Accessed 14 December 2020.

[3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 10 December 2020.



[4] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 10 December 2020

### 2.5.1b

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

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

**Current Year Score: 0**

There is insufficient evidence that Pakistan 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. Pakistan provides medical attention only to enable cases and suspected cases to self-isolate as recommended.

In 2020, during the Novel Coronavirus (Covid-19) pandemic, a limited number of isolation and treatment wards were set up at various hospitals in all provinces of Pakistan for confirmed and suspected cases. According to the official list released by the government, many of these hospitals are government-run, where patients were provided medical attention subject to the hospitals' capacity, but there is no evidence of economic support being provided.[1]

No publicly available evidence was available in this regard on the websites of the Ministry of National Health Services Regulations and Coordination and the National Institute of Health.[2,3].

Pakistan's Polio Eradication Programme is operational at the national, provincial, and district levels, however there is no evidence that it provides economic support for self-isolation of confirmed/suspected cases.[4]

[1] Government of Pakistan. 2020. "LIST OF HOSPITALS PROVINCE-WISE WITH ISOLATION FACILITIES".

[<https://covid.gov.pk/facilities/List%20of%20Province-wise%20COVID-19%20Hospital%20Isolation%20Wards%20Pakistan.pdf>]. Accessed 14 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020.

[<http://www.nhsrsc.gov.pk>]. Accessed 10 December 2020.

[3] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 10 December 2020.

[4] Pakistan Polio Eradication Programme. 2020. [<https://www.endpolio.com.pk>]. Accessed 14 December 2020.

### 2.5.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient evidence that Pakistan 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.

In 2020, the government created a dedicated website (<https://covid.gov.pk/>) to disseminate de-identified aggregate data on

a daily basis with respect to the Novel Coronavirus (Covid-19) pandemic in Pakistan. The website is updated daily and gives national level data on number of new confirmed cases, number of deaths, tests performed, and ratio of positive samples, but not on contact tracing efforts.[1]

Pakistan's Polio Eradication Programme conducts surveillance for acute flaccid paralysis (AFP) on an ongoing basis, in order to detect polio cases throughout the country. In March 2020, this system was redeployed to support Pakistan's response effort to the Novel Coronavirus (Covid-19) pandemic. Working under the National Emergency Operations Centre, the polio-related AFP surveillance assets were re-directed to, among other tasks, carrying out contact tracing activities for Covid-19 cases at the provincial and district levels. During March-April, 16,945 contacts were traced 1,946 symptomatic travelers were identified and isolated.[2]

However, there is no evidence of daily updates on the website of the Polio Eradication Programme. There is no further publicly available evidence on the websites of the Ministry of National Health Services Regulations & Coordination or the National Institute of Health (NIH).[3,4]

[1] Government of Pakistan. 2020. "Know About Covid-19". [<https://covid.gov.pk/>]. Accessed 14 December 2020.

[2] Reliefweb. 8 May 2020. "Pakistan Polio Eradication Initiative Support to COVID-19 Response". [<https://reliefweb.int/report/pakistan/pakistan-polio-eradication-initiative-support-covid-19-response>]. Accessed 14 December 2020.

[3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 10 December 2020.

[4] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 10 December 2020.

## 2.5.2 Point of entry management

### 2.5.2a

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

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

**Current Year Score: 0**

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

In 2020, in response to the Novel Coronavirus (Covid-19) pandemic, the National Action Plan for Preparedness & Response to Corona Virus Disease (Covid-19) Pakistan was prepared. This plan included detailed instructions and standard operating procedures (SOPs) for authorities managing Pakistan's international airports, for screening passengers and dealing with suspected and confirmed cases of infection.[1] However, it does not include a joint plan or agreement between public health and civil aviation officials.

Pakistan Civil Aviation Authority (CAA) issued operational SOPs for international flights to mitigate Covid-19 risks, but the CAA website does not have any evidence of a joint plan with public health authorities.[2,3]

No publicly available evidence was found on the websites of the Ministry of National Health Services Regulations and Coordination and the National Institute of Health.[4,5]

[1] Ministry of National Health Services, Regulation & Coordination Pakistan. February 2020. "National Action Plan for Preparedness & Response to Corona Virus Disease (Covid-19) Pakistan". [[https://www.nih.org.pk/wp-content/uploads/2020/02/NAP-covid-19\\_AL@version-3-date-12-2-2020-with-annexures.pdf](https://www.nih.org.pk/wp-content/uploads/2020/02/NAP-covid-19_AL@version-3-date-12-2-2020-with-annexures.pdf)]. Accessed 15 December 2020.

[2] Pakistan Civil Aviation Authority. June 2020. "Operational SOPs for International Flights". [[https://covid.gov.pk/travel\\_guidelines/SOPs%20for%20International%20Passenger%20Flights.pdf](https://covid.gov.pk/travel_guidelines/SOPs%20for%20International%20Passenger%20Flights.pdf)]. Accessed 15 December 2020.

[3] Pakistan Civil Aviation Authority. 2020. [<https://www.caapakistan.com.pk/>]. Accessed 15 December 2020.

[4] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 10 December 2020.

[5] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>].

## 2.6 EPIDEMIOLOGY WORKFORCE

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

#### 2.6.1a

Does the country meet one of the following criteria?

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

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

**Current Year Score: 1**

There is evidence that Pakistan meets one of the criteria regarding epidemiology training program. There is evidence that applied epidemiology training program is available in Pakistan.

The Joint External Evaluation (JEE) report of 2016 expressly states that, "the Field Epidemiology Training Programme is well established in human and animal health". The Field Epidemiology & Laboratory Training Program (FELTP) in basic, intermediate or advanced level is in place in Pakistan. FELTP programme has 67 graduates. In addition to the advanced two-year programme, it also offers training to in-service officers in both health and veterinary sectors.[1]

The National Institute of Health (NIH) launched the FELTP frontline course in 2016 in collaboration with the Ministry of National Health Services Regulations and Coordination (NHSR&C) and the Centres for Disease Control and Prevention (CDC) USA. This is an ongoing project of "Enhancing the Pakistan Field Epidemiology and Laboratory Training Program" which is implemented by CDC, Government of Pakistan, and NIH, with the support of TEPHINET. [2,3]

Pakistan is a member of Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET) which offers basic and advance training courses in FELTP to the country. [4] The Eastern Mediterranean Public Health Network (EMPNET) also supports FETP programmes in Pakistan with ongoing technical and programmatic assistance and engaging FETP residents

and graduates in national and regional trainings. However the details are not available.[5]

There is no evidence that resources are provided by the government to send citizens to another country to participate in applied epidemiology training programs. There is no publicly available evidence from the websites of the Ministry of National Health Services Regulations and Coordination, the National Institute of Health, TEPHINET, EMPFNET and CDC. [6,7,8]

- [1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 10 December 2020.
- [2] Government of Pakistan. The National Institute of Health (NIH). 2020. "Field Epidemiology & Laboratory Training Program (FELTP)". [<https://www.nih.org.pk/field-epidemiology-laboratory-training-program-feltp-2/>]. Accessed 10 December 2020.
- [3] Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET). 2020. "Enhancing the Pakistan Field Epidemiology and Laboratory Training Program". [<https://www.tephinet.org/enhancing-the-pakistan-field-epidemiology-and-laboratory-training-program>]. Accessed 10 December 2020.
- [4] Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET). "Member Programs". October 2018.[<https://www.tephinet.org/sites/tephinet/files/content/attachment/2018-11-05/TEPHINET%20Member%20Programs%20at%20a%20Glance.pdf>]. Accessed 10 December 2020.
- [5] The Eastern Mediterranean Public Health Network (EMPHNET). 2019. "FETP Country Programs". [[http://emphnet.net/?page\\_id=491](http://emphnet.net/?page_id=491)]. Accessed 10 December 2020.
- [6] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 10 December 2020.
- [7] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 10 December 2020.
- [8] The Centers for Disease Control and Prevention (CDC). 2020. "Field Epidemiology Training Program: Partners & Networks". [<https://www.cdc.gov/globalhealth/healthprotection/fetp/partners.html>]. Accessed 10 December 2020.

### 2.6.1b

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

Yes = 1 , No = 0

**Current Year Score: 1**

There is evidence that Pakistan has field epidemiology training programs explicitly inclusive of animal health professionals and there is a specific animal health field epidemiology training program in the country.

According to the Joint External Evaluation (JEE) report of May 2016, the Field Epidemiology and Laboratory Training Programme (FELTP) includes veterinarians in the 2-year programme.[1]

The National Institute of Health (NIH) launched the FELTP frontline course in 2016 in collaboration with Ministry of National Health Services Regulations and Coordination (NHSR&C) and the Centres for Disease Control and Prevention (CDC) USA. According to the NIH website, 10 veterinarians are currently enrolled in the FELTP. [2]

Moreover, different workshops are available specifically for animal health professionals. For example, a training workshop took place between July 31 and August 2, 2018 in Islamabad for 15 veterinarians and para veterinarians in disease surveillance, sample collection, and diagnosis of animal diseases with support of Pakistan Agricultural Research Council (PARC), the National Agricultural Research Centre (NARC) and EMPHNET. [3]

The Institute for Infectious Animal Diseases (IIAD) "conducted a training program with 13 field veterinary medical officers, epidemiologists, academicians, and diagnosticians from diagnostic laboratories across Pakistan during August of 2016". [4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 10 December 2020.

[2] Government of Pakistan. The National Institute of Health (NIH). 2020. "Field Epidemiology & Laboratory Training Program (FELTP)". [<https://www.nih.org.pk/field-epidemiology-laboratory-training-program-feltp-2/>]. Accessed 10 December 2020.

[3] The Eastern Mediterranean Public Health Network (EMPHNET). 2018. "Pakistan Agricultural Research Council and GHD/EMPHNET Conclude Training on Epidemiological Surveillance of Brucellosis in Islamabad".

[<http://emphnet.net/?news=pakistan-agricultural-research-council-and-ghdemphnet-conclude-training-on-epidemiological-surveillance-of-brucellosis-in-islamabad>]. Accessed 10 December 2020.

[4] The Institute for Infectious Animal Diseases (IIAD). 2020. "Epidemiology and Surveillance Training - Pakistan".

[<http://iiad.tamu.edu/international-portfolio/training-impact-long-term-results-education-programs/pakistan-epidemiology-surveillance/>]. Accessed 10 December 2020.

## 2.6.2 Epidemiology workforce capacity

### 2.6.2a

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

Yes = 1, No = 0

Current Year Score: 0

2020

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

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

### 3.1 EMERGENCY PREPAREDNESS AND RESPONSE PLANNING

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

##### 3.1.1a

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

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

**Current Year Score: 1**

There is evidence that Pakistan has disease-specific plans in place, but there is no evidence of an overarching plan.

According to the 2016 Joint External Evaluation (JEE) report the country does not have a national public health emergency preparedness and response plan. There are various available preparedness plans which need to be integrated into one comprehensive plan. JEE states that the draft of National Epidemic and Pandemic Preparedness Plan is available and moreover, the country has developed disease-specific preparedness and response plans, e.g. Avian Influenza Plan 2011. These two plans are not publicly available.[1]

In 2020, Pakistan prepared the COVID-19 Pakistan Preparedness and Response Plan (PPRP), to stop the transmission of the pandemic and respond to the emerging public health needs in Pakistan. It is publicly available.[2]

The country also has the National and provincial contingency plans (monsoon-related) and the National Disaster Response Plan (NDRP) March 2010 which are available on the website of National Disaster Management Authority (NDMA).[3] NDRP is in five chapter in "Disaster Risks, Management System, Early Warning, Information Flow and Declaration of Emergency and Disaster Response Functions".[4]

National Health Emergency Preparedness & Response Network (NHEPRN) was established in 2010 and in collaboration with NDRP mostly for natural risks crisis management and coordination rather than public health emergencies.[5]

No further evidence available from the website of the Ministry of National Health Services Regulations and Coordination.[6]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 10 December 2020.

[2] Reliefweb. 15 June 2020. "Pakistan Preparedness & Response Plan COVID-19".

[<https://reliefweb.int/report/pakistan/pakistan-preparedness-response-plan-covid-19>] Accessed 10 December 2020.

[3] Government of Pakistan. National Disaster Management Authority. 2020. "Plans". [<http://web.ndma.gov.pk/plans.php>]. Accessed 10 December 2020.

[4] Government of Pakistan. Prime Minister's Secretariat. National Disaster Management Authority. March 2010. "The National Disaster Response Plan". [<http://www.ndma.gov.pk/plans/NDRP-2010.pdf>]. Accessed 10 December 2020.

[5] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020.

[<http://www.nheprn.gov.pk/>]. Accessed 10 December 2020.

[6] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020.

[<http://www.nhsrsc.gov.pk/>]. Accessed 10 December 2020.

**3.1.1b**

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

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

**Current Year Score: 0**

There is no evidence that Pakistan has an overarching national public health emergency response plan which has been updated in the last 3 years.

According to the 2016 Joint External Evaluation (JEE) report the country does not have a national public health emergency

preparedness and response plan. There are various available preparedness plans which need to be integrated into one comprehensive plan. The JEE states that the draft of National Epidemic and Pandemic Preparedness Plan is available and moreover, the country has developed disease-specific preparedness and response plans, e.g. Avian Influenza Plan 2011. These two plans are not publicly available.[1]

The country also has the national and provincial contingency plans (monsoon-related) and the National Disaster Response Plan (NDRP) March 2010 which are available on the website of the National Disaster Management Authority (NDMA).[2] NDRP is in five chapter of the "Disaster Risks, Management System, Early Warning, Information Flow and Declaration of Emergency and Disaster Response Functions".[3]

National Health Emergency Preparedness & Response Network (NHEPRN) was established in 2010 and in collaboration with NDRP mostly assigned for natural risks crisis management and coordination rather than public health emergencies.[4] No further evidence was available on the website of the Ministry of National Health Services Regulations and Coordination.[5]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 10 December 2020.

[2] Government of Pakistan. National Disaster Management Authority. 2020. "Plans". [<http://web.ndma.gov.pk/plans.php>]. Accessed 10 December 2020.

[3] Government of Pakistan. Prime Minister's Secretariat. National Disaster Management Authority. March 2010."The National Disaster Response Plan". [<http://www.ndma.gov.pk/plans/NDRP-2010.pdf>]. Accessed 10 December 2020.

[4] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020. [<http://www.nheprn.gov.pk/>]. Accessed 10 December 2020.

[5] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsrsc.gov.pk>]. Accessed 10 December 2020.

### 3.1.1c

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

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

**Current Year Score: 0**

There is no evidence that Pakistan has a national public health emergency response plan which includes considerations for paediatric and other vulnerable populations.

According to the 2016 Joint External Evaluation (JEE) report the country does not have a national public health emergency preparedness and response plan. There are various available preparedness plans which need to be integrated into one comprehensive plan. The JEE states that the draft of National Epidemic and Pandemic Preparedness Plan is available and moreover, the country has developed disease-specific preparedness and response plans, e.g. Avian Influenza Plan 2011. These two plans are not publicly available.[1]

The country also has the national and provincial contingency plans (monsoon-related) and the National Disaster Response Plan (NDRP) March 2010 which are available on the website of the National Disaster Management Authority (NDMA).[2] NDRP is in five chapter of the "Disaster Risks, Management System, Early Warning, Information Flow and Declaration of Emergency and Disaster Response Functions".[3]

National Health Emergency Preparedness & Response Network (NHEPRN) was established in 2010 and in collaboration with

NDRP mostly assigned for natural risks crisis management and coordination rather than public health emergencies.[4]

No further evidence was available on the website of the Ministry of National Health Services Regulations and Coordination.[5]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 10 December 2020.

[2] Government of Pakistan. National Disaster Management Authority. 2020. "Plans". [<http://web.ndma.gov.pk/plans.php>]. Accessed 10 December 2020.

[3] Government of Pakistan. Prime Minister's Secretariat. National Disaster Management Authority. March 2010. "The National Disaster Response Plan". [<http://www.ndma.gov.pk/plans/NDRP-2010.pdf>]. Accessed 10 December 2020.

[4] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020. [<http://www.nheprn.gov.pk/>]. Accessed 10 December 2020.

[5] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsrsc.gov.pk/>]. Accessed 10 December 2020.

### 3.1.1d

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

Yes = 1 , No = 0

**Current Year Score: 0**

2020

WHO Strategic Partnership for IHR and Health Security (SPH)

## 3.1.2 Private sector involvement in response planning

### 3.1.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has a specific mechanism for engaging with the private sector to assist with outbreak emergency preparedness and response.

There is no evidence provided on the websites of Ministry of National Health Services, Regulations and Coordination, National Disaster Management Authority (NDMA) and National Health Emergency Preparedness & Response Network (NHEPRN).[1,2,3]

The National Disaster Response Plan (NDRP) March 2010 noted the necessity of engagement with the private sector. For example, identifying private transport companies which can be engaged during a major national disaster and liaising with them on behalf of NDMA if needed for preparedness response or documenting the capacity of private health services such as



private clinics and NGOs health service centres. However, no mechanism or plan is available.[4]

[1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [http://www.nhsr.gov.pk]. Accessed 10 December 2020.

[2] Government of Pakistan. National Disaster Management Authority. 2020. "Plans". [http://www.ndma.gov.pk/plans.php]. Accessed 10 December 2020.

[3] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020. [http://www.nheprn.gov.pk/]. Accessed 10 December 2020.

[4] Government of Pakistan. Prime Minister's Secretariat. National Disaster Management Authority. March 2010. "The National Disaster Response Plan". [http://www.ndma.gov.pk/plans/NDRP-2010.pdf]. Accessed 10 December 2020.

### 3.1.3 Non-pharmaceutical interventions planning

#### 3.1.3a

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

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

**Current Year Score: 1**

There is evidence that Pakistan has a policy, plan and/or guidelines in place to implement non-pharmaceutical interventions (NPIs) during an epidemic or pandemic, but for one disease only.

In 2020, in response to the Novel Coronavirus (Covid-19) pandemic, Pakistan set up the National Command and Operation Center (NCOC) to oversee the country's overall response effort. The NCOC implemented various non-pharmaceutical interventions (NPIs), such as issuing numerous guidelines and sets of Standard Operating Procedures (SOPs) to contain the spread of Covid-19 infections. These included guidelines and SOPs for social distancing, quarantine facilities, operations of various types of businesses, public transport and travel, use of face masks, and other activities.[1]

The NCOC also implemented 'smart lockdowns' at localised infection hotspots identified through a customised mobile app's data, and an education institutes management system to track the virus spread.[2] However, these measures were all specific to Covid-19, and their language does not suggest that they could be replicated for other disease outbreaks.

There is no publicly available evidence for such a policy or plan on the websites of the Ministry of National Health Services Regulations and Coordination, and National Disaster Management Authority.[3,4]

[1] Government of Pakistan. National Command and Operation Center. 2020. "Standard Operating Procedures (SOPs) / Guidelines". [https://ncoc.gov.pk/sop.php] Accessed 15 December 2020.

[2] Government of Pakistan. National Command and Operation Center. 2020. "IT Initiatives". [https://ncoc.gov.pk/govt-initiatives.php#]. Accessed 15 December 2020.

[3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [http://www.nhsr.gov.pk]. Accessed 11 March 2020.

[4] Government of Pakistan. National Disaster Management Authority. 2020. [http://web.ndma.gov.pk/]. Accessed 11 March 2020.

## 3.2 EXERCISING RESPONSE PLANS

### 3.2.1 Activating response plans

#### 3.2.1a

Does the country meet one of the following criteria?

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

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

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

**Current Year Score: 1**

There is evidence that Pakistan has activated its national emergency response plan for an infectious disease outbreak in the past year but no evidence that it has completed a national-level biological threat-focused exercise (either with WHO or separately) in the past year.

In April 2020, Pakistan activated the Pakistan Preparedness and Response Plan (PPRP) in response to the Novel Coronavirus (COVID-19) pandemic. It was a coordinated international effort in consultation with Ministry of Foreign Affairs (MoFA) to support the Ministry of Health Services, Regulations and Coordination (M/O NHSRC), National Disaster Management Authority (NDMA) and Provincial Departments of Health, PDMAs under the overall efforts of the Government of Pakistan (GoP).

The central objective was to help prevent and limit the spread of COVID-19 in Pakistan, and reduce the related morbidity and mortality due to the pandemic in the country. It aimed to strengthen and reduce gaps in coordination at all levels, support disease surveillance and laboratory diagnosis, enhance case management, ensure implementation of infection prevention and control, lastly mobilize community for control of the outbreak. [1,2]

There is no publicly available evidence of an exercise to plan for this scenario to have been conducted so far, from the websites of Ministry of National Health Services Regulations and Coordination, National Disaster Management Authority (NDMA) and National Health Emergency Preparedness & Response Network (NHPRN). [4,5,6]

In the first six monthly report of 2018 published by NDMA, it is reported that NDMA has organised Pakistani teams of rescuers and managers to participate in the Disaster Management Scenarios (earthquake, flood/ water rescue, chemical-biological-radiological & nuclear incidents) with the aim to be trained by Euro-Atlantic Disaster Response Coordination Centre in Serbia. There is no evidence however that the security authorities (army or police personnel) were also present. [7]

[1] Reliefweb. April 24, 2020. "Pakistan Preparedness & Response Plan COVID-19".

[<https://reliefweb.int/report/pakistan/pakistan-preparedness-response-plan-covid-19#:~:text=Central%20to%20the%20plan%20is,from%20April%20to%20December%202020.>] Accessed 11 December 2020.

[2] Government of Pakistan. Ministry of Foreign Affairs. 23 April 2020. "Pakistan launches initial US\$ 595 million Preparedness and Response Plan to combat COVID-19". [<http://mofa.gov.pk/pakistan-launches-initial-us-595-million-preparedness-and-response-plan-to-combat-covid-19/>] Accessed 11 December 2020.

[3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020.

[<http://www.nhsrsc.gov.pk>]. Accessed 11 December 2020.

[4] Government of Pakistan. National Disaster Management Authority. 2020. "Plans". [<http://www.ndma.gov.pk/plans.php>]. Accessed 8 March 2019.

[5] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020. [<http://www.nheprn.gov.pk/>]. Accessed 11 December 2020.

[6] Government of Pakistan. National Disaster Management Authority. January - June 2018. "SIX MONTHLY REPORT 1st HALF 2018". [[http://web.ndma.gov.pk/publications/Final%20-%20NDMA's%20Six%20Monthly%20Report%20\(Jan%20-Jun2018\).pdf](http://web.ndma.gov.pk/publications/Final%20-%20NDMA's%20Six%20Monthly%20Report%20(Jan%20-Jun2018).pdf)] Accessed 11 December 2020.

### 3.2.1b

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

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

**Current Year Score: 0**

There is no publicly available evidence that Pakistan 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 in the past year.

Pakistan conducted an after action review with the WHO from 14 May 2018 to 16 May 2018 on Dengue, but this was more than a year ago, and it has not been published. An after action review for HIV for 25 November 2019 to 29 November 2019 is still listed as "planned" on the WHO website.[1]

[1] World Health Organisation(WHO). 2020. "Health Security Status, Pakistan". [<https://extranet.who.int/sph/country/192>]. Accessed 11 December 2020.

## 3.2.2 Private sector engagement in exercises

### 3.2.2a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence that Pakistan in the past year has undergone a national-level biological threat-focused exercise that has included private sector representatives.

Pakistan conducted an after action review with the WHO from 14 May 2018 to 16 May 2018 on Dengue, but this was more than a year ago, and it has not been published. An after action review for HIV for 25 November 2019 to 29 November 2019 is still listed as "planned" on the WHO website.[1]

Furthermore, there is no evidence to suggest that this included private sector representatives. There is no further publicly available evidence on the websites of the Ministry of National Health Services Regulations and Coordination, National Institute of Health, and National Disaster Management Authority.[2,3,4] There is no further evidence on the WHO Simulation

Exercise page. [5]

[1] World Health Organisation(WHO). 2020. "Health Security Status, Pakistan". [<https://extranet.who.int/sph/country/192>]. Accessed 11 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 10 December 2020.

[3] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 10 December 2020.

[4] Government of Pakistan. National Disaster Management Authority. 2020. [<http://www.ndma.gov.pk>]. Accessed 11 December 2020.

[5] World Health Organization (WHO). Simulation Exercise. [<https://extranet.who.int/sph/simulation-exercise>]. Accessed 11 December 2020.

## 3.3 EMERGENCY RESPONSE OPERATION

### 3.3.1 Emergency response operation

#### 3.3.1a

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

Yes = 1 , No = 0

**Current Year Score: 1**

There is evidence that Pakistan has in place an Emergency Operations Centre (EOC).

According to the Joint External Evaluation (JEE) conducted in May 2016, National Disaster Management Authority (NDMA) which was established in 2010 is the "most comprehensive and advanced emergency response and coordination in the country". NDMA also has provincial branches (Provincial Disaster Management Authorities).

The Ministry of National Health Services Regulations and Coordination (NHSR&C) has developed the National Health Emergency Preparedness & Response Network (NHEPRN) and provincial HEPRN to coordinate and respond to events at their respective levels. However, the JEE states that these centres "lack the legislative foundation, political support, finances, administrative structure and operational functions to lead, coordinate, and manage/enforce health emergency response".[1,2,3]

Pakistan also has specific health-related emergency centres. Pakistan established the Polio EOC in 2014 and five regional centres across the four provinces of Pakistan and the previously Federally Administered Tribal Areas in the KPK province. The Polio EOCs have dedicated funding and technical expertise. [4]

No further evidence available from the website of Ministry of National Health Services Regulations and Coordination. [5]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [ <https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 11 December 2020.

[2] Government of Pakistan. National Disaster Management Authority. 2020. [<http://www.ndma.gov.pk>]. Accessed 11 December 2020.

[3] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020. [<http://www.nheprn.gov.pk/>]. Accessed 11 December 2020.

[4] Center for Strategic and International Studies. July 2018. "Polio Emergency Operations Centers".

[<https://www.csis.org/features/polio-emergency-operations-centers>]. Accessed 11 December 2020.

[5] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020.

[<http://www.nhsrsrc.gov.pk>]. Accessed 11 December 2020.

### 3.3.1b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan's Emergency Operations Centre is required to conduct a drill at least once per year or that it has conducted an annual health-focused drill.

According to the 2016 Joint External Evaluation (JEE), the National Disaster Management Authority (NDMA) conducts exercises and drills on disaster risk management at all levels on a regular basis, but this is not specifically for a public health emergency.[1]

According to the National Disaster Management Authority (NDMA) mandate, the District Authority should ensure "the communication systems are in order and disaster management drills are carried out periodically".[2]

According to the Regional Disaster Risk Management Plan (Northern Area), on "Schedules for Organising Drills" states that there should be at least one/two drills in a year lead by Northern Areas Disaster Management Authority (NADMA), however this is not a mandatory requirement. [3]

No further evidence is available from the websites of Ministry of National Health Services Regulations and Coordination and the National Disaster Management Authority (NDMA).[2,4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [ <https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 11 December 2020.

[2] Government of Pakistan. National Disaster Management Authority. 2020. "Mandates of DDMA".

[<http://www.ndma.gov.pk/ddma.php>]. Accessed 11 December 2020.

[3] Northern Areas Disaster Management Authority. November 2008. "Disaster Risk Management Plan, Northern Areas".

[<http://web.ndma.gov.pk/plans/Provincial%20DRM%20Plan%20NorthernAreas.pdf>]. Accessed 11 December 2020.

[4] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020.

[<http://www.nhsrsrc.gov.pk>]. Accessed 11 December 2020.

### 3.3.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no publicly available evidence to show that Pakistan's Emergency Operations Centre can conduct, or has conducted within the last year, a coordinated emergency response or emergency response exercise activated within 120 minutes of the identification of the public health emergency/scenario.

The 2016 Joint External Evaluation (JEE) for Pakistan states that although the operational capabilities have been tested, the system is not yet capable of activating coordinated emergency response within 120 minutes of the identification of a public health emergency.[1]

There is no evidence that the situation has changed since then. There is no evidence provided on the websites of Ministry of National Health Services, Regulations and Coordination, National Disaster Management Authority (NDAM) and National Health Emergency Preparedness & Response Network (NHEPRN).[2,3,4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 11 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 11 December 2020.

[3] Government of Pakistan. National Disaster Management Authority. 2020. [<http://www.ndma.gov.pk>]. Accessed 11 December 2020.

[4] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020. [<http://www.nheprn.gov.pk/>]. Accessed 11 December 2020.

## 3.4 LINKING PUBLIC HEALTH AND SECURITY AUTHORITIES

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

#### 3.4.1a

Does the country meet one of the following criteria?

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

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

**Current Year Score: 0**

There is insufficient public evidence that in Pakistan there is a memorandum of understanding between the public health and security authorities to respond to a potential deliberate biological event, or that public health and national security authorities in Pakistan have carried out an exercise to respond to a potential deliberate biological event. According to the Joint External Evaluation (JEE) Conducted in April-May 2016, a memorandum of understanding exists between public health and security authorities within the country which has been formally accepted. However, this agreement is not publicly available, and there is no evidence to suggest that it is designed specifically to respond to a deliberate biological event.

The National Disaster Management Authority (NDMA) and its provincial counterpart, PDMA, have clear protocols that engage the police or the army when there is major hazardous event. In the event of emergency the Government of Pakistan enables

the public health services at federal, provincial and district levels to request assistance from security authorities. The JEE states that there is a lack of SOPs for coordination across public health and security sectors in responding to a health emergency.[1]

There is no evidence that public health and national security authorities in Pakistan have carried out an exercise to respond to a potential deliberate biological event. There is no publicly available evidence from the websites of Ministry of National Health Services Regulations and Coordination, NDMA and National Health Emergency Preparedness & Response Network (NHPRN). [2,3,4]

In the first six monthly report of 2018 published by NDMA, it is reported that NDMA has organised Pakistani teams of rescuers and managers to participate in the Disaster Management Scenarios (earthquake, flood/ water rescue, chemical-biological-radiological & nuclear incidents) with the aim to be trained by Euro-Atlantic Disaster Response Coordination Centre in Serbia. There is no evidence, however, that the security authorities (army or police personnel) were also present.[5]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 11 March 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 11 March 2020.

[3] Government of Pakistan. National Disaster Management Authority. 2020. [<http://www.ndma.gov.pk>]. Accessed 11 March 2020.

[4] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020. [<http://www.nheprn.gov.pk/>]. Accessed 11 March 2020.

[5] Government of Pakistan. National Disaster Management Authority. January - June 2018. "SIX MONTHLY REPORT 1st HALF 2018". [[http://web.ndma.gov.pk/publications/Final%20-%20NDMA's%20Six%20Monthly%20Report%20\(Jan%20-Jun2018\).pdf](http://web.ndma.gov.pk/publications/Final%20-%20NDMA's%20Six%20Monthly%20Report%20(Jan%20-Jun2018).pdf)]. Accessed 11 March 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 evidence that Pakistan has a public health response strategy outlining how messages will reach populations and sectors with different communication needs.

According to the Joint External Evaluation (JEE) conducted in April-May 2016, the country does not have a formal risk communication plan. In public risk communication, Pakistan has limited capacity. A government spokesperson and communication team and procedures for public communication exist. "During emergencies, regular media briefings and updates through mass and social media are provided".[1]

There is no further publicly available evidence from the websites of the Ministry of National Health Services Regulations and Coordination, National Disaster Management Authority (NDMA) and National Health Emergency Preparedness & Response Network (NHPRN). [2,3,4]

There is no provision with regards to public risk communication in 2010 National Disaster Response Plan (NDRP).[5]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [ <https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf> ]. Accessed 11 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 11 December 2020.

[3] Government of Pakistan. National Disaster Management Authority. 2020. [<http://www.ndma.gov.pk>]. Accessed 11 December 2020.

[4] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020. [<http://www.nheprn.gov.pk/>]. Accessed 11 December 2020.

[5] Government of Pakistan. National Disaster Management Authority. 2010. [<http://www.ndma.gov.pk/plans/NDRP-2010.pdf>]. Accessed 11 December 2020.

### 3.5.1 Risk communication planning

#### 3.5.1a

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has in place, either in the national public health emergency response plan or in other legislation, regulation or strategy documents a section detailing a risk communication plan that is specifically intended for use during a public health emergency.

The Joint External Evaluation (JEE) Conducted in April-May 2016, states that the country does not have any formal plan or mechanism for risk communication arrangements. Only Punjab province has both mechanisms in place for risk communication and dedicated budget for communications personnel, materials and activities during emergencies. The JEE recommends that the risk communication formal plan and dedicated unit at the national level as well as the provincial level should be considered a priority. [1]

There is no evidence that the situation has changed since the JEE was conducted. There is no publicly available evidence from the websites of Ministry of National Health Services Regulations and Coordination, National Disaster Management Authority (NDMA) and National Health Emergency Preparedness & Response Network (NHPRN). [2,3,4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 11 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 11 December 2020.



[3] Government of Pakistan. National Disaster Management Authority. 2020. [<http://www.ndma.gov.pk>]. Accessed 11 December 2020.

[4] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020. [<http://www.nheprn.gov.pk/>]. Accessed 11 December 2020.

### 3.5.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has in place a risk communication plan or a designated primary spokesperson in response to a public health emergency.

The Joint External Evaluation (JEE) Conducted in April-May 2016, states that the country does not have any formal plan or mechanism for risk communication arrangements. Only Punjab province has both mechanisms in place for risk communication and dedicated budget for communications personnel, materials and activities during emergencies. The JEE recommends that the risk communication formal plan and dedicated unit at the national level as well as the provincial level should be considered a priority. [1]

There is no evidence that the situation has changed since the JEE was conducted. There is no publicly available evidence from the websites of Ministry of National Health Services Regulations and Coordination, National Disaster Management Authority (NDMA) and National Health Emergency Preparedness & Response Network (NHPRN). [2,3,4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 11 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 11 December 2020.

[3] Government of Pakistan. National Disaster Management Authority. 2020. [<http://www.ndma.gov.pk>]. Accessed 11 December 2020.

[4] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020. [<http://www.nheprn.gov.pk/>]. Accessed 11 December 2020.

## 3.5.2 Public communication

### 3.5.2a

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

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

**Current Year Score: 1**

In the past year, there is evidence that the public health system shares information only during active emergencies, but does not regularly utilize online media platforms. The Ministry of National Health Services Regulations and Coordination (MNHSR&C) has social media accounts (Facebook and Twitter) that are used actively and frequently to disseminate various types of public health related information, including about ongoing public health issues.[1,2] For example, during 2020, the social media accounts of the MNHSR&C provided regular updates from government officials and other sources about the Novel Coronavirus (Covid-19) pandemic. In addition, in 2020 the government set up a new website dedicated for making information public about the Covid-19 pandemic, such as active cases, as well as disseminating health advisories. Data on Covid-19 infections was updated on a daily basis on this website.[3] However, there is insufficient evidence that this type of information about public health was frequently released in past years, during times when there was no active public health emergency. According to the Joint External Evaluation (JEE) Conducted in April-May 2016, a public communication unit, government spokesperson and procedures for public communication exist in Pakistan and during emergencies, updates are available through mass and social media. The JEE states that a communication strategy is needed to reach out to a variety of media platforms and messages should be crafted properly with consideration of "sociocultural norms and taboos, religious sensitivities and gender biases".[4]

[1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (MNHSR&C). 2020. Facebook Profile. [<https://www.facebook.com/NHSRCOfficial>]. Accessed 11 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (MNHSR&C). 2020. Twitter Profile. [<https://twitter.com/nhsrcofficial>]. Accessed 11 December 2020.

[3] Government of Pakistan. 2020. "Pakistan Cases Details". [<http://covid.gov.pk/stats/pakistan>]. Accessed 11 December 2020.

[4] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 11 December 2020.

**3.5.2b**

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

No = 1, Yes = 0

**Current Year Score: 0**

There is some evidence that senior leaders (president or ministers) have shared misinformation or disinformation on infectious diseases in the past two years.

In 2020, during the Novel Coronavirus (Covid-19) there were limited instances of government officials sharing incorrect medical information unknowingly. The Chief Minister of Baluchistan province shared a tweet with incorrect medical information regarding Covid-19 (i.e. suggesting that gargling after being infected may eliminate the virus).[1] However, apart from this one instance, there was no evidence available on local and international news outlets of senior government leaders sharing disinformation about the disease. The government ordered strict action against the spread of 'fake news' related to Covid-19.[2]

[1] The Print. 19 March 2020. "Why Pakistan is the most chilled out in a world hit by coronavirus".

[<https://theprint.in/opinion/letter-from-pakistan/why-pakistan-is-the-most-chilled-out-in-a-world-hit-by-coronavirus/383458/>]. Accessed 15 December 2020.

[2] Arab News Pakistan. 16 July 2020. "Pakistan interior minister orders 'strict' action against spread of COVID-19 'fake news'". [<https://www.arabnews.pk/node/1705581/pakistan>]. Accessed 15 December 2020.

## 3.6 ACCESS TO COMMUNICATIONS INFRASTRUCTURE

### 3.6.1 Internet users

#### 3.6.1a

Percentage of households with Internet

Input number

Current Year Score: 17.07

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: 76.38

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: 44

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: 22.0

2019

Gallup; Economist Impact calculation

## 3.7 TRADE AND TRAVEL RESTRICTIONS

### 3.7.1 Trade restrictions

#### 3.7.1a

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

Yes = 0, No = 1

Current Year Score: 0

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

In March 2020, the government banned the export of personal protective equipment (PPE), as well as N95 masks, surgical masks, and other face masks along with hand sanitisers, bio-hazard bags, goggles, disposable gloves, and gowns. [1] This was done to protect local supplies of these medical goods after cases of the Novel Coronavirus (Covid-19) started rising in Pakistan.

[1] Geo News. 24 March 2020. "Pakistan bans export of protective gear in bid to tackle coronavirus".

[<https://www.geo.tv/latest/278993-pakistan-bans-export-of-protective-gear-in-its-bid-to-tackle-coronavirus>]

#### 3.7.1b

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

Yes = 0, No = 1

Current Year Score: 1

In the past year, there is no publicly available evidence that Pakistan has issued a restriction, without international/bilateral support, on the export/import of non-medical goods (e.g. food, textiles, etc) due to an infectious disease outbreak. [2] There is no such evidence available from the Websites of Ministry of National Health Services Regulations & Coordination, Drug Regulatory Authority of Pakistan and the Ministry of National Food Security & Research.[3,4] Relevant media outlets also have been checked.

[1] World Health Organisation (WHO). Disease Outbreak News. 2019. "Emergencies preparedness, response".

[<https://www.who.int/csr/don/archive/year/2018/en/>]. Accessed 11 December 2020.

[2] World Organisation for Animal Health (OIE). 2019. "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 11 December 2020.

[3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020.

[<http://www.nhsr.gov.pk>]. Accessed 11 December 2020.

[4] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 11 December 2020.

### 3.7.2 Travel restrictions

#### 3.7.2a

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

Yes = 0, No = 1

Current Year Score: 0

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

In March 2020, Pakistan imposed a complete ban on international flights (incoming and outgoing) as a measure to control the spread of the Novel Coronavirus (Covid-19) pandemic. [1] International flights were resumed in August 2020.[2]

[1] VoA News. March 21, 2020. "Pakistan Halts International Flights to Counter Coronavirus".

[<https://www.voanews.com/science-health/coronavirus-outbreak/pakistan-halts-international-flights-counter-coronavirus>]. Accessed 12 December 2020.

[2] Anadolu Agency. August 8, 2020. "Pakistan allows to resume international flights". [<https://www.aa.com.tr/en/asia-pacific/pakistan-allows-to-resume-international-flights/1935248#>]. Accessed 12 December 2020.

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

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

#### 4.1.1 Available human resources for the broader healthcare system

##### 4.1.1a

Doctors per 100,000 people

Input number

Current Year Score: 98.01

2018

WHO; national sources

#### 4.1.1b

##### Nurses and midwives per 100,000 people

Input number

**Current Year Score: 66.83**

2018

WHO; national sources

#### 4.1.1c

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has a public workforce strategy in place (which has been updated in the past five years) to identify fields where there is an insufficient workforce and strategies to address these shortcomings.

According to the 2016 Joint External Evaluation (JEE) report for Pakistan, the country does not have a comprehensive public health workforce policy.[1] Pakistan has provincial Human Resources strategy in Punjab and Sindh. [2,3]

Moreover, the National Disaster Management Authority (NDMA) established "Human Resource Development Plan on Disaster Management" in 2012 and describes "what should be done to improve overall human resource development activities in the field of disaster management for the next 10 years". [4]

The country's National Health Vision 2016-2025 noted the necessity of establishing a National Health related HR strategy for achieving the ultimate goals of health system: "improved health, responsiveness, social protection, and efficiency". [5] There is no updated evidence available from the websites of Ministry of National Health Services Regulations and Coordination and the Ministry of Federal Education and Professional Training and Ministry of Housing & Works. [6,7]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 12 December 2020.

[2] Punjab Government. 2012. "DRAFT STRATEGY 2012-2020 Health Sector of Punjab". [<https://health.punjab.gov.pk/directory/current-plans/Health%20Sector%20of%20Punjab.pdf>]. Accessed 12 December 2020.

[3] Government of Sindh. "Health Sector Strategy Sindh (2012-2020)". [<https://phkh.nhsrsrc.pk/sites/default/files/2019-06/Sindh%20Health%20Sector%20Strategy%202012-20.pdf>]. Accessed 12 December 2020.

[4] Government of Pakistan. Ministry of Climate Change. National Disaster Management Authority (NDMA). 2012. "Human Resource Development Plan on Disaster Management". [<http://www.ndma.gov.pk/plans/NDMP-HRDP-Vol%20I.pdf>]. Accessed 12 December 2020.

[5] Government of Pakistan. "National Health Vision 2016-2025". [[https://extranet.who.int/countryplanningcycles/sites/default/files/planning\\_cycle\\_repository/pakistan/national\\_health\\_vision\\_2016-25\\_30-08-2016.pdf](https://extranet.who.int/countryplanningcycles/sites/default/files/planning_cycle_repository/pakistan/national_health_vision_2016-25_30-08-2016.pdf)]. Accessed 12 December 2020.

[6] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsrsrc.gov.pk>]. Accessed 12 December 2020.

[7] Government of Pakistan. Ministry of Federal Education and Professional Training. 2020. [<http://www.mofept.gov.pk/>]. Accessed 12 December 2020.

## 4.1.2 Facilities capacity

### 4.1.2a

**Hospital beds per 100,000 people**

Input number

**Current Year Score: 63**

2017

WHO/World Bank; national sources

### 4.1.2b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is insufficient evidence Pakistan has 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.

The 2016 Joint External Evaluation for Pakistan states that infectious diseases isolation units are available at some healthcare facilities.[1] For example, Karachi Metropolitan Corporation (KMC) Medical & Health Services Department (MHSD) has established isolation wards in four major health facilities of KMC for treatment of suspected Crimean-Congo Haemorrhagic Fever (CCHF) cases in August 2018. [2] The Services Hospital Lahore, Punjab has an eight-bed isolation ward for the treatment of Ebola Virus Disease (EVD) patients. [3] Also, Abbasi Shaheed and North Karachi hospitals have the isolation wards which were set up for the infected patients avian influenza A/H5N1. [4] In 2020, the Novel Coronavirus (Covid-19) isolation wards were set up in various public and private hospitals - a total of 35 hospitals across the country, designated by the government. [5] However, there is insufficient evidence that any of the aforementioned isolation rooms is indeed a permanent biocontainment patient care unit and/or advanced patient isolation facility for patients with highly communicable diseases.

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 8 March 2019.

[2] Pakistan Today. 18 August 2018. "Isolation wards established at KMC hospitals". [<https://www.pakistantoday.com.pk/2018/08/18/isolation-wards-established-at-kmc-hospitals/>]. Accessed 8 March 2019.

[3] The Dawn. 30 October 2014. "Major hospitals taking steps to counter Ebola threat". [<https://www.dawn.com/news/1141198>]. Accessed 8 March 2019.

[4] The Dawn. 15 January 2008. "KARACHI: Isolation wards being built for bird flu cases". [<https://www.dawn.com/news/284794>]. Accessed 8 March 2019.

[5] Government of Pakistan. 2020. "Designated Hospitals / Isolation Ward for COVID-19". [<http://covid.gov.pk/facilities/List->

of-Designated-Hospitals-1.pdf] Accessed 12 December 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: 1**

Pakistan has demonstrated capacity to expand isolation capacity in response to an infectious disease outbreak in the past two years, but there is no evidence that 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.

The 2016 Joint External Evaluation for Pakistan states that infectious diseases isolation units are available at some healthcare facilities. [1] For example, Karachi Metropolitan Corporation (KMC) Medical & Health Services Department (MHSD) has established isolation wards in four major health facilities of KMC for treatment of suspected Crimean-Congo Haemorrhagic Fever (CCHF) cases in August 2018. [2] The Services Hospital Lahore, Punjab has an eight-bed isolation ward for the treatment of EVD patients. [3] Also, Abbasi Shaheed and North Karachi hospitals have the isolation wards which were set up for the infected patients avian influenza A/H5N1. [4]

In 2020, as part of the country's response to the Novel Coronavirus (Covid-19) pandemic, new isolation wards were set up in various public and private hospitals - a total of 35 hospitals across the country, designated by the government. [5] However, there is no evidence of a formal plan to expand isolation capacity in the event of an infectious disease outbreak, based on the websites of the Ministry of National Health Services, Regulations and Coordination or the National Disaster Management Authority. [6,7]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 8 March 2019.

[2] Pakistan Today. 18 August 2018. "Isolation wards established at KMC hospitals". [<https://www.pakistantoday.com.pk/2018/08/18/isolation-wards-established-at-kmc-hospitals/>]. Accessed 8 March 2019.

[3] The Dawn. 30 October 2014. "Major hospitals taking steps to counter Ebola threat". [<https://www.dawn.com/news/1141198>]. Accessed 8 March 2019.

[4] The Dawn. 15 January 2008. "KARACHI: Isolation wards being built for bird flu cases". [<https://www.dawn.com/news/284794>]. Accessed 8 March 2019.

[5] Government of Pakistan. 2020. "Designated Hospitals / Isolation Ward for COVID-19". [<http://covid.gov.pk/facilities/List-of-Designated-Hospitals-1.pdf>] Accessed 12 December 2020.

[6] Government of Pakistan. Ministry of National Health Services, Regulations and Coordination. 2021. [<http://www.nhsrsc.gov.pk/index>].

[7] Government of Pakistan. National Disaster Management Authority. 2021. [<http://cms.ndma.gov.pk/>]



## 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: 2**

There is evidence that Pakistan has a national procurement protocol in place which can be utilised by the Ministries of Health and Agriculture for the acquisition of laboratory needs and medical supplies.

Public procurement in Pakistan is regulated by the Public Procurement Regulatory Authority (PPRA). PPRA is responsible for monitoring procurement by public sector agencies and organisations. [1]

The National Institute of Health (NIH) which is a division of the Ministry of National Health Services Regulations and Coordination (NHSR&C) and Pakistan Agriculture Research Council (PARC) which is a Division of the Ministry of National Food Security and Research, are both using PPRA for procurement of laboratory and medical supplies such as equipment, reagents and vaccines. [2,3]

NIH also has a "procurement" section which publishes the same tenders.[4] PARC publishes the same tenders on its website under "Tender Notices" section. [5]

[1] Government of Pakistan. Public Procurement Regulatory Authority. 2020. [<http://www.ppra.org.pk/>]. Accessed 12 December 2020.

[2] Government of Pakistan. Public Procurement Regulatory Authority. 2020. "Procurement Tenders - By Organization". [<http://www.ppra.org.pk/>]. Accessed 12 December 2020.

[3] Government of Pakistan. National Institute of Health. 2020. "Tender Notice". [<https://www.nih.org.pk/tender-notice/>]. Accessed 12 December 2020.

[4] Government of Pakistan. Pakistan Agricultural Research Council (PARC). 2020. "Tender Notice". [<http://www.parc.gov.pk/index.php/en/tender-notice>]. Accessed 12 December 2020.

### 4.2.2 Stockpiling for emergencies

#### 4.2.2a

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

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

**Current Year Score: 1**

There is evidence that Pakistan has a stockpile of medical supplies (e.g. MCMs, medicines, vaccines, medical equipment, PPE) for national use during a public health emergency, but there is limited evidence about what the stockpile contains.

The 2016 Joint External Evaluation (JEE) for Pakistan states that the stockpile of essential medical countermeasures at national level exists, however it needs improvements. Apart from medical countermeasures, it is not expressly stated that other medical supplies are stockpiled. According to the JEE, "Stockpiling of essential medical countermeasures at national level and vulnerable provinces could be improved with development of a distribution plan during public health emergencies within and outside of the country." [1]

There is no further available evidence from the websites of Ministry of National Health Services Regulations and Coordination, Ministry of Defence and Drug Regulatory Authority of Pakistan. [2,3,4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 12 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 12 December 2020.

[3] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 12 December 2020.

[4] Government of Pakistan. Ministry of National Health Services Regulations & Coordination. Drug Regulatory Authority of Pakistan. 2020. [<http://www.dra.gov.pk/Home/Legal>]. Accessed 12 December 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 clear evidence that Pakistan maintains a stockpile of laboratory supplies for national use during a public health emergency.

The 2016 Joint External Evaluation (JEE) for Pakistan states that the stockpile of essential medical countermeasures at national level exists, however it needs improvements. Apart from medical countermeasures, it is not expressly stated that laboratory supplies are stockpiled. According to the JEE, "Stockpiling of essential medical countermeasures at national level and vulnerable provinces could be improved with development of a distribution plan during public health emergencies within and outside of the country." [1]

There is no further available evidence from the websites of Ministry of National Health Services Regulations and Coordination, Ministry of Defence and Drug Regulatory Authority of Pakistan. [2,3,4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 12 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 12 December 2020.

[3] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 12 December 2020.

[4] Government of Pakistan. Ministry of National Health Services Regulations & Coordination. Drug Regulatory Authority of Pakistan. 2020. [<http://www.dra.gov.pk/Home/Legal>]. Accessed 12 December 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 publicly available evidence that Pakistan conducts or requires an annual review of the national stockpile to ensure the supply is sufficient for a public health emergency.

The 2016 Joint External Evaluation (JEE) for Pakistan states that the stockpile of essential medical countermeasures at national level exists, however it needs improvements. Apart from medical countermeasures, it is not expressly stated that laboratory supplies are stockpiled. According to the JEE, "Stockpiling of essential medical countermeasures at national level and vulnerable provinces could be improved with development of a distribution plan during public health emergencies within and outside of the country." However, the JEE does not mention any annual review of existing stockpiles to deal with a public health emergency. [1]

There is no further available evidence from the websites of Ministry of National Health Services Regulations and Coordination, Ministry of Defence and Drug Regulatory Authority of Pakistan. [2,3,4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 12 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 12 December 2020.

[3] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 12 December 2020.

[4] Government of Pakistan. Ministry of National Health Services Regulations & Coordination. Drug Regulatory Authority of Pakistan. 2020. [<http://www.dra.gov.pk/Home/Legal>]. Accessed 12 December 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 publicly available evidence that Pakistan has 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 or a plan/mechanism to procure medical supplies (e.g. MCMs, medicines, vaccines, equipment, PPE) for national use during a public health emergency.

According to the 2016 Joint External Evaluation (JEE) for Pakistan, there is no publicly available evidence or plans to use domestic manufacturing capacity to produce, or to procure, medical supplies during a public health emergency. [1] There is

also a lack of formal plans or agreements to leverage domestic manufacturing or ensure procurement. The JEE states that, "There are no formal mechanisms for agreements with national and international manufacturers and/or distributors to procure medical countermeasures during public health emergencies". [1] However, the JEE does state that Pakistan stockpiles supplies of medical countermeasures, "Stockpiling of essential medical countermeasures at national level and vulnerable provinces could be improved with development of a distribution plan during public health emergencies within and outside of the country." [1]

There is no evidence available on the websites of Ministry of National Health Services Regulations and Coordination, Ministry of Defence, and Drug Regulatory Authority of Pakistan. [2,3,4]

According to the Annual Report 2017 of National Disaster Management Authority (NDMA) "a memorandum of understanding (MoU) has been initiated with Pakistan Army Medical Corps for medical support in pre, post and during disasters". However, the MoU is not publicly available and it is not clear whether it applies to public health emergencies. [5]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 13 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 13 December 2020.

[3] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 13 December 2020.

[4] Government of Pakistan. Ministry of National Health Services Regulations & Coordination. Drug Regulatory Authority of Pakistan. 2020. [<http://www.dra.gov.pk>]. Accessed 13 December 2020.

[5] Government of Pakistan. National Disaster Management Authority. 2017. "Annual Report ". [<http://web.ndma.gov.pk/publications/NDMA%20Annual%20Report%202017.pdf>]. Accessed 13 December 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 publicly available evidence that Pakistan has a plan/agreement to leverage domestic manufacturing capacity to produce, or to procure, laboratory supplies during a public health emergency.

According to the 2016 Joint External Evaluation (JEE) for Pakistan, there is no publicly available evidence or plans to use domestic manufacturing capacity to produce, or to procure, laboratory supplies during a public health emergency. [1]

There is no evidence available on the websites of Ministry of National Health Services Regulations and Coordination, Ministry of Defence, and Drug Regulatory Authority of Pakistan. [2,3,4]

According to the Annual Report 2017 of National Disaster Management Authority (NDMA) "a memorandum of understanding (MoU) has been initiated with Pakistan Army Medical Corps for medical support in pre, post and during

disasters". However, the MoU is not publicly available and it is not clear whether it applies to public health emergencies. [5]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 13 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 13 December 2020.

[3] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 13 December 2020.

[4] Government of Pakistan. Ministry of National Health Services Regulations & Coordination. Drug Regulatory Authority of Pakistan. 2020. [<http://www.dra.gov.pk>]. Accessed 13 December 2020.

[5] Government of Pakistan. National Disaster Management Authority. 2017. "Annual Report ". [<http://web.ndma.gov.pk/publications/NDMA%20Annual%20Report%202017.pdf>]. Accessed 13 December 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 evidence that Pakistan has a plan, program, or guidelines in place for dispensing medical countermeasures for national use during a public health emergency.

According to the Joint External Evaluation (JEE) report for Pakistan, conducted in April-May 2016, "Pakistan has past experience of receiving medical countermeasures and health personnel during disasters such as flooding, earthquakes and some disease outbreaks", however there is no evidence that any plan or guideline is in place for dispensing medical countermeasures during a public health emergency. [1]

There is no available evidence from the websites of Ministry of National Health Services Regulations and Coordination, Ministry of Defence, Drug Regulatory Authority of Pakistan, and National Disaster Management Authority (NDMA).[2,3,4,5]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 13 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 13 December 2020.

[3] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 13 December 2020.

[4] Government of Pakistan. Ministry of National Health Services Regulations & Coordination. Drug Regulatory Authority of Pakistan. 2020. [<http://www.dra.gov.pk>]. Accessed 13 December 2020.

[5] Government of Pakistan. National Disaster Management Authority. 2020. [<http://www.ndma.gov.pk>]. Accessed 13 December 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 evidence that Pakistan has a public plan in place to receive health personnel from other countries to respond to a public health emergency.

According to the Joint External Evaluation (JEE) report conducted in April-May 2016, the country has experience of sending and receiving health personnel which is coordinated by the Ministry of Foreign Affairs and the Pakistan Army, "the National Disaster Management Plan and the National Disaster Response Plan contain provisions for sending and/or receiving medical countermeasures and health personnel".[1]

According to the National Disaster Response Plan 2010 and the National Disaster Management Plan 2012, Ministry of Foreign Affairs is responsible to establish procedures to facilitate arrival of foreign relief humanitarian workers to support disaster response initiatives and to expedite visa renewals, if required. Neither of these two plans puts in place any procedures or provisions to receive health personnel from other countries to respond to a public health emergency apart from this. [2,3]

In practice, Pakistan has issued some ad hoc entry visas, relief work visa, or NGO visa for foreign personnel during emergencies in the past. Other practices include waiving visa fees, issuing visas on arrival and extending visa period. However, the country still lacks formal guidelines or procedures.[4]

There is no available evidence from the websites of Ministry of National Health Services Regulations and Coordination, Ministry of Defence, Ministry of Foreign Affairs and National Disaster Management Authority (NDMA ).[5,6,7,8]

There is no evidence of any procedure to facilitate issuing visas and travel for health personnel responding to a public health emergency on the Visa section of the website of Ministry of Interior.[9]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 13 December 2020.

[2] Government of Pakistan. National Disaster Management Authority. 2010. "National Disaster Response Plan (NDRP)". [<http://web.ndma.gov.pk/plans/NDRP-2010.pdf>]. Accessed 13 December 2020.

[3] Government of Pakistan. National Disaster Management Authority. 2012. "National Disaster Management Plan". [<http://web.ndma.gov.pk/plans/NDMP-Main%20Vol.pdf>]. Accessed 13 December 2020.

[4] The International Federation of Red Cross and Red Crescent Societies. 2014. "International Disaster Response Law (IDRL) in Pakistan". [<http://adore.ifrc.org/Download.aspx?FileId=62003&.pdf>]. Accessed 13 December 2020.

[5] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 13 December 2020.

[6] Government of Pakistan. Ministry of Defence. 2020. [<http://mod.gov.pk/>]. Accessed 13 December 2020.

[7] Government of Pakistan. Ministry of Foreign Affairs. 2020. [<http://www.mofa.gov.pk>]. Accessed 13 December 2020.

[8] Government of Pakistan. National Disaster Management Authority. 2020. [<http://www.ndma.gov.pk/>]. Accessed 13 December 2020.

[9] Government of Pakistan. Ministry of Interior. 2019. [<http://www.dgip.gov.pk/Files/Visa%20Categories.aspx#D>]. Accessed

13 December 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: 1**

2020

World Policy Analysis Center

#### 4.4.1b

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

Input number

**Current Year Score: 69.3**

2018

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: 96.72**

2017

WHO Global Health Expenditure database

### 4.4.2 Paid medical leave

#### 4.4.2a

**Are workers guaranteed paid sick leave?**

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

**Current Year Score: 2**

2020

World Policy Analysis Center

### 4.4.3 Healthcare worker access to healthcare

#### 4.4.3a

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no evidence that the government of Pakistan has issued legislation, a policy or a public statement committing to provide prioritised health care services to healthcare workers who become sick as a result of responding to a public health emergency.

There is no publicly available evidence from the websites of the Ministry of National Health Services Regulations and Coordination, National Disaster Management Authority (NDMA), and National Health Emergency Preparedness & Response Network (NHPRN). [1,2,3]

There is no mention of prioritised health care services to healthcare workers in the Pakistan's National Health Vision 2016-2025 or 2010 National Disaster Response Plan (NDRP). [4,5]

No evidence is provided in this regard by the 2016 Joint External Evaluation (JEE) report for Pakistan.[6]

[1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 13 December 2020.

[2] Government of Pakistan. National Disaster Management Authority. 2020. [<http://www.ndma.gov.pk>]. Accessed 13 December 2020.

[3] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020. [<http://www.nheprn.gov.pk/>]. Accessed 13 December 2020.

[4] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2019. "National Health Vision 2016- 2025" [<https://drive.google.com/file/d/0B6zZgBqF00pFM0cwejJwbGtvNUM1QmZ2RDJEMldNbUxHNDI3/view>]. Accessed 13 December 2020.

[5] Government of Pakistan. National Disaster Management Authority. 2010. "National Disaster Response Plan (NDRP)". [<http://web.ndma.gov.pk/plans/NDRP-2010.pdf>]. Accessed 13 December 2020.

[6] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 13 December 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 evidence that Pakistan has a system in place for public health officials and healthcare workers to communicate during a public health emergency.

There is no publicly available evidence from the websites of the Ministry of National Health Services Regulations and Coordination, National Disaster Management Authority (NDMA) and National Health Emergency Preparedness & Response Network (NHPRN). [1,2,3]

There is no provision with regards to public health officials and healthcare workers communication in Pakistan's National Health Vision 2016- 2025 or 2010 National Disaster Response Plan (NDRP). [4,5]

According to the Joint External Evaluation (JEE) conducted in April-May 2016, there are informal mechanisms for communication between the hospital and health-care sector and civil society organisations, and with the private sector during an emergency. [6]

[1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020.

[<http://www.nhsrsc.gov.pk>]. Accessed 13 December 2020.

[2] Government of Pakistan. National Disaster Management Authority. 2020. [<http://www.ndma.gov.pk>]. Accessed 13 December 2020.

[3] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020.

[<http://www.nheprn.gov.pk/>]. Accessed 13 December 2020.

[4] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2019. "National Health Vision 2016- 2025"

[<https://drive.google.com/file/d/0B6zZgBqF00pFM0cwejJwbGtvNUM1QmZ2RDJEMldNbUxHNDI3/view>]. Accessed 13 December 2020.

[5] Government of Pakistan. National Disaster Management Authority. 2010. "National Disaster Response Plan (NDRP)".

[<http://web.ndma.gov.pk/plans/NDRP-2010.pdf>]. Accessed 13 December 2020.

[6] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 13 December 2020.

#### 4.5.1b

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

Yes = 1 , No = 0

**Current Year Score: 0**

There is no evidence that Pakistan has a system in place for public health officials and healthcare workers in the public and private sectors to communicate during a public health emergency.

There is no publicly available evidence from the websites of the Ministry of National Health Services Regulations and Coordination, National Disaster Management Authority (NDMA) and National Health Emergency Preparedness & Response Network (NHPRN). [1,2,3]

There is no provision with regards to public health officials and healthcare workers communication in Pakistan's National Health Vision 2016- 2025 or 2010 National Disaster Response Plan (NDRP). [4,5]

According to the Joint External Evaluation (JEE) conducted in April-May 2016, there are informal mechanisms for communication between the hospital and health-care sector and civil society organisations, and with the private sector during an emergency. [6]

[1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsrsc.gov.pk>]. Accessed 13 December 2020.

[2] Government of Pakistan. National Disaster Management Authority. 2020. [<http://www.ndma.gov.pk>]. Accessed 13 December 2020.

[3] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020. [<http://www.nheprn.gov.pk/>]. Accessed 13 December 2020.

[4] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2019. "National Health Vision 2016- 2025" [<https://drive.google.com/file/d/0B6zZgBqF00pFM0cwejJwbGtvNUM1QmZ2RDJEMldNbUxHNDI3/view>]. Accessed 13 December 2020.

[5] Government of Pakistan. National Disaster Management Authority. 2010. "National Disaster Response Plan (NDRP)". [<http://web.ndma.gov.pk/plans/NDRP-2010.pdf>]. Accessed 13 December 2020.

[6] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 13 December 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 evidence that Pakistan has a national public health system for monitoring and tracking the number of healthcare-associated infections that take place in healthcare facilities.

The 2016 Joint External Evaluation (JEE) for Pakistan states that the "concept of health care-associated infection (HCAI) prevention and control is relatively new to Pakistan". The country does not have any plans or programmes for surveillance, prevention, and control of HCAI. Only certain tertiary care and university hospitals "have assigned infection prevention and control activities to physicians and microbiologists". [1]

There is no evidence that the situation has changed since the JEE was conducted. A study which was carried out in September 2018, found that HCAs is still unknown in Pakistan and high rate of HCAs exists among hospitals, mostly related to "surgical site infections, bloodstream infections, and lower respiratory tract infections".[2]

No further evidence is available from the websites of Ministry of National Health Services Regulations and Coordination and the National Institute of Health (NIH). [3,4]

[1] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Pakistan: Mission report 27 April- 6 May 2016". [<https://extranet.who.int/sph/sites/default/files/jeeta/WHO-WHE-CPI-2017.9-eng.pdf>]. Accessed 13 December 2020.

[2] Zikria Saleem. Mohamed Azmi Hassali. Brian Godman. Furqan Khurshid Hashmi. Fahad Saleem. September 2018. "A multicenter point prevalence survey of health care-associated infections in Pakistan: Findings and implications". American Journal of Infection Control. [[https://www.ajicjournal.org/article/S0196-6553\(18\)30955-6/fulltext](https://www.ajicjournal.org/article/S0196-6553(18)30955-6/fulltext)]. Accessed 13 December 2020.

[3] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 13 December 2020.

[4] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 13 December 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**

There is evidence that Pakistan has a national requirement for ethical review before beginning a clinical trial.

Pakistan established the National Bioethics Committee (NBC) in 2004 under the Ministry of Health with the mandate to promote and facilitate ethical health research. The NBC has a Research Ethics Committee (REC) within its structure which reviews any research on human subjects.[1]

Pakistan has also made it compulsory for other sectors to form Institutional Review Board (IRB), also known as Independent Ethics Committee(IEC), Ethical Review Board(ERB), or Ethical Review Committee(ERC) which all are different names for the same entity, i.e. IRBs. [2] For example, Office of Sponsored Programs and Research (OSPR), Fatima Jinnah Medical University, the Aga Khan University all have a board or committee to oversee all projects that involve the use of human subjects and

animals. [3,4,5]

Moreover, according to the 2017 Bio-study Rules, published in June 2018 by Drug Regulatory Authority of Pakistan, which "apply to all contract research organisations, laboratories for clinical research, bio-availability and bio-equivalence study centres or organisations operating in public or private sector, involved in clinical trials of therapeutic goods and bio-availability or bio-equivalence studies on human subjects", it is "mandatory for the applicants who are willing to conduct clinical trials or studies, to seek prior approval from Institutional Review Board (IRB) of medical teaching institutions and National bioethics committee (NBC) of Pakistan" (Section 9). [6]

[1] Government of Pakistan. The National Bioethics Committee. 2019. "Projects for Ethical Review".

[<http://nbc-pakistan.org.pk/ethical-clearance.html>]. Accessed 13 December 2020.

[2] Saidul Abrar. Katrina Aminah Ronis. 2015. "STATUS OF ETHICAL REVIEW BOARDS AT ALL MEDICAL COLLEGES OF KHYBER PAKHTUNKHWA". J Ayub Med Coll Abbottabad. [<https://jamc.ayubmed.edu.pk/index.php/jamc/article/view/63/42>].

Accessed 13 December 2020.

[3] Office of Sponsored Programs and Research (OSPR). 2020. "Institutional Review Board".

[<https://or.lums.edu.pk/institutional-review-board-irb-osp>]. Accessed 13 December 2020.

[4] Fatima Jinnah Medical University, Lahore. 2020. "Institutional Review Board".

[[http://www.fjmu.edu.pk/Institutional\\_Ethical\\_Reviewer\\_Board](http://www.fjmu.edu.pk/Institutional_Ethical_Reviewer_Board)]. Accessed 13 December 2020.

[5] The Aga Khan University. 2020. "Ethics Review Board & Committees".

[<https://www.aku.edu/research/urc/erc/Pages/home.aspx>]. Accessed 13 December 2020.

[6] Government of Pakistan. Ministry of National Health Services Regulations & Coordination. Drug Regulatory Authority of Pakistan. 5 June 2018. "Bio-study Rules, 2017".

[<https://www.dra.gov.pk/Home/Download?ImageName=BiostudyRules2017.pdf>]. Accessed 13 December 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 that Pakistan has in place an expedited process for approving clinical trials for unregistered medical countermeasures to treat ongoing pandemics.

According to the National Bioethics Committee (NBC), "in exceptional circumstance urgent/expedited review may be done by at least two or more members and the chairman for approval or disapproval of clinical trials". Although there is no mention of pandemics, the language is broad enough to include approving clinical trials for unregistered medical countermeasures to treat ongoing pandemics. [1]

Also, according to the 2017 Bio-study Rules, published in June 2018 by Drug Regulatory Authority of Pakistan, which "apply to all contract research organisations, laboratories for clinical research, bio-availability and bio-equivalence study centres or organisations operating in public or private sector, involved in clinical trials of therapeutic goods and bio-availability or bioequivalence studies on human subjects", the Clinical Studies Committee (CSC), "may process the application of a clinical trial on fast-track basis if it feels necessary to do so in the best public interest or in public health emergency cases, after recording the reason therefore"(Section 7-(10)). [2]

[1] Government of Pakistan. The National Bioethics Committee. 2020. "Projects for Ethical Review".

[<http://nbcPakistan.org.pk/ethical-clearance.html>]. Accessed 13 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations & Coordination. Drug Regulatory Authority of Pakistan. 5 June 2018. "Bio-study Rules, 2017".

[<https://www.dra.gov.pk/Home/Download?ImageName=BiostudyRules2017.pdf>]. Accessed 13 December 2020.

## 4.7.2 Regulatory process for approving medical countermeasures

### 4.7.2a

**Is there a government agency responsible for approving new medical countermeasures (MCM) for humans?**

Yes = 1 , No = 0

**Current Year Score: 1**

There is evidence that Pakistan has a government agency responsible for approving new medical countermeasures for humans.

According to the Drug Regulatory Authority of Pakistan Act, 2012, Drug Regulatory Authority of Pakistan (DRA) which is a department attached to the Ministry of National Health Services Regulations and Coordination (NHSR&C) is responsible for regulating the manufacture, import, export, storage, distribution and sale of therapeutic goods in the country.[1,2]

DRA has a Registration Board and different divisions including "Medical Devices & Medical Cosmetics Division". This division is responsible for the assessment and registration of medical devices". Medical devices is defined in 2012 Act as instruments with purpose of "diagnosis, monitoring and treatment of disease" and it has been categorised by DRA in Schedule-B Grouping Of Medical Devices and it includes medical countermeasures. [3]

[1] The Gazette of Pakistan. 13 November 2012. "Drug Regulatory Authority of Pakistan Act".

[<http://www.dra.gov.pk/docs/DRAP%20Act.pdf>]. Accessed 13 December 2020.

[2] Ministry of National Health Services Regulations & Coordination. Drug Regulatory Authority of Pakistan. 2020.

[<http://www.dra.gov.pk/Home/CEO>]. Accessed 13 December 2020.

[3] Ministry of National Health Services Regulations & Coordination. Drug Regulatory Authority of Pakistan. 2020. "Medical Devices & Medical Cosmetics Division". [<http://www.dra.gov.pk/Home/MDMC>]. Accessed 13 December 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 evidence that Pakistan an expedited process for approving medical countermeasures for human use during public health emergencies.

Drug Regulatory Authority of Pakistan (DRA) which is a department attached to the Ministry of National Health Services Regulations and Coordination (NHSR&C) is responsible for regulating the manufacture, import, export, storage, distribution and sale of therapeutic goods in the country.[1]

According to media sources, there is evidence that the Registration Board of the Drug Regulatory Authority of Pakistan (DRAP) expedites the review process for registration of essential and critically needed medicines like anti-cancer drugs, immune-suppressants, and anti-viral medicines for treatment of diseases like Hepatitis, however, there is no evidence that this includes approving medical countermeasures for human use during public health emergencies. [2]

[1] Ministry of National Health Services Regulations & Coordination. Drug Regulatory Authority of Pakistan. 2020. [<http://www.dra.gov.pk/Home/CEO>]. Accessed 13 December 2020.

[2] The International News. 8 February 2018. "DRAP meeting: Review for registration of essential drugs to be expedited". [<https://www.thenews.com.pk/print/278355-drap-meetingreview-for-registration-of-essential-drugs-to-be-expedited>]. Accessed 13 December 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: 0

There is no evidence that pandemics are integrated into the national risk reduction strategy in Pakistan.

The National Disaster Management Authority (NDMA) approved the National Disaster Risk Reduction Policy in 2013. The Policy comprises of four components: National Disaster Management Plan; Human Resource Development Plan on Disaster

Management; National Multi-Hazard Early Warning Plan; and Instructors' Guidelines on Community Based Disaster Risk Reduction (CBDRM). [1]

There is no evidence that pandemics are integrated into this plan. There is no evidence of a standalone plan on disaster risk reduction strategy for pandemics from the websites of the Ministry of National Health Services Regulations and Coordination, National Disaster Management Authority (NDMA) and National Health Emergency Preparedness & Response Network (NHPRN). [2,3,4]

[1] Government of Pakistan. Ministry of Climate Change. The National Disaster Management Authority. 2013. "National Disaster Risk Reduction Policy". [<http://web.ndma.gov.pk/plans/drrpolicy2013.pdf>]. Accessed 13 December 2020.

[2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsrsc.gov.pk>]. Accessed 13 December 2020.

[3] Government of Pakistan. National Disaster Management Authority. 2020. [<http://www.ndma.gov.pk>]. Accessed 13 December 2020.

[4] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020. [<http://www.nheprn.gov.pk/>]. Accessed 13 December 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: 0**

There is no evidence that Pakistan has cross-border agreements, protocols or MOUs with neighbouring countries or as part of a regional group with regards to public health emergencies.

Pakistan is a party to the South Asian Association for Regional Cooperation (SAARC), and its main objectives are "to improve the quality of life and to accelerate economic growth, social progress and cultural development". SAARC comprises of eight countries: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. Although the SAARC Regional Strategy for Prevention and Control of Communicable Diseases was launched in 2012, there is no publicly available evidence of any cooperation, agreements, protocols or MOUs explicitly with regards to public health emergencies. [1,2]

Pakistan has an agreement with Afghanistan for cross-border surveillance and vaccination against poliomyelitis. It is also party to Malaria Network which is an agreement with Iran and Afghanistan to control malaria across shared borders. However, these agreements are not necessarily related to public health emergencies. [3,4]

[1] World Health Organisation. Regional Office for South East Asia. November 2017. "Regional Framework on Operational Partnerships for Emergency Response". [<https://apps.who.int/iris/handle/10665/332963>]. Accessed 13 December 2020.

[2] South Asian Association for Regional Cooperation(SAARC). 2020. "Social Affairs". [<https://www.saarc-sec.org/index.php/areas-of-cooperation/social-affairs#:~:text=The%20SAARC%20Charter%20envisages%20acceleration,mutual%20assistance%20amongst%20Member%20>

States.&text=The%20Association%20promotes%20social%20agenda,Health%20and%20Population%20Activities]. Accessed 13 December 2020.

[3] World Health Organisation (WHO). 2016. "Joint External Evaluation of IHR Core Capacities of the Islamic Republic of Afghanistan: Mission report 4-7 December 2016". [<https://apps.who.int/iris/handle/10665/258674>]. Accessed 13 December 2020.

[4] World Health Organisation (WHO). September 2011. "Inter-country meeting of national malaria programme managers from countries of HANMAT and PIAM-Net".

[[http://applications.emro.who.int/docs/IC\\_Meet\\_Rep\\_2012\\_EN\\_14637.pdf?ua=1&ua=1](http://applications.emro.who.int/docs/IC_Meet_Rep_2012_EN_14637.pdf?ua=1&ua=1)]. Accessed 13 December 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 no evidence that Pakistan has cross-border agreements, protocols or MOUs with neighbouring countries, or as part of a regional group, with regards to animal health emergencies.

There is no publicly available evidence from the websites of the Ministry of National Health Services Regulations and Coordination, National Disaster Management Authority (NDMA) and National Health Emergency Preparedness & Response Network (NHPRN). [1,2,3]

There is no evidence provided on the Food and Agriculture Organisation's (FAO) International Agreements database or World Organisation for Animal Health's (OIE) website. [4,5]

In November 2017, Afghanistan, Iran, Pakistan and Tajikistan signed a Memorandums of Understanding (MoU) with support of FAO to strengthen the collaboration and coordination on the control of trans-boundary animal disease such as the foot-and-mouth disease (FMD) and peste des petits ruminants (PPR). [6,7] However, the MoU do not relate to animal health emergencies.

[1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk>]. Accessed 13 December 2020.

[2] Government of Pakistan. National Disaster Management Authority. 2020. [<http://www.ndma.gov.pk>]. Accessed 13 December 2020.

[3] Government of Pakistan. National Health Emergency Preparedness & Response Network. 2020. [<http://www.nheprn.gov.pk/>]. Accessed 13 December 2020.

[4] The Food and Agriculture Organization. 2020. "FAOLEX Database, Pakistan Country Profile". [<http://www.fao.org/faolex/country-profiles/general-profile/en/?iso3=PAK>]. Accessed 13 December 2020.

[5] World Organisation for Animal Health (OIE). 2020. [<http://www.oie.int/>]. Accessed 13 December 2020.

[6] The Dawn. 29 November 2017. "MoUs inked to monitor cattle movement diseases".

[<https://www.dawn.com/news/1373522>]. Accessed 13 December 2020.

[7] Food and Agriculture Organization of the United Nations. World Organisation for Animal Health. 31 March- 2 April 2015. "FAO and OIE International Conference for the Control and Eradication of Peste des Petits Ruminants (PPR)". [[http://www.oie.int/fr/PPR2015/presentation/3.8\\_SAARC\\_Presentation.pdf](http://www.oie.int/fr/PPR2015/presentation/3.8_SAARC_Presentation.pdf)]. Accessed 13 December 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: 4**

2021

Biological Weapons Convention

## 5.3.2 Voluntary memberships

### 5.3.2a

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

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

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

Current Year Score: 1

2021

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

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

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

#### 5.4.1a

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

Yes = 1 , No = 0

Current Year Score: 1

2021

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

#### 5.4.1b

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

Yes = 1 , No = 0

Current Year Score: 0

2021

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

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

### 5.4.2a

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

Yes = 1 , No = 0

Current Year Score: 0

2021

OIE PVS assessments

### 5.4.2b

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

Yes = 1 , No = 0

Current Year Score: 0

2021

OIE PVS assessments

## 5.5 FINANCING

### 5.5.1 National financing for epidemic preparedness

#### 5.5.1a

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

Yes = 1 , No = 0

Current Year Score: 0

There is insufficient evidence that Pakistan has allocated national funds to improve capacity to address epidemic threats within the past three years. While Pakistan does spend funds on managing epidemics such as Polio and Covid-19, there is insufficient evidence that it has made allocations from its national budget specifically to improve capacity to deal with future outbreaks.

In 2018, the government allocated PKR 7.8bn (US\$46mn) for the Expanded Programme on Immunisation.[1]

In 2020, in response to the Novel Coronavirus (Covid-19), the government allocated PKR 50 bn (US\$300mn) for purchasing medical equipment and scaling up testing capacity.[2]

There is evidence that since 2014, Pakistan has received funding annually from multiple donors to enhance their capacity for health security preparedness, with the Global Alliance for Vaccines and Immunisation (GAVI), United Nations Children's Fund (UNICEF), and Bill & Melinda Gates Foundation being the largest ones. The majority of these funds have been used for immunization purposes. [3] However, there is no public evidence of investments through the national budget to improve

capacity to deal with epidemic threats specifically, from the websites of the Ministry of National Health Services Regulations and Coordination, The Ministry of National Food Security & Research, and the Finance Division.[4,5,6]

[1] The Dawn. 20 July 2019. "Why isn't Pakistan polio-free?"

[<https://www.dawn.com/news/1495135#:~:text=Here%20we%20are%20after%20three,the%20Expanded%20Programme%20on%20Immunisation>]. Accessed 15 December 2020.

[2] International Growth Centre. 6 April 2020. "COVID-19: Pakistan's preparations and response".

[<https://www.theigc.org/blog/covid-19-pakistans-preparations-and-response/>]. Accessed 15 December 2020.

[3] Georgetown Global Health Security Funding Tracker. 2020. "Pakistan".

[<https://tracking.ghscosting.org/details/175/recipient>]. Accessed 15 December 2020.

[4] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020.

[<http://www.nhsrsc.gov.pk>]. Accessed 13 December 2020.

[5] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 15 December 2020.

[6] Government of Pakistan. Finance Division. 2020. "Budget - Budget Publications". [<http://www.finance.gov.pk/>]. Accessed 15 December 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**

Pakistan has a funding mechanism which the country can access in the face of a public health emergency.

Pakistan is eligible for the World Bank Pandemic Financing Facility. Pakistan is on the list of countries eligible for International Development Association (IDA) funding, and is therefore eligible for the World Bank's Pandemic Emergency Financing Facility and also creditworthy for some IBRD borrowing. [1,2]

[1] International Development Association (IDA). 2020. "Borrowing countries." [<http://ida.worldbank.org/about/borrowing-countries>]. Accessed 10 March.

[2] World Bank. 2019. "Pandemic Emergency Financing Facility."

[<http://pubdocs.worldbank.org/en/119961516647620597/PEF-Operational-Brief-Dec-2017.pdf>]. Accessed 10 March 2019.

## 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 public evidence that senior leaders of Pakistan have made a public commitment either to support other countries to improve capacity to address epidemic threats by providing financing or support in the past three years, or to improve its own domestic capacity to address epidemic threats by expanding financing or requesting support to improve capacity in the past three years.

There is no evidence of relevant statements on the websites of the Ministry of National Health Services Regulations and Coordination, Ministry of Foreign Affairs, the President and the Prime Minister of Pakistan or in the current National Health Vision 2016-2025.[1,2,3,4,5]

No relevant information can be found in United Nations and WHO press release pages. [6,7] Pakistan's Country Coordinating Mechanisms made a funding application request to the Global Fund to fight against epidemic of HIV/AIDS, TB and Malaria in December 2017; however, there is no evidence that senior leaders expressly made a commitment.[8]

The current Prime Minister of Pakistan has expressly announced his commitment to eradicate polio in the country but there is no evidence that he requested financial or technical support from other countries or international organisations.[9]

- [1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. "Press Releases". [<http://www.nhsr.gov.pk/Detail/ZGQ5ZWUyMWMtMDYxYy00MDEyLTlIMDAtODFmZGRkNThjZTAw>]. Accessed 13 December 2020.
- [2] Government of Pakistan. Ministry of Foreign Affairs. 2020. "Archives". [<http://mofa.gov.pk/archives/>]. Accessed 13 December 2020.
- [3] Government of Pakistan. The President. 2020. [[http://president.gov.pk/press\\_releases.html](http://president.gov.pk/press_releases.html)]. Accessed 13 December 2020.
- [4] Government of Pakistan. Prime Minister's Office. 2020. [[http://pmo.gov.pk/press\\_releases.php](http://pmo.gov.pk/press_releases.php)]. Accessed 13 December 2020.
- [5] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. "National Health Vision 2016- 2025"  
[<https://drive.google.com/file/d/0B6zZgBqF00pFM0cwejJwbGtvNUM1QmZ2RDJEMldNbUxHNDI3/view>]. Accessed 13 December 2020.
- [6] United Nations. 2020. "Meeting Coverage and Press Releases".  
[[https://www.un.org/press/en/search/content/pakistan?f%5B0%5D=dm\\_field\\_dated%3A%5B2018-01-01T00%3A00%3A00Z%20TO%202019-01-01T00%3A00%3A00Z%5D](https://www.un.org/press/en/search/content/pakistan?f%5B0%5D=dm_field_dated%3A%5B2018-01-01T00%3A00%3A00Z%20TO%202019-01-01T00%3A00%3A00Z%5D)]. Accessed 13 December 2020.
- [7] World Health Organisation, Regional Office for East Mediterranean Countries. 2020.  
[<http://www.emro.who.int/countries/pak/index.html>]. Accessed 13 December 2020.
- [8] Global Fund. 2020. "Funding Request Submissions & Status". [<https://www.theglobalfund.org/en/funding-model/applying/submissions/>]. Accessed 13 December 2020.
- [9] The News International, 24 October 2018. "Pakistan fully committed to ending polio: Imran Khan on World Polio Day". [<https://www.thenews.com.pk/latest/384961-pakistan-fully-committed-to-ending-polio-imran-khan-on-world-polio-day>]. Accessed 13 December 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 the country has, in the past three years, received 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 that since 2014, Pakistan has received funding annually from multiple donors to enhance their capacity for health security preparedness, with the Global Alliance for Vaccines and Immunisation (GAVI), United Nations Children's Fund (UNICEF), and Bill & Melinda Gates Foundation being the largest ones. The majority of these funds have been used for immunization purposes. [1] However, there is no further public evidence of investments through the national budget to improve capacity in Pakistan or in other countries.

There is no evidence of relevant statements on the websites of the Ministry of National Health Services Regulations and

Coordination, Ministry of Foreign Affairs, the President and the Prime Minister of Pakistan or in the current National Health Vision 2016-2025.[2,3,4,5,6] No relevant information can be found in United Nations and WHO press release pages. [7,8] Pakistan's Country Coordinating Mechanisms made a funding application request to the Global Fund to fight against epidemic of HIV/AIDS, TB and Malaria in December 2017.[9]

- [1] Georgetown Global Health Security Funding Tracker. 2020. "Pakistan".  
[<https://tracking.ghscosting.org/details/175/recipient>]. Accessed 13 December 2020.
- [2] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. "Press Releases". [<http://www.nhsr.gov.pk/Detail/ZGQ5ZWUyMWMtMDYxYy00MDEyLTIIMDAtODFmZGRkNThjZTAw>]. Accessed 13 December 2020.
- [3] Government of Pakistan. Ministry of Foreign Affairs. 2020. "Archives". [<http://mofa.gov.pk/archives/>]. Accessed 13 December 2020.
- [4] Government of Pakistan. The President. 2020. [[http://president.gov.pk/press\\_releases.html](http://president.gov.pk/press_releases.html)]. Accessed 13 December 2020.
- [5] Government of Pakistan. Prime Minister's Office. 2020. [[http://pmo.gov.pk/press\\_releases.php](http://pmo.gov.pk/press_releases.php)]. Accessed 13 December 2020.
- [6] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. "National Health Vision 2016- 2025"  
[<https://drive.google.com/file/d/0B6zZgBqF00pFM0cwejJwbGtvNUM1QmZ2RDJEMldNbUxHNDI3/view>]. Accessed 13 December 2020.
- [7] United Nations. 2020. "Meeting Coverage and Press Releases".  
[[https://www.un.org/press/en/search/content/pakistan?f%5B0%5D=dm\\_field\\_dated%3A%5B2018-01-01T00%3A00%3A00Z%20TO%202019-01-01T00%3A00%3A00Z%5D](https://www.un.org/press/en/search/content/pakistan?f%5B0%5D=dm_field_dated%3A%5B2018-01-01T00%3A00%3A00Z%20TO%202019-01-01T00%3A00%3A00Z%5D)]. Accessed 13 December 2020.
- [8] World Health Organisation, Regional Office for East Mediterranean Countries. 2020.  
[<http://www.emro.who.int/countries/pak/index.html>]. Accessed 13 December 2020.
- [9] Global Fund. 2020. "Funding Request Submissions & Status". [<https://www.theglobalfund.org/en/funding-model/applying/submissions/>]. Accessed 13 December 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: 0**

2021

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

## 5.6 COMMITMENT TO SHARING OF GENETIC AND BIOLOGICAL DATA AND SPECIMENS

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

#### 5.6.1a

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

Yes = 1, No = 0

**Current Year Score: 0**

There is no publicly available evidence that Pakistan has a plan or policy for sharing genetic data, epidemiological data, clinical specimens, and/or isolated specimens (biological materials) with international organisations and/or other countries that goes beyond influenza.

There is no evidence available from the Websites of Ministry of National Health Services Regulations & Coordination, the Ministry of National Food Security & Research and Public Health Institute.[1,2,3]

[1] Government of Pakistan. Ministry of National Health Services Regulations and Coordination (NHSR&C). 2020. [<http://www.nhsr.gov.pk/>]. Accessed 13 December 2020.

[2] Government of Pakistan. Ministry of National Food Security and Research. 2020. [<http://www.mnfsr.gov.pk/>]. Accessed 13 December 2020.

[3] Government of Pakistan. The National Institute of Health (NIH). 2020. "Functions". [<https://www.nih.org.pk/functions/>]. Accessed 13 December 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 Pakistan has not shared samples in accordance with the Pandemic Influenza Preparedness (PIP) framework in the past two years.

There is no evidence from the World Health Organisation (WHO) website or press release page, or from media reports of any non-compliance in the past two years by Pakistan. [1,2,3]

[1] World Health Organisation (WHO). 2020. "Virus sharing." [[http://www.who.int/influenza/pip/virus\\_sharing/en/](http://www.who.int/influenza/pip/virus_sharing/en/)]. Accessed 13 December 2020.

[2] World Health Organisation (WHO). 2020. [<http://www.who.int>]. Accessed 13 December 2020.

[3] World Health Organisation (WHO). 2020 [<https://www.who.int/news-room/>]. Accessed 13 December 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 Pakistan has not shared pandemic pathogen samples during an outbreak in the past two years.

There is no evidence via the World Health Organisation (WHO), the WHO press release page, or media reports of any non-sharing in the past two years by Pakistan, including for the Novel Coronavirus (Covid-19) pandemic in 2020.[1,2,3]

[1] World Health Organisation (WHO). 2020. "Virus sharing." [[http://www.who.int/influenza/pip/virus\\_sharing/en/](http://www.who.int/influenza/pip/virus_sharing/en/)]. Accessed 13 December 2020.

[2] World Health Organisation (WHO). 2020. [<http://www.who.int>]. Accessed 13 December 2020.

[3] World Health Organisation (WHO). 2020 [<https://www.who.int/news-room/>]. Accessed 13 December 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: 2

2020

Economist Intelligence

##### 6.1.1b

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

Input number

Current Year Score: 1

2020

Economist Intelligence

**6.1.1c**

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

Input number

Current Year Score: 1

2020

Economist Intelligence

**6.1.1d**

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

Input number

Current Year Score: 0

2020

Economist Intelligence

**6.1.1e**

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

Input number

Current Year Score: 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: 0

2020

Economist Intelligence

## 6.1.2 Orderly transfers of power

### 6.1.2a

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

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

**Current Year Score: 2**

2021

Economist Intelligence

## 6.1.3 Risk of social unrest

### 6.1.3a

**What is the risk of disruptive social unrest?**

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

**Current Year Score: 1**

2021

Economist Intelligence

## 6.1.4 Illicit activities by non-state actors

### 6.1.4a

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

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

**Current Year Score: 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: 0

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: 1

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: 59.13

2017

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: 0.5

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 International Labour Organization (ILO), in 2018 the share of informal employment in Pakistan was 81.8%.<sup>[1]</sup>

[1] International Labour Organization. 2020. "Country profiles". [<https://ilostat.ilo.org/data/country-profiles/>]. Accessed 14 December 2020.

### 6.2.3c

#### Coverage of social insurance programs (% of population)

Scored in quartiles (0-3, where 3=best)

**Current Year Score: 1**

2016, or latest available

World Bank; Economist Impact calculations

## 6.2.4 Public confidence in government

### 6.2.4a

#### Level of confidence in public institutions

Input number

**Current Year Score: 1**

2021

Economist Intelligence Democracy Index

## 6.2.5 Local media and reporting

### 6.2.5a

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

Input number

**Current Year Score: 1**

2021

Economist Intelligence Democracy Index

## 6.2.6 Inequality

### 6.2.6a

**Gini coefficient**

Scored 0-1, where 0=best

**Current Year Score: 0.32**

Latest available.

World Bank; Economist Impact calculations

## 6.3 INFRASTRUCTURE ADEQUACY

### 6.3.1 Adequacy of road network

#### 6.3.1a

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

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

**Current Year Score: 1**

2021

Economist Intelligence

### 6.3.2 Adequacy of airports

#### 6.3.2a

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

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

**Current Year Score: 2**

2021

Economist Intelligence

### 6.3.3 Adequacy of power network

#### 6.3.3a

**What is the risk that power shortages could be disruptive?**

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

**Current Year Score: 1**

2021

Economist Intelligence

## 6.4 ENVIRONMENTAL RISKS

### 6.4.1 Urbanization

#### 6.4.1a

Urban population (% of total population)

Input number

Current Year Score: 36.91

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: -0.48

2008-2018

World Bank; Economist Impact

### 6.4.3 Natural disaster risk

#### 6.4.3a

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

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

Current Year Score: 0

2021

Economist Intelligence

## 6.5 PUBLIC HEALTH VULNERABILITIES

### 6.5.1 Access to quality healthcare

#### 6.5.1a

Total life expectancy (years)



Input number

Current Year Score: 67.11

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: 753.4

2019

WHO

### **6.5.1c**

**Population ages 65 and above (% of total population)**

Input number

Current Year Score: 4.32

2019

World Bank

### **6.5.1d**

**Prevalence of current tobacco use (% of adults)**

Input number

Current Year Score: 20

2018

World Bank

### **6.5.1e**

**Prevalence of obesity among adults**

Input number

Current Year Score: 8.6

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: 91.47

2017

UNICEF; Economist Impact

### 6.5.2b

Percentage of homes with access to at least basic sanitation facilities

Input number

Current Year Score: 59.87

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: 63.34

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: 2**

2018

Wellcome Trust Global Monitor 2018